Path Diagram Model in Hospital Management Base on Patient Services

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Abstract:- This study investigates the intricate interplay between hospital management, staff competency, and patient service quality. Utilizing path analysis, the research delves into the relationships among these variables to provide insights into the factors influencing healthcare service quality in hospitals. The findings reveal significant correlations, highlighting the pivotal roles of staff competency and hospital management systems in shaping the quality of patient care. Through quantitative analysis, the study demonstrates that investments in staff training and development, coupled with the optimization of hospital management systems, are crucial for enhancing operational efficiency and service quality. Despite certain limitations, including sample size constraints, the study emphasizes the importance of further research to expand the scope and incorporate qualitative approaches for a comprehensive understanding of patient service quality in hospitals. Recommendations include prioritizing investments in staff development programs and technology infrastructure to improve service quality and patient satisfaction, alongside fostering a culture of continuous improvement and innovation within hospital management practices.

Keywords:- Hospital Management, Path Diagram, Patient Service Quality.

I. INTRODUCTION

Hospitals are expected to provide quality healthcare services, enabling the community to live healthy lives and achieve equitable health development goals. There are three parties involved in healthcare services at hospitals: service providers, service recipients, and service users. Therefore, the adequacy of service quality is not solely determined from the perspective of service providers but must also consider the viewpoint of service users, namely patients (Khainuddin & Heri Kusmanto, 2019). Hospitals are institutions engaged in healthcare services that have evolved over time. Initially, hospitals functioned as social bodies or institutions, but with the emergence of private hospitals, they have increasingly become recognized as healthcare industry entities, operating based on management principles similar to business entities. With the development of hospitals, competition has arisen among them, whether government-owned or private, all striving to attract consumers or patients to utilize their services (Hajrah, 2022).

Healthcare services are the responsibility of both the central and local governments to provide quality services to every citizen because health is fundamental to human life. A person cannot fulfill all their life needs if they are not in good health; therefore, health is crucial for human survival. Quality healthcare service is also one of the benchmarks for both the government and society in achieving national development in Indonesia, as healthcare services are integral to national development (Hartono, 2010).

Health efforts are aimed at improving the quality, equity, and accessibility of healthcare services. The quality of healthcare services provided to the community needs to be continually enhanced to improve public health status, as achieving a state of health is the desire of all parties (Susanto, F. X. H., Simbolon, N. I., & Monica, 2021). In line with this view, Azwar (2002) suggests that the quality of healthcare services in hospitals is a phenomenon because its measures and indicators may vary among those involved in healthcare services, aiming to satisfy the needs and demands of service users. To realize a healthy state, many efforts need to be made, and one of the crucial ones is the provision of healthcare services (Khainuddin & Heri Kusmanto, 2019). Patient satisfaction is a significant concern for healthcare providers. Healthcare service providers work and compete competitively to meet the satisfaction of their clients. Hospitals need to improve satisfaction levels if they intend to remain competitive with other hospitals (Caesary Merybella, 2022).

In the context of hospital management focusing on patient services, enhancing healthcare quality and patient satisfaction becomes paramount. Understanding patient needs and preferences is integral to delivering high-quality healthcare services. Hospitals must adopt patient-centered approaches in their management strategies, encompassing aspects such as efficient appointment scheduling, effective communication between healthcare providers and patients, personalized care plans, and continuous monitoring of patient feedback. By prioritizing patient satisfaction and actively addressing their concerns, hospitals can not only improve their reputation but also foster long-term relationships with patients, leading to increased loyalty and positive word-of-mouth referrals.

According to Nigrum in Dewi (2014), the quality of healthcare services needs to be improved because the needs of the community or individuals for health should align with standards while utilizing resources reasonably, efficiently, and effectively within the limitations of government and community capabilities, and provided safely and satisfactorily in accordance with good norms and ethics. Healthcare services, whether in health posts, village health centers, community health centers, hospitals, or other healthcare institutions, constitute a system consisting of various interconnected, interdependent, and mutually influencing components. The quality of healthcare services in community health centers and hospitals is the end product of the interaction and interdependence of service aspects. Providing the best service is not an easy task for hospital managers because the services provided by hospitals to their patients involve the quality of life of the patients. Therefore, any mistakes in medical actions can have serious consequences for patients.

Hospitals, as part of the healthcare system, are required to enhance patient quality. Thus, hospitals, as competitive healthcare providers, must be managed by individuals with entrepreneurial spirit capable of creating efficiency, excellence in quality and services, excellence in innovation, and excellence in responding to patient needs.

Furthermore, in the competitive landscape of healthcare, hospitals must differentiate themselves by providing exceptional patient experiences. This involves creating a conducive environment for healing, ensuring timely access to care, promoting patient engagement in treatment decisions, and offering comprehensive support services. Moreover, leveraging technology to streamline administrative processes and enhance medical care delivery can contribute to overall patient satisfaction. Ultimately, by implementing a patient-centric approach to hospital management, healthcare institutions can not only meet the evolving needs of patients but also achieve sustainable growth and success in the healthcare industry.

This study aims to investigate the relationship between various aspects of hospital management, such as facility infrastructure, medical staff qualifications, and management systems, with the services provided to patients. Previous research has highlighted the importance of patient satisfaction as a primary indicator in evaluating the quality of hospital services. However, a deeper understanding of the factors contributing to patient satisfaction is still needed. Therefore, this study aims to fill this knowledge gap by identifying variables that influence patient services, including interventions taken by hospitals in managing patient treatments.

By understanding the complex relationship between hospital management and patient services, this research is expected to provide valuable insights for stakeholders in the healthcare industry. The findings of this study are expected to offer practical guidance for hospital management to enhance service quality and patient satisfaction, thereby contributing to better treatment outcomes and improving the overall reputation and performance of hospitals.

II. RESEARCH METHOD

This research employs a quantitative approach using the questionnaire method and will utilize the Partial Least Square (PLS) method. A questionnaire-based study is a data collection method consisting of a list of questions. This list of questions is filled out by respondents. The definition, types, and methods of drafting questionnaires are as follows, according to experts. The purpose of creating a questionnaire is to obtain responses from respondents. Questionnaires play a crucial role in enabling researchers to gather information and facilitate the preparation of research proposals. Sukardi (1985) explains that a questionnaire is a set of questions or statements to be answered by respondents. Hendrarno, Sugiyono, and Supriyo (1987) describe a questionnaire as a technique for understanding students conducted through written communication. The meaning of written communication is that counselors or researchers can provide a series of written questions, and then respondents answer them in writing.

The role of a questionnaire is to measure factual variables in quantitative research, obtain information aligned with the research objectives, and achieve the highest possible validity and reliability of information. In addition to the role of the questionnaire, there are steps in drafting a questionnaire as follows: formulating the researcher's objectives in the questionnaire, identifying variables according to the objectives, breaking down each variable into more specific and singular sub-variables, and determining the type of data collected and the analysis technique in advance.

Furthermore, to illustrate the relationships between various aspects of hospital management, such as facility infrastructure, medical staff qualifications, and management systems, with the services provided to patients, a path diagram can be constructed. This path diagram visualizes the direct and indirect effects of these factors on patient services, providing a comprehensive understanding of the interconnections within the hospital management framework. It serves as a valuable tool for analyzing the complex relationships and identifying critical pathways that influence patient satisfaction and treatment outcomes.

Table 1. Operational Variable

Type	Variable	Dimension	Scale
Independent Variable	Hospital Management	- Operational Efficiency Level - Patient Information Availability and Accessibility - Interunit Coordination	Likert
	Medical Staff Competency	- Educational Level - Work Experience - Communication Skills	Likert
Dependent Variable	Patient Service Quality	- Patient Satisfaction Level - Trust in Medical Care - Reasonable Waiting Time	Likert

Validity testing assesses the extent to which a concept is accurately measured (Heale & Twycross, 2015). Validity originates from the word "validity," which means the extent to which an instrument accurately performs its functions and tasks (Azwar, 1986). Validity is divided into two types: convergent validity and discriminant validity. Both are utilized in this research. Discriminant validity refers to the relationship between indicators of different constructs, hence it is expected that they do not correlate with each other. Through testing discriminant validity, a test is considered valid if the result is above the cross-loading value, which is 0.5 for each targeted indicator. Meanwhile, the convergent validity test is conducted through the examination of the outer model, which is observed through the Average Variance Extracted (AVE). This is the average value of the squared loadings of all indicators associated with the construct; therefore, the AVE value must be above 0.5 to be considered valid, along with the Loading Factor (Sakaran & Bougie, 2017).

Reliability testing assesses the consistency of a measured instrument (Sekaran & Bougie, 2013). Reliability is divided into two approaches: indicator reliability and internal consistency reliability. There are various reliability instruments that can be tested, including test-retest, equivalence, and internal consistency. Internal consistency has several different testing techniques, such as split-half test, KR 20, KR 21, and Cronbach's Alpha.

In this study, quantitative data analysis technique utilizes the Partial Least Squares (PLS) method. One of the data analysis methods is "multivariate analysis." Multivariate analysis is a statistical analysis method used to analyze multiple variables simultaneously (Hair, Hult, Ringle, & Sarstedt, 2014). Multivariate analysis in the second generation employs Structural Equation Modeling (SEM). These methods allow researchers to incorporate unobservable variables but only indirectly measured by indicator variables or latent variables (Chin, 1998). The software was developed by the Institute of Hamburg, Germany. The data analysis stage is crucial as the data collected through observations, interviews, questionnaires, and other data collection techniques are processed and presented to assist researchers in addressing their research problems (Qomari, 2009). Data analysis technique is a procedure for analyzing data, encompassing techniques to describe analyzed data from research data collection techniques, thus facilitating faster analysis (John Tukey).

According to Sugiyono (2013), data analysis is a series of activities that include grouping, tabulating, presenting, and calculating based on variables and types of respondents to answer research questions and test hypotheses. Data analysis is conducted after data collection from respondents is completed (Sugiyono, 2013).

III. RESULT AND DISCUSSION

➢ *Result*

SmartPLS utilizes two types of validity tests, namely convergent and discriminant validity tests. Convergent validity test refers to the principle that the magnitude of one variable should have a strong correlation, while discriminant validity test is based on the principle that different variable magnitudes should not have a strong correlation. The results of the convergent validity test are indicated by indicator values that must have factor loading > 0.7, AVE > 0.5, and communality > 0.5. The table below presents the factor loading, AVE, and communality values of each indicator:

Table 2. AVE and Communaly

Construct	AVE	*Communaly*
Hospital Management	0,682	0,682
Staff Competency	0,714	0,714
Patient Service Quality	0,699	0,699

Table 3. Factor Loading

	HM	SC	SQ
HM1	0,792		
HM2	0,819		
HM3	0,875		
SC1		0,949	
SC2		0,872	
SC3		0,741	
SQ1			0,918
SQ2			0,861
SQ3			0,721

Based on Table 2, all AVE and Communality values are above 0.5, and according to Table 3, all indicators have factor loading values above 0.7. Therefore, it can be

concluded that the variables and indicators in this study are valid to be questions in the convergent validity test.
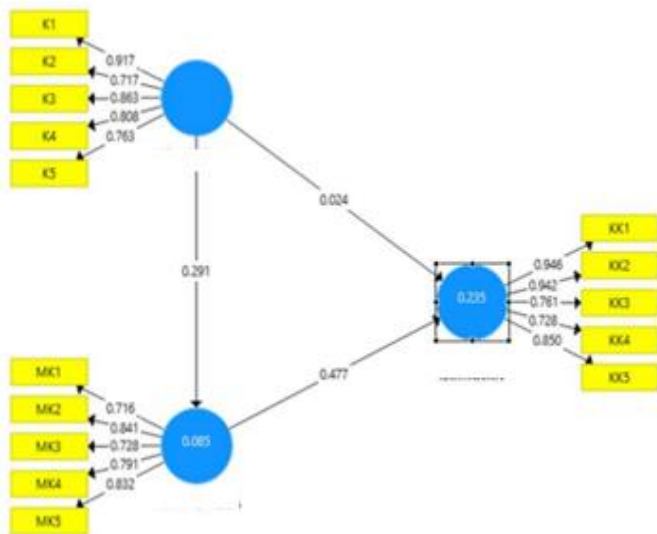

Fig 1. Outer Model

Figure 1 shows the results of the outer model. The outer model in PLS is used to explain the suitability of the research indicators used in the research variables. From the results of the outer model, it is shown that each research indicator has an outer loading value greater than 0.5, so it can be said that each research indicator is a valid indicator to explain the variables in this study.

Based on data processing with PLS, the R-Square values are as follows:

Table 4. R-Square

Variable	AVE
Hospital Management	0,4281
Staff Competency	0,4053

Based on Table 4, it is known that the R-Square value for hospital management is 0.4281, meaning that the percentage of patient service quality is explained by hospital management about 42.81%. The remaining 57.19% is explained by other factors outside the researched model. Meanwhile, the R-Square value for staff competency is 0.4053, meaning that percentage of patient service quality is explained by staff competency about 40,53% The remaining 59.47% is explained by other factors outside the researched model.

➢ *Discussion*

The study titled "Path Diagram Model in Hospital Management Based on Patient Services" delves into the intricate dynamics of hospital management in relation to patient services. Through the path diagram model, the research explores the intricate web of interactions and dependencies among various components of hospital management and their impact on the quality of services delivered to patients. By analyzing these relationships, the study aims to offer valuable insights into how hospitals can optimize their management strategies to enhance patient services and overall healthcare outcomes.

One of the key findings of the study is the significant role played by hospital management in shaping the quality of patient services. The path diagram model highlights the direct and indirect pathways through which factors such as staff competency, resource allocation, and operational efficiency influence patient service quality. Understanding these relationships is crucial for hospital administrators and policymakers to make informed decisions regarding resource allocation and management practices aimed at improving patient care.

Furthermore, the research underscores the importance of staff competency in delivering high-quality patient services. The findings reveal that staff competency serves as a critical determinant of patient service quality, with well-trained and skilled healthcare professionals playing a pivotal role in ensuring positive healthcare experiences for patients. As such, investments in training and development programs for healthcare staff emerge as essential strategies for enhancing patient service quality within hospital settings.

Moreover, the study sheds light on the multifaceted nature of patient service quality and the various dimensions that contribute to overall patient satisfaction. Beyond clinical care, factors such as communication effectiveness, responsiveness to patient needs, and the physical environment of the hospital also significantly impact patient perceptions of service quality. Thus, the findings emphasize the importance of a holistic approach to hospital management that addresses these diverse aspects to improve overall patient experiences.

In addition, the research findings underscore the need for hospitals to adopt a patient-centered approach to management and service delivery. By prioritizing patient needs and preferences, hospitals can tailor their management practices to ensure that services are aligned with patient expectations. This involves fostering a culture of patient-centered care, promoting shared decision-making between healthcare providers and patients, and incorporating patient feedback into continuous quality improvement initiatives.

Overall, the study provides valuable insights into the complex interplay between hospital management and patient services, highlighting the need for hospitals to adopt evidence-based management strategies to enhance patient service quality. By leveraging the findings of the path diagram model, hospitals can identify areas for improvement, optimize resource allocation, and ultimately, enhance the overall healthcare experience for patients.

IV. CONCLUSION

In conclusion, this study sheds light on the intricate relationship between various aspects of hospital management, staff competency, and patient service quality. Through path analysis, the research uncovers significant connections among these variables, offering a deeper understanding of the factors influencing healthcare service quality in hospitals. The findings underscore the crucial role of factors such as staff competency and hospital management systems in shaping the quality of patient care.

Moving forward, it is imperative to acknowledge the implications of these findings for hospital management practices. Investing in staff training and development to enhance medical competence is crucial for maintaining high standards of care delivery. Additionally, optimizing hospital management systems and adopting advanced technologies are essential for improving operational efficiency and service quality.

However, it is essential to acknowledge the limitations of this study, including sample size constraints and the scope of research. Future research endeavors should aim to expand the sample size and incorporate both quantitative and qualitative approaches to gain a comprehensive understanding of the factors influencing patient service quality in hospitals. Moreover, continuous refinement and development of analytical methods are necessary to accurately measure the relationships among variables in the context of hospital management.

In light of these findings, it is recommended that hospital administrators prioritize investments in staff development programs and technology infrastructure to enhance service quality and patient satisfaction. Furthermore, fostering a culture of continuous improvement and innovation within hospital management practices can further contribute to achieving the overarching goal of providing high-quality healthcare services to patients.

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