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ANALYSIS OF THE EFFECT OF CUSTOMER PERCEIVED VALUE, SERVICE QUALITY, PATIENT EXPERIENCE AND PATIENT TRUST ON PATIENT SATISFACTION AS AN INTERVENING MEDIA AND ITS IMPACT ON OUTPATIENT LOYALTY AT HOSPITALS IN DEPOK

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Abstract

This Study aims to find out and analyze the effect of customer perceived value, service quality, patient experience, and patient trust on patient satisfaction and patient loyalty on public hospital in Depok, Indonesia. This Research is quantitative study where the data from 105 patients who had visited the hospital in Depok using an online questionnaire during the COVID-19 Pandemic. Factor analysis and Structural Equation Modeling (SEM) were analyzed using PLS-SEM of how customer service value, Service Quality, patient experience and patient trust impact to Patient satisfaction and patient loyalty. The result show that Service quality positively and significantly affect patient satisfaction (0.261) with t-statistics (2.431 > 1.96) or P value (0.015 < 0.05). Patient trust has a significant influence on patient satisfaction of (0.278) with t-statistics (2.287 > 1.96) or P value (0.022< 0.05). Patient trust has the highest influence on patient satisfaction of 0.278 compared to patient experience, service quality, and perceived value. The Patient satisfaction has a significant influence on patient loyalty (0.572) with t-statistics (7.780 > 1.96) or P value (0.000 < 0.05). The Implication of this study is that management of a public hospital needs to improve patient trust and Service Quality so that patient satisfaction can be improved which in turn can gain patient loyalty.

Keywords: *Service Quality, Patient Satisfaction, Patient loyalty, Patient trust.*

Introduction

Health services are a right for everyone must be realized by efforts to improve the highest degree of public health.(Bircher & Kuruvilla, 2014) As a health service, the hospital has a responsibility in improving the quality of service, so as to cause experience, trust, perceived value that is felt, then service quality in serving patients who visit the hospital.(Andaleeb, 2001) Therefore, the local government is responsible for meeting the basic needs of the community by providing public hospitals as health facilities for the community (Rondinelli & Mandell, 1981)

Patient satisfaction is one of the important indicators that must be considered in health services.(Johansson, Oleni, & Fridlund, 2002) Patient satisfaction is the result of

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research from patients on health services by comparing what is expected in accordance with the reality of health services received from hospitals(Young, Meterko, & Desai, 2000).

One of the hospital's efforts in shaping customer loyalty is to build strong trust where hospitals are required to always trust the community to be embedded in the minds of customers.(Juhana, Manik, Febrinella, & Sidharta, 2015) Hospitals that have trust in the eyes of customers, their products and services are relatively more acceptable.(Kalaja, Myshketa, & Scalera, 2016) In addition, employees who work at the hospital will have a sense of pride so that it can trigger their motivation to work more productively(Mosadeghrad, Ferlie, & Rosenberg, 2011). Factor apart from trust in hospital services that can affect patient satisfaction is customer perceived value.(Naidu, 2009) Customer perceived value or perceived value of customers is the overall assessment of consumer use of the product based on the perception of what is received and what is given(Morar, 2013). The higher the customer value obtained by consumers (customers) through sacrifices (costs) that must be sacrificed, the more satisfied consumers will be.(Xu, Peak, & Prybutok, 2015) This happens because consumers will feel satisfied if the costs that have been incurred are commensurate with the services obtained from the company (hospital).(Hosseini Shirvani, 2021) So that customer value has a significant effect on customer satisfaction (Mujiharjo, 2006). Another factor from the customer side that can be explored is from the customer experience itself (Customer experience). Customer experience is an event or occurrence as a result of direct or indirect interaction with a company.(Situmorang, Rini, & Muda, 2017) The patient experience obtained after getting the service may affect the level of patient satisfaction itself.(Otani, Deng, Herrmann, & Kurz, 2020) The more positive the patient experience, the more patient satisfaction will increase(Berkowitz, 2016) (Meyer &; Schwager, 2007). Factors of trust, service quality, customer perceived value and customer experience in a hospital are important to analyze their effect on patient satisfaction. These four aspects need to be identified to determine the influence and determine steps to solve patient satisfaction problems that must always be maintained.(Ware Jr, Snyder, Wright, & Davies, 1983) So that the hospital can determine policies and improvements to increase patient satisfaction, so that the hospital can develop and improve the quality of customer-oriented services in order to create loyal patients.

Similarly, the quality of outpatient services offered, amid the mushrooming of hospitals in Indonesia, and in Depok in particular. Various efforts are made to provide excellent service provided to get satisfaction to patients.(Novitasari, 2022) Outpatient services are medical services provided by hospitals. This service is very sensitive because it involves the patient's feelings. The quality of service from the hospital itself. This really requires attention from the hospital management. With the tendency of patients to only want to do outpatient care because the cost is relatively not expensive compared to hospitalization and the quality of service provided from hospitals that are not necessarily in accordance with the price set is the background why researchers are interested in

making research. This study aims to determine the effect between customer perceive value, service quality, patient trust, and patient experience on outpatient satisfaction at hospitals in Depok.

Research Method

The Object of research in this study is patient loyalty. There are several other influencing variables, such as Customer Perceived valued, Service Quality, Patient Experience, Patient Trust and patient satisfaction. Minimum sample size for PLS-SEM is 105 data. The unit analysis in this study is individual patient who had visited the hospital in Depok at least during Covid-19 pandemic (from March 2021 until now), over 17 years old in January – February 2023. Data from each individual is collected using google forms and the data is processed using PLS-SEM tools. Type of the research is a quantitative survey of the population then testing hypothesis and check the correlations. The data is collected at some period. We can provide the hypothesis which can be generalized to the population. This study is quantitative which is intended to examine the factors that affect patient loyalty. Type of the research is cross–sectional study and no intervention on research data.

Result and Discussion

Estimated of Loadings

The outer model is a measurement model that is used to test and evaluate the relationship between indicators and their latent variables. The Result off this analysis of the measurement model has 2 model, namely the reliability and validity test. Hair et al. (2020) stated that the value of outer loading must be more than 0.708.

Table 2. Outer Loading

Indicators	Outer loadings
PQ1 <- perceived value	0.832
PQ2 <- perceived value	0.795
PQ3 <- perceived value	0.855
SQ2 <- Service Quality	0.823
SQ3 <- Service Quality	0.896
SQ4 <- Service Quality	0.802
PE1 <- Patient Experience	0.844
PE2 <- Patient Experience	0.840
PE3 <- Patient Experience	0.805
TR1 <- Patient Trust	0.847
TR2 <- Patient Trust	0.716
TR3 <- Patient Trust	0.851
KP1 <- Patient Satisfaction	0.909
KP3 <- Patient Satisfaction	0.843
LP1 <- Patient Loyalty	0.850
LP2 <- Patient Loyalty	0.872
LP3 <- Patient Loyalty	0.832

Source: PLS-SEM Research Data Processing Results (2021)

Based on the results, it shows that all the indicators have a significant value where the value of the outer loading indicator is > 0.708, hence it can be concluded that the indicators are reliable to measure the construct.

Reliability Indicators (items)

PQ1 has an LF of 0.832 ≥ 0.70 which means that this item is valid for measuring variable customer perceived value. Any change in the customer perceived valued variable will be reflected in the PQ1 variation of (0.832 X 0.832 = 69.2%)

Composite Reliability (Reliability Construct)

In this section, the value for composite reliability must be above 0.7 to be reliable. Based on the results, composite reliability for all of the constructs are above 0.7 so it can be said to be reliable.

Table 3. Construct Reliability

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Patient Satisfaction	0.703	0.734	**0.869**	**0.768**
Patient Experience	0.776	0.786	0.869	0.689
Service Quality	0.794	0.815	0.879	0.708
Patient Loyalty	0.811	0.821	0.888	0.725
Patient Trust	0.736	0.770	0.848	0.651
Customer Perceived Value	0.773	0.792	0.867	0.685

Based on the results, the patient satisfaction variable has a composite reliability (CR) value of 0.869 ≥ 0.70 which shows that each item that measures satisfaction is consistent / reliable in measuring patient satisfaction. Thus the value of composite reliability variables Patient Experience, Service Quality, patient loyalty, patient trust and perceived value above 0.70 (reliable).

Average Variance Extracted (AVE)

Hair et al. (2020) said that AVE must be above 0.5 to be reliable. The value of AVE for each construct are shown above at table 3, which are all above 0.5 hence, it can be said that they are reliable. The satisfaction AVE value is 0.768 which means that the large variation of KP1 and KP3 measurement items contained by patient satisfaction variables of 76% ≥ 0.50 is met with good convergent validity requirements.

Discriminant Validity Fornell-Larcker

Next the data should be analyzed using the Fornell-Larcker criterion where, the square root value of AVE in every latent variable should be greater than the other

correlation values among the latent variables as shown in the table 4. The results show that all the criteria is met for the Fornell Larcker Criterion.

Table 4. Fornell-Larcker Criterion

	Patient Satisfaction	Patient Experience	Service Quality	Patient Loyalty	Patient Trust	Customer Perceived Value
Patient Satisfaction	**0.876**					
Patient Experience	0.541	**0.830**				
Service Quality	0.547	0.652	**0.841**			
Patient Loyalty	0.572	0.622	0.533	**0.852**		
Patient Trust	0.582	0.665	0.483	0.647	**0.807**	
Customer Perceived Value	0.556	0.566	0.533	0.626	0.673	**0.828**

Source: PLS-SEM Research Data Processing Results (2021

Based on the results, the value in the diagonal axis is the AVE root. The AVE root for satisfaction is (0.876) greater than its correlation with other variables. Then the discriminant validity for the correlation variable is satisfied. Likewise, with other variables where the root AVE variable > the correlation between variables. Overall, the evaluation of discriminant validity is met.

Collinearity Assessment

Collinearity for each construct can be determined with variance inflation factor (VIF) values. Ideally, VIF value should be in the range of 1 to 3. If the value is higher than 3 or lower than 1, it is indications of problematic multicollinearity.

	Patient Satisfaction	Patient Loyalty
Patient Satisfaction		1.000
Patient Experience	2.421	
Service Quality	1.873	
Patient Loyalty		
Patient Trust	2.340	
Customer Perceived Value	2.048	

From the results, it shows that all the VIF for each construct are at the ideal range. Hence, there is no multicollinearity problem. The value of VIF (variance Inflated Factor) is less than 5 so there is no multicollination between variables that affect patient satisfaction.

Coefficient of Determination

R2 value could determine coefficient determination. Hair et al. (2011) said that R2 value of 0.75 is substantial.

Table 6. R Squared

	R-square	R-square adjusted

Patient Satisfaction	0.450	0.425
Patient Loyalty	0.327	0.319

Source: PLS-SEM Research Data Processing Results (2021)

Based on the results, the magnitude of the influence of perceived value, service quality, patient experience, patient trust on satisfaction is 45%. In Hair et al (2021) it is including weak. The magnitude of the effect of patient satisfaction on patient loyalty was 32.7%. In Hair et al (2021) it is including weak. Automatically R square increases with the addition of variable. R square adjusted, with the addition of variables it will adjust, will not continue to rise.

Predictive Validity

Q2 is predictive relevance where it can measure whether the model has predictive relevance or not. Hair et al. (2019), stated that Q2 value from 0 to 0.25 has a small predictive relevance. Q2 between 0.25 – 0.50 has a medium level of predictive relevance. Q 2 > 0.50 has a large predictive relevance.

Table 7. Q Squared

	Q^2 predict
Patient Satisfaction	0.395
Patient Loyalty	0.382

Source: PLS-SEM Research Data Processing Results (2021)

Q2 Predict values for patient satisfaction and loyalty above 0 indicate that the model has medium predictive relevance.

Prediction Summary

Root mean square error (RMSE) is the standard deviation of the prediction errors, where, if the RMSE value is close to 0 means the prediction is more accurate. The values of linear model (LM) needs to be higher than the partial least squares (PLS) at RMSE to shows that the variables have high predictive power.

Table 8. MV Prediction Summary

	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
KP1	0.558	0.479	0.602	0.506
KP3	0.541	0.465	0.565	0.470
LP1	0.672	0.567	0.654	0.533
LP2	0.624	0.517	0.593	0.459
LP3	0.526	0.476	0.548	0.459

Source: PLS-SEM Research Data Processing Results (2021)

Based on the results, Harir et al (2019), all the indicator at the RMSE and MAE have PLS value that smaller than the LM value. Hence, it shows that this model has high predictive power.

The measurement items KP1 and KP3 RMSE values of the PLS model are lower than the LM model. The KP1 and KP3 measurement items of the PLS model have a lower MAE value than the LM model.

Discussion

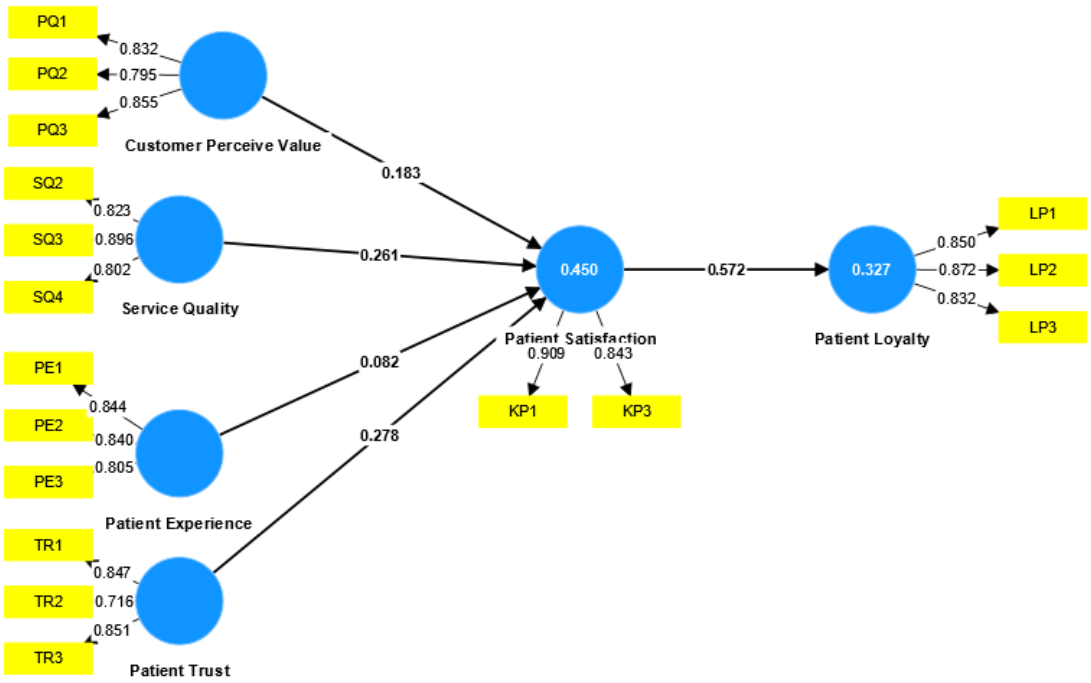

Figure 2. Research Model

	R-square	R-square adjusted
Patient Satisfaction	0.450	0.425
Patient Loyalty	0.327	0.319

Based on the results of this study in table 6, R2 value for Patient Satisfaction (KP) is 0.450 which is weak and it means that 45% change in Patient Satisfaction variable can be explained by PQ, SQ, PE and TR. R2 for Patient Loyalty (LP) is 0.32 which means weak correlation and 32% change in LP can be explained by KP or Patient Satisfaction. From the results of this study, the strongest path from the construct is from Patient Trust to Patient Satisfaction (0.278), then proceed to Patient Loyalty (0.572). The second path is from Service Quality to Patient Satisfaction (0.261) then proceed to Patient Loyalty (0.572). Hence, Patient Trust must be first priority in development by management Hospital, it has an impact to patient satisfaction and then sequence help patient to improve their health.

This finding supports previous research by Adi Wahyu Nugroho and Budi Sudaryanto. (2010) that Patient Trust can affect Patient Satisfaction. This also in line with

previous study by Cleven et al. (2016) and Cheng. (2022) where Patient satisfaction had significant effects on Patient loyalty. it can be concluded that in providing a patient satisfaction factor and Patient trust Factors. On the other hand, this study found that Customer Perceived value and Patient experience shows a weak path to Patient Satisfaction. Patient experience is the weakest because hospital environment, feeling innovation, and hoping for heal the sickness are harder for patient to make them loyal and can not move to other hospital. This study shows that Patient Satisfaction has a strong path to Patient Loyalty which is, in line with studies by Cleven et al. (2016) that Patient Satisfaction has positive effect the Patient Loyalty. P Patient Satisfaction can predict the Patient Loyalty and mediate the four dimensions which are customer perceived value, Service Quality, Patient Experience, Patient Trust variables.

Hypothesis	Path	Original sample (O)	Sample Mean(M)	Standard Deviation (STDEV)	T Statistics (|O/stdev|)	Sig	P Values
H1	Customer Perceive Value -> Patient Satisfaction	0.183	0.183	0.098	1.864	Yes	0.031
H2	Service Quality -> Patient Satisfaction	0.261	0.263	0.108	2.431	Yes	0.008
H3	Patient Experience -> Patient Satisfaction	0.082	0.087	0.130	0.633	Not Supported	0.263
H4	Patient Trust -> Patient Satisfaction	0.278	0.276	0.121	2.287	Yes	0.011
H5	Patient Satisfaction -> Patient Loyalty	0.572	0.577	0.073	7.780	Yes	0.000

From table 9, H5 is supported because it has a T-Statistic value of 7.780 > 1,645 and significant because p value < 0.005, hence, Hypothesis H5 is accepted which states that Patient Satisfaction has a positive and significant effect on Patient Loyalty. So, it shows that it is important to have a high Patient Satisfaction because it greatly effects on their Patient Loyalty, which is, important for management Hospital to concern develop in area Patient Satisfaction that impact significant on Patient Loyalty.

Based on the results, suggestions that can be given to management Hospital in Depok are Improving with the speed, accuracy and reliability in the services provided,

Polite and friendly service, accuracy of data and security guarantees provided affect your satisfaction so that they can recommend the hospital, and Don't want to change to another hospital and loyal to build believing this Hospital is a good Hospital.

Conclusion

The results show that Patient trust is ranked first followed by Patient Satisfaction which has an effect on Patient Loyalty. While, patient Experience is the weakest construct followed by Customer perceive value in application which has weak effect on Patient Satisfaction. Hypothesis H5 is supported because it has a T-Statistic value of 7.780 > 1,645 and significant because p value < 0.005, hence, Hypothesis H5 is accepted which states that Patient Satisfaction has a positive and significant effect on Patient Loyalty. Based on the result of the analysis and discussion that have been carried out, it can be concluded that to provide the best Hospital that make patient loyal to the hospital, the Patient Satisfaction becomes a very strong factor influencing the Patient Loyalty. The first limitation in this study is the geographical coverage of the respondent's area which are mostly just from Depok, and it might not represent the whole population. As a suggestion for further research, the first is that the geographical area of the respondents can be expanded larger outside Java. There is also an inconsistency with the results from this study for the patient experience to Patient Satisfaction, hence this variable can be reviewed in future research.

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