

# **Investigating the Relationship between Patient Empowerment and Hospital Environment Facilities through Creating Shared Values on Satisfaction**

**Kartikasari<sup>1</sup>, Lusi Suwandari<sup>2\*</sup>, Budi Aji<sup>3</sup>**

<sup>1</sup>Universitas Jenderal Soedirman, kartikasari@mhs.unsoed.ac.id, Indonesia

<sup>2\*</sup>Universitas Jenderal Soedirman, lusi.suwandari@unsoed.ac.id, Indonesia

<sup>3</sup>Universitas Jenderal Soedirman, budi.aji57@gmail.com, Indonesia

\* Kartikasari

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## **ABSTRACT**

The existence of a patient-oriented health service paradigm requires useful policies to increase patient satisfaction by increasing patient empowerment, creating shared value, and a hospital facilities environment. The aims of this research are to determine the relationship between patient empowerment, the creation of shared values, facilities, and the hospital environment to the patient's satisfaction at the RSUD dr. R. Goeteng Taroenadibrata Purbalingga. This study is a cross-sectional study conducted in August 2022 on patients at RSUD Dr. R. Goeteng Taroenadibrata Purbalingga. The sample size used is 150 respondents. The research instrument used is a questionnaire. The result of this research is C.R. Value the effect of patient empowerment on satisfaction was 2.605 ( $p= 0.009$ ). The p-value is less than 0.05, meaning that patient empowerment positively and significantly affects patient satisfaction. C.R. Value the effect of joint value creation on patient satisfaction was 5.129 ( $p= 0.000$ ). P value less than 0.05 means that the creation of shared value has a positive and significant effect on patient satisfaction. C.R. Value of the effect of hospital environment facilities on patient satisfaction is 3.128  $> 1.65$ , and the significance value is  $0.002 < 0.05$ , meaning that the hospital environment facilities have a positive effect on patient satisfaction.

**Keywords:** Patient satisfaction, patient empowerment, shared value creation, environmental facilities

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## **1. Introduction**

Patient empowerment usually identified with patient participation, responsibility, and education is an increasingly important issue in the healthcare sector. The World Health Organization (WHO) sets the achievement of patient empowerment as a key goal in the "Health Program 2020", and recognizes it as a key element for improving the quality of health, improving communication between healthcare professionals and patients, increasing adherence to therapeutic plans, increasing user satisfaction, and optimize the use of health care resources and costs.

Patient satisfaction can be measured by recognizing patients as co-creators of health values and considering their empowerment as an important element to improve outcomes. This means that patients play an active role in increasing patient satisfaction. Therefore, none of these aspects should be neglected in the strategies of health organizations and policymakers. To date,

the relationship between patient empowerment, shared value creation, and patient satisfaction has not been comprehensively studied.

According to Zanetti and Taylor (2016) value co-creation is an opportunity to improve services for patients while reducing treatment costs. Nordgren (2009) states that the productivity of health services should not be assessed only in terms of cost and efficiency but must also consider values for patients such as quality of life, health, trust, accessibility, communication, and the suffering that can be avoided. Patients become an active part of value creation and are advised to substitute the term patient for passive or no co-creation conditions and client for active participation images. According to McColl-Kennedy et. al in 2012 now the patient has developed new knowledge and social awareness, and actively participates in information action.

Today, sustainable healthcare can be created in the form of online platforms and communities that represent important sources of information for patients and constitute a new form of interaction between service providers and patients that enables forms of shared value creation that are not available in traditional, healthcare systems. based on joint encounters between operator and patient (Loane and Webster, 2014; Rantala and Karjaluo, 2016; Van Oerle et al., 2016; Buranarch et al., 2011). Patients play an important role in creating value because they have relevant resources such as information (Zainuddin et al. 2013).

Hospitals that excel and become the people's choice can be realized by realizing patient satisfaction. Patient satisfaction is an indicator of the success of hospital service quality. According to Gronroos (1984), patient satisfaction is a function of the magnitude and direction of the comparison between the services received and the services expected. According to Oliver (1981) satisfaction is confirmed positive if the service received is greater than expected and confirmed negative if the service received is less than expected which will lead to dissatisfaction.

Patient satisfaction is an important and commonly used indicator to measure quality in health care (Prakash, 2010; Reichheld, 2003). According to Barton, (2003) and Quinn et. Al, (2004) satisfaction measurement is a strategic tool for quality improvement processes because satisfied patients are more likely to receive health care and adhere to prescribed treatment regimens (Weisman and Koch, 1989). When hospitals can identify sources of dissatisfaction, health care administrators can identify system weaknesses, thereby improving their services (Dansky and Miles, 1997). Satisfied patients are more likely to develop deeper and lasting relationships with health care providers resulting in continuous care and better health outcomes (Steldox et al., 2005).

## **2. Literature Review and Hypothesis Development**

### *2.1 Literature Review*

According to Stok et al (2017) service is the most direct marker for patients and families to assess the quality of health services, and is an important interface for patients to feel the competence of health care professionals, propose transformational behavioral theories and apply them to the service industry, where service encounters mainly involve human contact as an interface. They explore the different personal experiences of customers in interpersonal, technological, and professional service encounters. If consumers have unpleasant service experiences during interactions with service providers, switching behavior will occur. So that consumers look for suitable and trustworthy service providers proactively. Therefore, the service can be an important interface to increase customer trust.

Kim et al. (2017) state that medical services are human-centered, high-contact, highly customizable, highly professional, and on-site services that patients need to encourage to increase satisfaction, trust, and loyalty. Gonzalez (2017) noted that patient-doctor interactions include all healthcare encounters, as well as meetings with equipment-related healthcare staff. The interactions between doctors, nurses, and patients, as well as the spaces and equipment to which patients are exposed, are considered integral to the quality of healthcare and affect patient satisfaction, trust, and loyalty. In conclusion, this study proposes that providing hospitable health care encounters in hospitals can increase patient trust, maintain good doctor-patient relationships, and further increase patient loyalty.

Aujoulat et. al (2013) stated that patient empowerment is a communicative process developed between health professionals and patients, through a partnership model (Rodwell, 1996; Boudioni et al., 2012). Shearer et al. (2007), Wentzer and Bygholm (2013). Patient empowerment is also developed through patient-centered care (Jerofke, 2013). Patient empowerment is based on relationships that should be egalitarian and fair (McWilliam, 2009). This relational process should be guided by the exchange of information and consist of a variety of knowledge and skills (Photoukian et al., 2014; Aujoulat et al., 2008). Patient empowerment also includes action strategies (Bulsara et al., 2006) including elements of motivation (Bann et al., 2006; Al., 2010; Fumagalli et al., 2015).

According to Lamas (2017) and Ravoire (2017) in today's digital era with the proliferation of online patient groups, it is necessary to consider their empowerment as a major social phenomenon that requires a deep transformation in the health care system and society. So social media has special potential for collective empowerment because of its ease of access, horizontal structure, features, and real-time development (Setoyama, 2011).

The creation of shared value according to Harris (2004) states that the interaction between service providers and consumers plays an important role in assessing the quality of services provided. Opportunities for meeting and familiarity between service providers and consumers are also strong factors in customer evaluation. This is due to the inseparability of production and consumption in services, and the fact that consumers tend to perceive meeting services as part of the services provided along with other tangible factors such as facilities. Chang (2013) explains how the concept of service quality has developed into a relationship-based medical service and therefore evaluates service quality and satisfaction with a focus on service encounters by professional, administrative, general, and environmental personnel.

Customer satisfaction according to Tjiptono (2012) is a person's feeling of pleasure or disappointment that arises after comparing the perception of the performance (result) of a product with his expectations. According to Zeithaml and Bitner (2000) satisfaction is a response or consumer responses regarding the fulfillment of needs. Satisfaction is an assessment of the features of a product or service, or the product itself, which provides a level of consumer pleasure related to the fulfillment of consumption needs. Consumer satisfaction is a person's feelings of pleasure or disappointment that arise after comparing the performance of the product thought to the expected performance.

## *2.2 Hypothesis*

### *2.2.1 Hypothesis of patient empowerment and shared value creation*

Vargo et al., (2008) define shared value creation as the integration of resources and the application of competencies during interactions between providers and customers, to be able to create value co-creation between patients and healthcare professionals patients must have the resources and competencies to integrate with interactions. The greater the patient's

resources and competencies, the greater the patient's contribution to the creation of shared value. Boudioni et al., (2012) define patient empowerment as the process by which people gain knowledge and skills that enable them to become active, professional partners in making informed decisions and choices about their treatment and care, so it is clear that empowerment provides patients with the necessary resources and competencies. needed to create shared value with operators. Therefore, patient empowerment is a driver of shared value creation, so the hypothesis is that patient empowerment affects shared value creation.

#### 2.2.2 The shared value creation hypothesis and patient satisfaction

Franke et al (2010) stated the value of co-creation evokes a feeling of pride in customers because of their direct participation in value creation, which defines this concept as the I design it myself effect, referring to the increase in value that customers attribute to a product/service that is solely designed by itself. stems from the fact that they feel like the creators of the product/service. This is in line with the concept of decision satisfaction (Heitman et al., 2007) which defines that clients experience satisfaction or dissatisfaction not only with the service purchased but also with the purchase decision process itself.

Franke and Schreire (2010) state that when services are co-created and consistent with customer needs and the effort put into the co-creation process is considered a valuable experience that goes beyond self-evaluation of service value. Therefore, patients evaluate the co-creation process based on the extent to which they are satisfied with the quality of services experienced during co-creation, as well as patient satisfaction to participate in the provision of services (Bendapudi and Leone, 2003), so the hypothesis is the patient's experience with the value co-creation process. effect on patient satisfaction.

#### 2.2.3 Hypothesis of health facilities and patient satisfaction

Sudarisman (2019) obtained the results of research conducted at the Batu-Batu Public Health Center, Sopeng Regency, it was concluded that the hospital facilities and environment had a positive and significant effect on patient satisfaction. The facility relationship has a positive significant effect on patient satisfaction, meaning that the more complete the facilities obtained by a patient, the more satisfied the patient is. On the other hand, the lack of facilities obtained by a patient will make the patient feel disappointed with the facilities obtained because they are not to their expectations.

#### 2.2.4 Hypothesis of patient empowerment and patient satisfaction

Polese et al. (2016) stated that patient empowerment is related to the quality of health services in many ways, by analyzing the main dimensions of patient empowerment it appears that each has a positive effect on the quality of health care outcomes and as an indicator is patient satisfaction. For example, health literacy enables the achievement of outcomes in terms of more appropriate and effective use of health resources, lower drug use, fewer medication errors, and increased use of preventive services, thereby improving the quality of the experience. In addition, patients with higher health literacy have less realistic expectations of treatment outcomes and this can have a positive influence on their satisfaction.

Patients who are empowered to make decisions about their health should experience greater satisfaction because the treatment options chosen better reflect their personal preferences, needs, and values. Patients who can control their treatment are not dependent on doctors and health services for disease management with significant benefits to their well-being and quality of life, so the hypothesis is that patient empowerment has a positive effect on patient satisfaction.

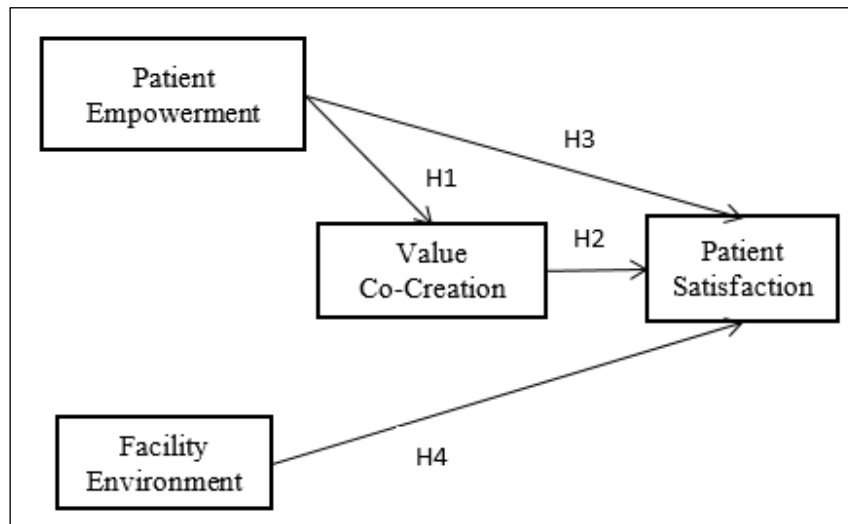


Figure 1. Research Model

### 3. Research Methodology

This study based on the time dimension is a cross-sectional study because the data were collected at the same time and the variables used were more than one and did not change during the study. Based on the use of the results, it is applied research because it is hoped that from several studies that have been carried out it can be analyzed that patient empowerment, joint value creation, and hospital facilities and environment can increase patient satisfaction which is an indicator of the quality of health services at Dr. R. Goeteng Taroenadibrata Hospital Purbalingga. The study was conducted by distributing questionnaires to patients who were being treated at the RSUD dr. R. Goeteng Taroenadibrata Purbalingga who were over 17 years old.

### 4. Results

#### 4.1. Normality Test Results

The data analysis technique in this study used a structural equation model (SEM) using the AMOS 22 program. The sample size used was 150 respondents. There are 24 research indicators tested for normal. The criteria used for normality testing are taking into account the value of the skewness critical ratio in the range of -2.58 and 2.58 (Ghozali, 2006). The results of the analysis in this study show the lowest critical ratio skewness is -1.797 and the highest critical ratio skewness is 1.355. So that the research data collected is normally distributed.

#### 4.2. Outlier test results

Outlier evaluation is carried out to see the observation conditions of data that have unique characteristics that look very different from other observations and appear in extreme forms, both for single variables and combination variables. The value of the Mahalanobis distance is compared with a probability value of 0.01. If the probability value is even higher than 0.01, it means that there is no multivariate outlier problem.

Based on these provisions, in this study, the value of the Malahanobis distance is 42.161 with a probability of 0.012. So the probability value of the Mahalanobis distance is more than 0.01.

Therefore, it can be concluded that in this study there were no multivariate outlier problems, so the data was feasible to use.

#### 4.3. Validity and reliability

Table 1. Validity and reliability test results

Variable	Item	Factor loading	Composite Reliability	Average Variance Extract	$\alpha$
Patient Empowerment	PE1	0,759	0,927	0,615	0,927
	PE2	0,768			
	PE3	0,83			
	PE4	0,787			
	PE5	0,789			
	PE6	0,777			
	PE7	0,795			
	PE8	0,767			
Facility Environment	EF1	0,752	0,859	0,604	0,859
	EF2	0,754			
	EF3	0,731			
	EF4	0,865			
Value Co Creation	VC1	0,784	0,916	0,647	0,916
	VC2	0,804			
	VC3	0,771			
	VC4	0,823			
	VC5	0,818			
	VC6	0,823			
Patient Satisfaction	PS1	0,754	0,900	0,600	0,902
	PS2	0,741			
	PS3	0,816			
	PS4	0,757			
	PS5	0,790			
	PS6	0,788			

Based on Table 1, it is known that the questions in each variable are valid with a factor loading of more than 0.5. So it can be concluded that for each question item the variable of patient empowerment, shared value creation, environmental facilities, and patient satisfaction is valid because the cut-off factor loading value is  $> 0.50$ .

Data are reliable if someone's answer is consistent. The threshold value used to measure an acceptable level of reliability is  $>0.70$ . The results of the reliability test show that the composite reliability value and alpha value are greater than 0.7 so that the research variables can be declared to meet the reliability requirements.

#### 4.4. Discriminant validity

Table 2. Discriminant validity test results

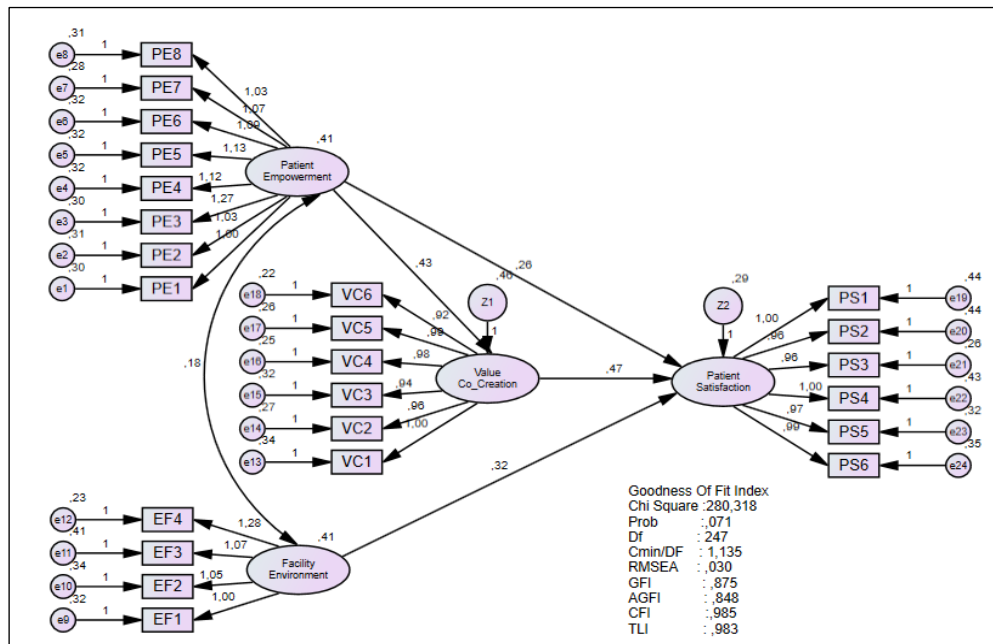
Variable	PE	EF	VC	PS
Patient_Empowerment (PE)	<b>0,7843</b>			
Environment Facility (EF)	0,4370	<b>0,7773</b>		
Value Co-Creation (VC)	0,3660	0,3770	<b>0,8041</b>	
Patient Satisfaction (PS)	0,4960	0,5210	0,6170	<b>0,7748</b>

Diagonal: Nilai Akar AVE (Average Variance Extract)

Table 2 shows that the correlation value between variables is smaller than the root of AVE. Based on the test results, the research variables meet the requirements of discriminant validity. This means that the indicators used by each variable are not closely related to indicators in different variables.

#### 4.5. Structural Equation Model

Analysis of the results of data processing at the full stage of the SEM model was carried out by conducting conformity tests and statistical tests. The following are the results of data processing for the full analysis of the SEM model.



Source: Amos SEM Output Results, 2022

Figure 2. Structural Equation Model with AMOS

The results of the data processing analysis show that all the constructs used to form a research model, in the full SEM model analysis process have met the goodness of fit criteria that have been set. The probability value in this analysis shows a value above the significance limit of 0.071 ( $p > 0.05$ ). This value indicates that there is no difference between the predicted covariance matrix and the estimated covariance matrix. Other goodness of fit measures also shows good conditions, namely Cmin/df less than 2, RMSEA less than 0.08, CFI, and TLI more than 0.9.

#### 4.6. Hypothesis testing

- Value of C.R. between patient empowerment and patient satisfaction was 2.605 ( $P=0.009$ ). These results indicate that patient empowerment has a positive and significant effect on patient satisfaction.
- Value of C.R. between environmental facilities and patient satisfaction is 3.128  $>$  1.65 ( $p=0.002$ ). These results indicate that environmental facilities have a positive and significant effect on patient satisfaction.
- Value of C.R. between the creation of shared value on patient satisfaction is 5.129 ( $p = 0.000$ ). These results indicate that the creation of shared value has a positive and significant effect on patient satisfaction. Therefore,

#### 4.7. Sobel Test

Testing the mediation hypothesis can be done using a procedure developed by Sobel (1982) and known as the Sobel test. The Sobel test was carried out by testing the strength of the influence of the indirect variable of the independent variable (X) on the dependent variable (Y) through the mediating variable (Z). Based on the indirect effect test, it can be seen that the Sobel t-test shows that the indirect effect is 2,917 ( $p = 0.001$ ), which means that there is an indirect effect of the patient empowerment variable on the patient satisfaction variable through joint value creation. This means that the creation of shared values can mediate patient empowerment and patient satisfaction.

### 5. Discussion

There is a positive influence between patient empowerment through the creation of shared values between medical personnel, nurses, and patients on patient satisfaction, especially in the indicator that patients feel very useful even though they are sick. The influence of patient empowerment and the creation of shared values shows that patient empowerment is indeed important to realize shared values in line with Vargo et al., (2008) and Boudioni et al., (2012). The influence of shared value creation and patient satisfaction shows that shared values are important to achieve patient satisfaction. This is consistent with Franke et al (2010), (Heitman et al., 2007), Franke and Schreire (2010) and (Bendapudi and Leone, 2003).

The influence of hospital environment facilities on patient satisfaction shows that the development of a healthy environment as a service facility for patients is important to realize patient satisfaction. This is consistent with Sudarisman (2019). The influence of patient empowerment on patient satisfaction shows the need for cooperation between the hospital and the patient so that what the patient wants can be known by the hospital so that the hospital can realize patient expectations that make patients more satisfied. The role of shared values in mediating the empowerment of patients and hospital environment facilities on customer satisfaction shows that patients will be more satisfied if the hospital increases the shared value rather than just providing hospital environment facilities and patient empowerment.

### 6. Conclusion

This study explains that patient satisfaction at RSUD dr. Goeteng Taroendibrata Purbalingga is influenced by the empowerment of patients, the creation of shared value between patients and existing health workers, as well as the facilities and the hospital environment, especially in the indicator that patients feel useful despite their illness and facilities. easy to find the hospital. Hospitals need to prioritize creating better-shared values so that patients feel more satisfied.

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