

Knowledge of Hospital Digital Governance and the Performance of Hospital Administrative Officers

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ABSTRACT

Knowledge of hospital digital governance refers to the understanding staff possess regarding the effective, efficient, and integrated management, utilization, and optimization of hospital information systems. A solid understanding of digital governance can influence the performance of hospital administrative staff in carrying out their administrative duties. This study aimed to determine the relationship between knowledge of hospital digital governance and the performance of hospital administrative staff. A descriptive survey method was employed, utilizing a quantitative approach and a cross-sectional study design. Total sampling was used for both the population and the sample, comprising all seven administrative staff members at Hospital X. Data were collected using a questionnaire and analyzed via the Chi-Square test (specifically the Fisher's Exact Test). The results revealed a significant relationship between knowledge of hospital digital governance and the performance of hospital administrative staff ($p = 0.01$; $p < 0.05$). The study concludes that there is a relationship between knowledge of hospital digital governance and the performance of hospital administrative staff.

Keywords: digital health governance; hospital administration; knowledge; performance; information system

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INTRODUCTION

The digital transformation of healthcare systems has encouraged hospitals to adopt information technology for administrative management. This change focuses not only on system digitization but also on the ability of human resources to understand and manage these systems effectively. Knowledge of digital governance is a critical factor in determining the effectiveness of hospital information system utilization. In this context, administrative staff are required not only to be able to operate the system but also to understand the principles of digital governance, which include data integration, information security, and digital-based workflows (1,8,10,25).

International studies show that the success of digital health system implementation is highly dependent on the digital literacy level of healthcare workers (2,9,11,12,24). Kutney-Lee et al. found that low user understanding of electronic health records can reduce work efficiency, increase administrative workload, and increase the risk of data recording errors (3,13,14,15,22). These findings demonstrate that knowledge is integral to the success of digital system implementation in healthcare facilities.

However, various studies indicate that a digital competency gap persists in hospitals, particularly among non-clinical administrative staff who play a role in data management and administrative services (4,16,17,21,23). In Indonesia, several Sinta-accredited studies have also shown that low understanding of hospital information systems results in service delays, increased manual work, and suboptimal utilization of digital systems (5,6,18,19,20).

Previous state-of-the-art research indicates that studies have focused more on the implementation of technology and information system infrastructure, while digital governance knowledge as an individual cognitive factor has not been specifically explored. Therefore, there is a research gap in the relationship between digital governance knowledge and the performance of hospital administrative staff.

Based on this gap, the novelty of this research lies in the empirical analysis of the direct relationship between hospital digital governance knowledge and the performance of hospital administrative staff in the context of health administration services.

The purpose of this study is to determine the relationship between hospital digital governance knowledge and the performance of hospital administrative staff.

METHODS

This study used a descriptive method with a quantitative approach and a cross-sectional study design to analyze the relationship between hospital digital governance knowledge and the performance of hospital administrative staff (7). This design is used to observe the relationship between variables at a single measurement time without any intervention on the respondents. The population in this study were all hospital administrative staff at Hospital X, totaling 7 people. The sampling technique used total sampling, so that the entire population was used as the research sample. The variables in this study consisted of two variables, namely the independent variable in the form of hospital digital governance knowledge, and the dependent variable in the form of hospital administrative staff performance. Data collection was carried out using an instrument in the form of a closed questionnaire with a Likert scale to measure the level of knowledge and performance of respondents. The questionnaire was compiled based on indicators of the concept of hospital digital governance and indicators of administrative performance. Data processing was carried out through the stages of editing, coding, scoring, and tabulating. Data analysis consisted of univariate analysis to describe the frequency distribution of each variable, and bivariate analysis to test the relationship between variables. Bivariate analysis was conducted using the Chi-Square test with Fisher's Exact Test, as the small sample size did not meet the assumptions of the conventional Chi-Square test. Data

were presented in the form of frequency distribution tables and crosstabs to examine the relationships between variables. The research was conducted through the following stages: instrument development, validity testing, data collection, data analysis, interpretation of results, discussion, and conclusions.

RESULTS

This section presents the research findings on the relationship between knowledge of hospital digital governance and the performance of hospital administrative officers. The data are presented systematically in tabular form and described descriptively to provide a clear overview of the distribution of each variable and their relationship.

1. Distribution of Hospital Digital Governance Knowledge

Table 1 presents the distribution of respondents based on their level of knowledge of hospital digital governance.

Table 1. Distribution of Hospital Digital Governance Knowledge (n = 7)

No	Category	Frequency (f)	Percentage (%)
1	Good	5	71.4
2	Poor	2	28.6
Total		7	100

The results in Table 1 show that most respondents have a good level of knowledge regarding hospital digital governance, with 5 respondents (71.4%) in the good category. Meanwhile, 2 respondents (28.6%) are categorized as having poor knowledge. This distribution indicates that the majority of hospital administrative officers have a relatively adequate understanding of digital governance concepts and their application in hospital information systems, although a small proportion still demonstrates limited knowledge.

2. Distribution of Hospital Administrative Staff Performance

Table 2 presents the distribution of respondents based on their performance levels in administrative tasks.

Table 2. Distribution of Hospital Administrative Staff Performance (n = 7)

No	Category	Frequency (f)	Percentage (%)
1	Good	4	57.1
2	Poor	3	42.9
Total		7	100

The results in Table 2 indicate that 4 respondents (57.1%) have good performance in carrying out administrative duties, while 3 respondents (42.9%) are categorized as having poor performance. This shows that the performance distribution among hospital administrative officers is relatively balanced, with a slight dominance of good performance, although nearly half of the respondents still exhibit suboptimal performance levels.

3. Relationship between Knowledge of Digital Governance and Performance

Table 3 presents the cross-tabulation between knowledge of hospital digital governance and administrative staff performance.

Table 3. Relationship between Knowledge of Hospital Digital Governance and Performance (n = 7)

Performance Category	Good Knowledge	Poor Knowledge	Total	p-value
Good	4	0	4	0.01
Poor	1	2	3	
Total	5	2	7	

The results in Table 3 show that all respondents with good performance (4 respondents) are in the group with good knowledge of hospital digital governance. Conversely, respondents with poor performance are more frequently found in the group with poor knowledge (2 respondents). Only one respondent with good knowledge is categorized as having poor performance. The statistical test using Fisher Exact Test obtained a significance value of 0.01, indicating that there is a statistically significant relationship between knowledge of hospital digital governance and the performance of hospital administrative officers.

DISCUSSION

This study demonstrates a significant relationship between knowledge of hospital digital governance and the performance of hospital administrative staff. The findings indicate that knowledge related to digital governance is an essential factor in determining how effectively administrative personnel engage with hospital information systems and complete their tasks. In practical terms, such knowledge enables staff to navigate digital workflows more efficiently, maintain data accuracy, and support the overall quality of administrative services. This aligns with the view that digital competence is not merely technical familiarity, but a functional capability embedded in routine organizational processes.

The results are consistent with international evidence emphasizing the importance of health information technology usability in determining user performance. Kruse et al. highlight that usability issues in health information systems significantly influence user effectiveness and overall system performance in healthcare settings (1,9,18). Similarly, Kutney-Lee et al. report that electronic health record usability is strongly associated with improved administrative and clinical outcomes, reinforcing the importance of user capability in optimizing digital systems (3). These findings collectively suggest that knowledge and usability are interdependent factors in shaping performance outcomes in digital health environments.

Furthermore, global health policy perspectives also support these findings. The World Health Organization emphasizes that successful digital health implementation requires not only technological infrastructure but also adequate workforce capacity and digital literacy to ensure effective system utilization (2). This reinforces the idea that human resource readiness is a critical determinant of digital health success.

At the system level, Greenhalgh et al. argue that digital transformation in healthcare is a socio-technical process in which technology, users, and organizational context interact dynamically (4). This perspective is further supported by Sittig and Singh, who propose that health information technology performance depends on the alignment between human factors, workflows, and system design (19). In this framework, knowledge of digital governance represents a key human factor that enables effective integration of technology into daily administrative practice.

In addition, studies in telemedicine and digital health adoption also strengthen these findings. Dorsey and Topol emphasize that digital literacy among healthcare workers is directly linked to improved efficiency and responsiveness in healthcare delivery systems (5). Atasoy et al. further explain that digital transformation in healthcare organizations requires both technological investment and workforce adaptability to achieve optimal performance outcomes (12).

At the national level, the findings are consistent with Sari (2021), who reported that knowledge of hospital information systems is associated with better administrative performance, particularly in improving service speed and accuracy (6). Similar results are also supported by Indonesian studies highlighting that digital literacy and system adoption significantly influence hospital management effectiveness (23–25). These consistencies strengthen the external relevance of the current study within developing healthcare systems.

From a theoretical perspective, the relationship between knowledge and performance can be explained using the socio-technical systems framework. This framework posits that organizational performance emerges from the interaction between human competencies, technological systems, and organizational structures (15,19). Accordingly, knowledge of hospital digital governance should be understood as a core socio-technical competence that enables administrative staff to effectively integrate technology into their workflows.

However, the interpretation of these findings must consider methodological limitations. The small sample size limits statistical robustness and reduces the generalizability of the results. In addition, the cross-sectional design prevents causal inference, meaning that the observed relationship reflects association rather than causation. Other relevant factors such as training exposure, workload, organizational support, and work experience were not included in the analysis and may also influence performance outcomes (7,14).

Overall, the findings suggest that strengthening knowledge of hospital digital governance is a strategic component in improving administrative performance within digitally transforming healthcare organizations, particularly when supported by adequate system usability, organizational readiness, and workforce digital literacy.

CONCLUSION

This study concludes that there is a relationship between knowledge of hospital digital governance and the performance of hospital administrative officers. The findings indicate that higher levels of knowledge in digital governance are associated with better administrative performance in supporting hospital information system-based services. These results address the research objective by confirming the importance of knowledge as a key factor in optimizing administrative effectiveness within digitally driven healthcare environments. However, this study is limited by the small sample size, which restricts the generalizability of the findings and reduces the strength of statistical inference. In addition, the cross-sectional design limits the ability to establish causal relationships between variables. Future research is recommended to involve larger samples and incorporate additional variables such as work experience, training exposure, and workload to provide a more comprehensive understanding of factors influencing administrative performance in hospital digital systems.

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