





## Strengthening Digital Governance in the Transformation of Inpatient Services: A Case Study of Ngudi Waluyo Wlingi Regional General Hospital in the SATUSEHAT Interoperability Era

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### ABSTRACT

This study analyzes the implementation of digital governance in supporting the digital transformation of inpatient services at Ngudi Waluyo Wlingi Regional General Hospital, Blitar Regency. Using a qualitative approach with an intrinsic case study design, it identifies barriers and opportunities in integrating the hospital information system with the national SATUSEHAT platform. The principal findings indicate that digital systems are not fully designed around user needs (user-centered design), face limited interoperability, are underpinned by weak data-security policies, and encounter organizational cultural resistance to digitalization. These conditions depress service quality across the SERVQUAL dimensions, particularly reliability and responsiveness. The study proposes integrating a digital governance framework, Milakovich's public service quality model, and continuous evaluation grounded in user feedback as a strategic pathway for hospital service reform. The results are expected to contribute theoretically and practically to the design of inclusive, secure, and adaptively governed digital health systems.

**Keywords:** Digital Governance; Digital Transformation; Inpatient Services; Service Quality; Hospital Information Systems.

### INTRODUCTION

Digital transformation in the health sector has become a strategic imperative that can no longer be deferred, particularly in the face of service complexity, rising public expectations, and global challenges such as pandemics. Indonesia, as a developing country with a large population and vast geographic dispersion, contends with multiple structural and operational issues in its health system. A principal challenge is the low level of integration and reliability of health information systems, especially in district hospitals that serve as the frontline of public services. This situation directly affects service quality, operational efficiency, and public trust in health institutions.

Data fragmentation, reliance on manual recordkeeping, and weak patient data protection remain pervasive challenges within Indonesia's healthcare ecosystem. Ministry of Health data indicate that more than 400 health applications are used simultaneously across facilities, yet they are poorly integrated. Consequently, service processes tend to be administrative and repetitive, adding to health workers' workloads and undermining the effectiveness of data-driven decision-making (Kemenkes RI, 2024).

Within the broader agenda of health service transformation, hospital digitalization through the adoption of Electronic Medical Records (EMR) and Hospital Management Information Systems (HMIS) is pivotal. Adoption, however, remains low. In East Java, only a small proportion of hospitals have completed the Digital Maturity Index (DMI), and most have not integrated their EMR systems with the national SATUSEHAT platform. This study, conducted at Ngudi Waluyo Wlingi Regional General Hospital in Blitar Regency, examines in depth how digital governance can function as a core strategy to improve hospital service quality, particularly in inpatient care.

The concept of digital governance guiding this study refers to a public-sector digital governance framework emphasizing user needs, privacy and security, interoperability, and inclusion (Department of Health and Social Care UK, 2018). These four principles form the foundation for designing and evaluating effective, responsive, and accountable digital health systems. They are especially salient in Indonesia, given the low levels of digital literacy among health workers, infrastructural constraints, and weak regulatory protections for patient data.

Theoretically, the study rests on three analytical models. First, the SERVQUAL model by Parasuraman et al. is used to assess public service quality across five dimensions—tangibles, reliability, responsiveness, assurance, and empathy—making it well-suited to capture patient perceptions and experiences of inpatient services. Second, the digital governance framework of the UK Department of Health and Social Care provides both technical and normative evaluative lenses for hospital digital systems, from system security to fulfillment of user needs. Third, Milakovich's (2022) public service quality model—emphasizing efficiency, transparency, service quality, and public participation—is employed to assess the outcomes of digital transformation.

The urgency of digital transformation in health care became even more apparent after COVID-19 exposed the limitations of conventional systems in responding swiftly and adaptively to crises. Experiences from countries such as South Korea, Denmark, and Estonia demonstrate that success in digital health transformation depends not merely on advanced technology but also on integrative, participatory, and data-driven governance design. Estonia, for example, has implemented a national Electronic Health Record (EHR) since 2008 and integrated all citizens' health data into a single system accessible in real time by health providers. Likewise, Denmark and South Korea have developed digital systems that support telemedicine, interoperability across services, and the use of big data for epidemiological forecasting.

In Indonesia, initial steps toward digital transformation have been taken through the launch of the SATUSEHAT platform, envisioned as the backbone of national health data interoperability based on HL7 FHIR standards. Significant challenges persist, however, including uneven infrastructure, limited health IT human resources, and cultural resistance within organizations to digital change. Low DMI scores across many hospitals suggest that digital transformation has yet to become a strategic priority for numerous regional health institutions.

Against this backdrop, Ngudi Waluyo Wlingi Regional General Hospital offers a critical empirical locus for examining the dynamics of digital governance implementation. The hospital faces challenges common to district hospitals in Indonesia—fragmented information systems, budget constraints, workforce adaptation gaps, and rising community expectations. This study analyzes how digital governance can improve hospital service quality, with a focus on inpatient care, a core service that heavily shapes public perceptions.

Employing a qualitative, in-depth case study design, the research seeks not only to identify best practices and challenges in implementation but also to advance a conceptual framework that can guide the development of smart hospitals grounded in digital governance. The theoretical contribution lies in reinforcing the relevance of the three analytical models in the context of digital health systems. Practically, the findings offer concrete recommendations for policymakers to strengthen digital infrastructure, develop health IT human capital, and cultivate a digital-ready organizational culture.

The urgency of this research is underscored by the recognition that digitalization affects more than administrative efficiency: it accelerates patient response times, improves diagnostic accuracy, enhances medical data management, and promotes transparency and public participation in service delivery. In the long term, robust digital governance will be a cornerstone for building a responsive, inclusive, and sustainable health system.

## THEORETICAL FRAMEWORK

The theoretical framework provides the conceptual foundation that clarifies relationships among the variables examined in this study and guides instrument development, data analysis, and interpretation. In the context of digital transformation in health services, the framework integrates three principal perspectives: digital governance, the SERVQUAL model, and Milakovich's (2022) public service quality model. Together, these models explain how digital systems shape hospital service quality, particularly in inpatient care.

## 1. Digital Governance

Digital governance refers to the stewardship of digital systems that support public service delivery based on the principles of user needs, security and privacy, system interoperability, and inclusion. This concept is adapted from the framework developed by the UK Department of Health and Social Care (2018), which has informed digital health information system development in multiple countries.

Within this framework, digital governance is not merely about technology adoption; it encompasses the management of values, ethics, and governance structures to ensure that digital systems deliver optimal benefits for all stakeholders. Effective digital governance is characterized by:

- **User Needs:** Systems are developed from a deep understanding of patient and health worker needs.
- **Security and Privacy:** Encompassing data encryption, access authorization, and protection of patients' personal data.
- **Interoperability:** Ensuring integration across systems and institutions to avoid duplication and improve service efficiency.
- **Inclusion:** Systems are accessible to all groups without discrimination related to digital or physical limitations.

In the hospital setting, these principles are essential to prevent digitalization from creating service gaps and, instead, to reinforce efficiency, quality, and accountability.

## 2. The SERVQUAL Model

Introduced by Parasuraman, Zeithaml, and Berry (1988), SERVQUAL is widely used to measure service quality based on customer perceptions and expectations across five dimensions:

- **Tangibles** – physical aspects such as facilities, equipment, and staff appearance.
- **Reliability** – the ability to deliver dependable and accurate services.
- **Responsiveness** – willingness to assist customers and provide prompt service.
- **Assurance** – staff knowledge and courtesy and their ability to inspire trust.
- **Empathy** – individualized attention and concern for customer needs.

SERVQUAL is pertinent here because it enables evaluation of patients' perceptions of inpatient service quality after digitalization. Its dimensions align with elements of digital governance, such as system reliability and responsiveness to patient needs.

## 3. Public Service Quality Model (Milakovich, 2022)

Milakovich (2022) proposes a systemic approach to public service quality comprising four pillars:

- **Efficiency:** Optimal management of resources.
- **Transparency:** Openness of information and service processes.
- **Service Quality:** Attainment of service standards that satisfy the public.
- **Participation:** Public involvement in decision-making and oversight.

This model supports an evaluative approach to digital transformation in the public sector. In hospitals, efficiency can be achieved through digital systems that reduce duplication and bureaucracy; transparency through digital reporting and accessible medical records; service quality through accuracy and speed; and participation through digital patient feedback.

## 4. Synthesis of the Theoretical Framework

The three models are complementary rather than standalone. Digital governance provides the strategic foundation for steering hospital digital systems. SERVQUAL offers an evaluative lens from the user (patient) perspective, while Milakovich's model contributes public-sector quality dimensions relevant to policymaking and impact assessment.

**Table 1.** Strategic Recommendations for Implementing Digital Governance at Ngudi Waluyo Wlingi Regional General Hospital

Strategic Aspect	Recommended Actions
1. Information System Design	Develop user-centered systems by actively involving health workers and patients throughout system design.
2. Interoperability of Digital Systems	Integrate the Hospital Management Information System (HMIS/SIMRS) with the national SATUSEHAT platform using HL7 FHIR standards, supported technically by the Ministry of Health.
3. Data Security and	Implement patient data protection policies through audit logs, multi-factor authentication

Privacy	(MFA), and targeted cybersecurity training for clinical staff and system administrators.
4. Organizational Culture Reform	Execute change management strategies, including digital upskilling, technology-based incentives, and transformational leadership.
5. Service Quality Evaluation	Employ the SERVQUAL model and systematic patient feedback as routine instruments for continuous system improvement and quality enhancement.

This table illustrates the interlinkages among the three theoretical models. Digital governance serves as the foundation for directing digital system implementation in hospitals. The implementation directly influences inpatient service quality, which is evaluated through two complementary lenses: patient perceptions (SERVQUAL) and public-sector quality dimensions (Milakovich). The relationship between SERVQUAL and Milakovich is reciprocal: perceptions of service affect public service effectiveness, while public service quality strengthens patients' perceptions of care.

## METHODS

### Research Approach and Design

This study employs a qualitative approach with an intrinsic case study design. A qualitative approach was selected to gain an in-depth, holistic understanding of digital governance practices that support service transformation, particularly in the inpatient unit of Ngudi Waluyo Wlingi Regional General Hospital. According to Yin (2018), an intrinsic case study is appropriate when the researcher aims to comprehensively explore a case due to its uniqueness or strategic significance. In this context, Ngudi Waluyo Wlingi was chosen because it is in the early phase of implementing an integrated digital system through the national SATUSEHAT platform.

### Setting and Context

The research was conducted at Ngudi Waluyo Wlingi Regional General Hospital, Blitar Regency, East Java Province. The hospital is a government-owned type-B facility and a principal referral center for eastern Blitar. The district-hospital context is pertinent as it reflects the challenges of digital transformation under constraints in resources, infrastructure, and organizational capacity.

### Participants and Informants

Informants were selected purposively, considering their direct involvement in digitalization and representation across organizational levels. Key informants included:

- The hospital director and executive management,
- Head of the inpatient unit,
- Information technology (IT) team,
- Attending physicians and nurses,
- Patients or patients' family members.

Inclusion criteria required at least one year of experience using or engaging with the hospital's digital systems and participation in decision-making processes related to digital transformation.

### Data Collection

Data were obtained through three primary methods:

#### a. *In-depth Interviews.*

Semi-structured interviews explored informants' views, experiences, and perceptions regarding system implementation and its effects on inpatient care. Questions were derived from the digital governance framework, SERVQUAL, and Milakovich's model.

#### b. *Participant Observation.*

Observation focused on inpatient service workflows, user interactions with digital systems, and inter-unit coordination dynamics, enabling identification of gaps between system design and field practice.

#### c. *Documentation.*

Analyzed documents included internal hospital policies, HMIS/SIMRS evaluation reports, business process maps, and SATUSEHAT utilization data. System-use records—such as access logs and data-entry flows—were also examined for triangulation.

### Research Instruments

The primary instrument was the researcher (human instrument), supported by an interview guide and observation checklist. Content validity of the guides was reviewed by experts in health policy and health

information management. A pilot test with informants from a comparable hospital assessed readability and relevance of the questions.

## DATA ANALYSIS

Data were analyzed thematically following Braun and Clarke (2006):

1. **Familiarization:** Repeated reading of interview transcripts to grasp embedded meanings.
2. **Initial Coding:** Marking segments relevant to digital governance, service quality, and system effectiveness.
3. **Theme Development:** Grouping codes into core themes (e.g., data security, system integration, patient perceptions, service efficiency).
4. **Theme Review:** Refining themes to ensure coherence with the theoretical framework.
5. **Defining and Naming Themes:** Crafting conceptual narratives for each theme.
6. **Reporting:** Interpreting findings by integrating empirical evidence with the theoretical framework.

### Triangulation and Trustworthiness

Credibility was supported through source triangulation (interviews with diverse actors), methodological triangulation (interviews, observation, documentation), and member checking (informant validation of interpretations). Dependability and confirmability were ensured via an audit trail, field notes, and reflective discussions among the research team.

### Research Ethics

Ethical approval was obtained from the Health Research Ethics Committee. All informants received written information about the study’s aims, data confidentiality, and their right to withdraw. Written informed consent was secured. Data were anonymized to protect privacy and used solely for academic purposes.

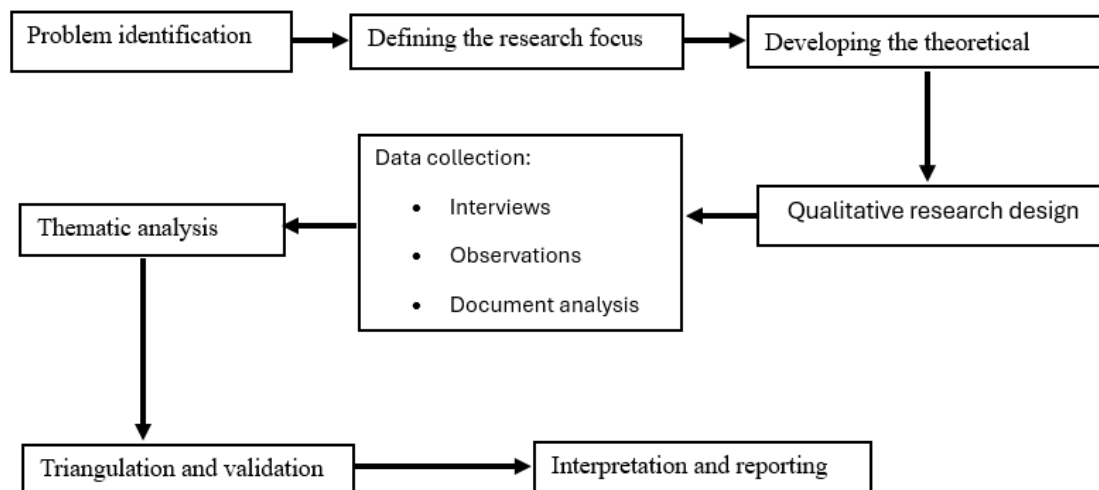


Figure 2. Research Methodology Flow

This figure depicts the sequential stages of the intrinsic qualitative case study, beginning with problem identification and concluding with reporting, with rigor reinforced through triangulation and member checking.

## RESULTS AND DISCUSSION

This study examines the implementation of digital governance to support the transformation of inpatient services at Ngudi Waluyo Wlingi Regional General Hospital. Based on in-depth interviews, observations, and document analysis, five themes emerged that capture the dynamics of digital system implementation and its effects on hospital service quality: (1) user needs as the basis of system development, (2) system integration and interoperability, (3) patient data security and privacy, (4) organizational cultural resistance, and (5) patient perceptions of service quality. These findings are discussed through the lenses of digital governance, SERVQUAL, and Milakovich’s public service quality framework.

### 1. User Needs in System Design

Observations indicate that the hospital’s digital information systems are not yet fully grounded in user-centered design. Most system features reflect compliance with administrative and national regulatory requirements rather than clinical workflows or patient convenience. As a result, frontline adoption among nurses and physicians remains limited.

Within a digital governance framework, user needs constitute a core design principle. When neglected, systems become unresponsive and risk increasing workload. This finding aligns with van Gemert-Pijnen et al. (2011), who underscore the importance of user participation in e-health system design.

**2. Limited System Interoperability**

A critical finding concerns the low level of interoperability between the Hospital Management Information System (HMIS/SIMRS) and the national SATUSEHAT platform. Data integration is still performed manually and periodically, leading to reporting delays and duplicate entry. Inpatient data are not integrated in real time, hampering analysis and clinical decision-making.

As Milakovich (2022) notes, efficiency and transparency in public services hinge on systems that are connected and enable open, secure data flows. Disconnected systems impede clinical workflows and diminish the speed and accuracy of patient care.

**3. Suboptimal Security and Privacy**

Many clinicians expressed concerns about the protection of patient data, particularly regarding access and storage. Not all systems employ multi-factor authentication, and stringent internal policies on audit logging are lacking. Oversight of privacy violations remains largely passive and reactive.

Security and privacy are pillars of digital governance. Without robust safeguards, digital systems can pose significant risks to the confidentiality of medical information—an ethical and legal issue requiring prompt managerial response.

**4. Organizational Cultural Resistance to Digitalization**

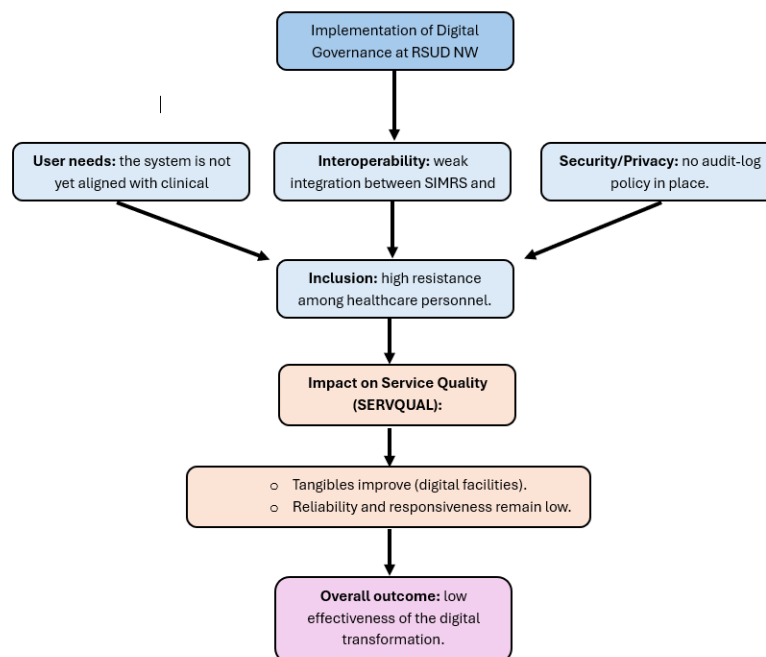
Interviews reveal persistent resistance to digitalization, especially among frontline staff. Many perceive digital systems as slow, unintuitive, and misaligned with established work routines. Contributing factors include age, low digital literacy, and insufficient training.

From an organizational change perspective, successful digital transformation depends on cultural readiness. As Kotter (1996) argues, technological change must be accompanied by shifts in values, behaviors, and incentive structures. Absent cultural change, even advanced technologies yield limited impact.

**5. Service Quality and Patient Perceptions**

Despite initial digital implementation, patient perceptions of service quality have not improved significantly. Within the SERVQUAL dimensions, only **tangibles** (physical facilities and digital equipment) show noticeable gains. **Reliability, responsiveness, and empathy** remain rated low, particularly regarding service speed and personalized attention.

These findings indicate that digitalization does not automatically enhance service quality, especially when not coupled with workforce capacity building and patient-oriented system design. Positive impacts arise only when digital tools directly support dimensions of quality as experienced by end users.



**Figure 3.** Synthesis of Field Findings and Theoretical Framework

This diagram depicts the linkage between digital governance principles and field findings, and their downstream effects on hospital service quality. Weak implementation across the four core principles directly depresses SERVQUAL dimensions, resulting in limited overall effectiveness of the digital transformation.

**Synthesis Discussion**

The findings confirm that successful digital transformation in health services is inseparable from strong digital governance. Information systems must be designed around user needs, secured effectively, interoperable, and inclusive. Only under these conditions can digital systems materially improve service quality.

At Ngudi Waluyo Wlingi, digitalization remains at an early, largely administrative–technical stage. It has yet to address strategic organizational dimensions, including business process redesign, work culture, and patient interaction. Strengthening the hospital’s digital capability therefore requires staff upskilling, routine system evaluations, and a reinforced privacy policy framework.

These results also corroborate Milakovich (2022): public service quality is determined not merely by the presence of technology but by how it is governed and oriented toward the public interest. Accordingly, digital transformation in healthcare must be framed through a governance paradigm—rather than as mere digitization.

**CONCLUSION**

This study provides an in-depth examination of digital governance implementation in support of the digital transformation of inpatient services at Ngudi Waluyo Wlingi Regional General Hospital, Blitar Regency. Using a qualitative, intrinsic case study design, the findings indicate that the hospital’s digital systems have not yet fully accelerated the expected improvements in service quality envisioned by the national health system transformation agenda. The main conclusions are articulated as follows.

First, the hospital’s digital systems are not comprehensively grounded in the principle of user needs. Information systems tend to be developed to satisfy administrative and regulatory demands rather than to support clinical effectiveness or patient comfort. Consequently, clinical staff have not fully utilized the available digital tools, perceiving them as adding to workloads rather than enhancing efficiency. This underscores the need to adopt human-centered design in developing digital health systems.

Second, integration between the hospital’s internal information systems and the national SATUSEHAT platform faces technical and structural barriers. Existing systems are not fully interoperable, resulting in manual and partial data exchange across platforms. Low interoperability delays access to patient information, inhibits real-time, data-driven clinical decisions, and leads to duplicate documentation. This highlights the importance of strengthening data architecture and consistently implementing HL7 FHIR standards at district hospitals.

Third, patient data security and privacy have not been treated as principal priorities in system management. Data protection policies are not well documented, and oversight of access and use remains weak. Without robust cybersecurity and privacy safeguards, digital systems pose significant legal and ethical risks. Accordingly, privacy-by-design and audit logging must be institutionalized within hospital digital governance.

Fourth, organizational cultural resistance to digital change constitutes a major barrier to implementation. Many health workers lack adequate digital literacy and tend to maintain manual routines. Limited training, supervision, and incentives for technology use reinforce this resistance. Therefore, digital transformation must be supported by organizational culture change through systematic change management strategies.

Fifth, although the **tangibles** dimension of service quality (e.g., hardware and applications) has improved, other dimensions—**reliability**, **responsiveness**, and **empathy**—show no significant gains. This indicates that digitalization does not automatically enhance patients’ perceptions of service quality. Digital tools should be viewed as enabling instruments rather than ends in themselves within health service reform.

Synthesizing these findings, the success of digital transformation in health care depends not on technology per se but on the strength of digital governance encompassing user needs, interoperability, security, and inclusion. Without a robust governance framework, digital systems risk becoming an organizational burden rather than a driver of service quality.

Theoretically, this study enriches scholarship on integrating digital governance, SERVQUAL, and public service quality models within digital health service contexts. Practically, it offers concrete recommendations for hospital managers and health policymakers to design information systems that are inclusive, secure, and responsive to user needs. Strengthening digital governance should therefore be a strategic priority in all efforts to transform public health services in Indonesia, particularly at the district hospital level.

## RECOMMENDATIONS

Drawing on the study's findings and discussion, we propose a set of strategic recommendations to enhance the effectiveness of digital governance in supporting the digital transformation of inpatient services at Ngudi Waluyo Wlingi Regional General Hospital. Spanning planning, system development, data governance, human-capital strengthening, and organizational culture reform, these measures are intended to synergistically improve digital service quality.

### 1. *User-Centered System Design.*

Design the information system around user needs—both clinical staff and patients. Involve end users through participatory mechanisms (e.g., consultative forums and user testing) to ensure the system supports efficient clinical and administrative workflows.

### 2. *Strengthen Interoperability.*

Prioritize seamless integration between the hospital's digital systems and national platforms such as SATUSEHAT. This requires reinforcing data architecture, adopting international data-exchange standards (e.g., HL7 FHIR), and securing central government technical support to enable optimal, real-time integration.

### 3. *Enhance Data Security and Privacy Governance.*

Implement robust patient data protection through audit logs, layered/multi-factor authentication, and targeted training on personal data protection. Develop and enforce internal cybersecurity policies, and conduct regular monitoring of authorized system access.

### 4. *Reform Organizational Culture via Structured Change Management.*

Support transformation with systematic change management, including routine digital upskilling, performance incentives tied to technology use, and visible, visionary digital leadership. Cultural commitment is essential to the success of digital initiatives.

### 5. *Institutionalize Service Quality Evaluation.*

Establish routine assessments using SERVQUAL and structured patient feedback to objectively measure the impact of digital systems. Use evaluation results to drive continuous system improvement.

Consistent implementation of these recommendations' positions Ngudi Waluyo Wlingi Regional General Hospital to become a reference model for successful digital transformation among Indonesia's district hospitals.

## REFERENCES

- Milakovich, M. E. (2012). *Digital governance: New technologies for improving public service and participation* (3rd ed.). Routledge.
- Milakovich, M. E. (2022). *Digital Governance: Applying Advanced Technologies to Improve Public Service* (2nd edition). Routledge. New York
- Miles, M.B, Huberman, A.M, & Saldana, J. 2014. *Qualitative Data Analysis, A Methods Sourcebook, Edition 3.* USA: Sage Publications. Terjemahan Tjetjep Rohindi Rohidi, UI-Press
- Mithas, S., Tafti, A., Bardhan, I., & Goh, J. M. (2016). Information technology and firm profitability: Mechanisms and empirical evidence. *MIS Quarterly*, 36(1), 205–224. <https://doi.org/10.2307/41410414>
- Mohan, K., & K, S. (2023). Assessing information security governance in public sector banks of India. *International Journal of Engineering Technology and Management Sciences*, 7(5), 103–116. <https://doi.org/10.46647/ijetms.2023.v07i05.012>
- Moleong, Lexy J. 2012. *Metodologi Penelitian Kualitatif*. Bandung: PT Remaja Rosdakarya
- Montie, M., Shuman, C., Galinato, J., Patak, L., Anderson, C. A., & Titler, M. G. (2017). Conduits to care: Call lights and patients' perceptions of communication. *Journal of Multidisciplinary Healthcare*, 10, 359–366. <https://doi.org/10.2147/JMDH.S144152>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41–50. <https://doi.org/10.2307/1251430>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple- item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(2), 12–40
- Park, S., Ko, J., Bae, E., Chang, M., & Kim, D. (2019). The impact of hospital specialization on congestion and efficiency. *Sustainability*, 11(5), 1475. <https://doi.org/10.3390/su11051475>
- Uslu, A., & Stausberg, J. (2021). Value of the electronic medical record for hospital care: Update from the literature. *Journal of Medical Internet Research*, 23(12), e26323. <https://doi.org/10.2196/26323>
- Van Gemert-Pijnen, J. E., Peters, O., & Ossebaard, H. C. (2011). *Improving eHealth*. Routledge
- Vegt, R. V. D. (2018). Risk assessment and risk governance of liquefied natural gas development in Gladstone, Australia. *Risk Analysis*, 38(9), 1830–1846. <https://doi.org/10.1111/risa.12977>

- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of IT: Toward a unified view. *MIS Quarterly*, 27(3), 425–478
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41–50. <https://doi.org/10.2307/1251430>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(2), 12–40
- Kotter, J. P. & Schlesinger, L. A. (2008). *Choosing Strategies for Change*, Harvard Business Review, 86 (7–8)
- Kotter, J. P. (1996). *Leading change*. Harvard Business School Press.
- Kotter, J. P. (2012). *Leading change* (rev. ed.). Harvard Business Review Press.
- Kraemer, F., & Van Overveld, C. (2020). Ethics of healthcare digitalization. *Medicine, Health Care and Philosophy*, 23(4), 653–658.
- Kraus, S., Schiavone, F., Pluzhnikova, A., & Invernizzi, A. C. (2021). Digital transformation in healthcare: Analyzing the current state-of-research. *Journal of Business Research*, 123, 557–567. <https://doi.org/10.1016/j.jbusres.2020.10.030>
- Kruse, C. S., Frederick, B., Jacobson, T., & Monticone, D. K. (2017). Cybersecurity in healthcare: A systematic review. *Journal of Medical Systems*, 41(8), 67.
- Kruse, C. S., Karem, P., Shifflett, K., Vegi, L., Ravi, K., & Brooks, M. (2017). Evaluating barriers to adopting telemedicine worldwide: A systematic review. *Journal of Telemedicine and Telecare*, 24(1), 4–12. <https://doi.org/10.1177/1357633X16674087>
- Kruse, C. S., Kothman, K., Anerobi, K., & Abanaka, L. (2018). Adoption factors of electronic health records: A systematic review. *JMIR Medical Informatics*, 6(2), e19. <https://doi.org/10.2196/medinform.8903>
- Kruse, C. S., Smith, B., Vanderlinden, H., & Nealand, A. (2017). Security techniques for the electronic health records. *Journal of Medical Systems*, 41(8), 127. <https://doi.org/10.1007/s10916-017-0778-4>
- Kruse, C. S., Stein, A., Thomas, H., & Kaur, H. (2018). Barriers to electronic health record adoption: A systematic literature review. *Journal of Medical Systems*, 42(12), 214. <https://doi.org/10.1007/s10916-018-1100-2>
- Kruse, C. S., Stein, A., Thomas, H., & Kaur, H. (2018). The use of electronic health records to support population health: A systematic review of the literature. *Journal of Medical Systems*, 42(11), 214. <https://doi.org/10.1007/s10916-018-1075-6>
- Kubicek, H., & Cimander, R. (2009). *Interoperability in electronic government: Success factors and guidelines*. Springer.
- Kularathne, T. (2017). Paradigm shifts in public administration: Theoretical developments and implications for service delivery. *Journal of Public Administration and Policy Research*, 9(2), 15–23. <https://doi.org/10.1007/s10916-017-0778-4>