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The Influence Of Risk Management And Service Digitalization On Service Quality Via Competence As An Intervening Variable At The Adi Luhur Community Health Center, Pacajaya District, Mesuji

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Abstract

This study investigates the effects of risk management and service digitalization on healthcare service quality, with employee competence serving as an intervening variable at Adi Luhur Community Health Center, Panca Jaya District, Mesuji Regency. A quantitative research design was employed, involving all 53 employees as respondents through a total sampling technique. Data were collected through observation, interviews, questionnaires, and documentation, and subsequently analyzed using Structural Equation Modeling based on Partial Least Squares (SEM-PLS). The research model examined risk management and service digitalization as independent variables, employee competence as an intervening variable, and service quality as the dependent variable. The findings demonstrate that risk management has a positive and significant effect on employee competence, while service digitalization also contributes positively and significantly to competence. Furthermore, employee competence significantly enhances healthcare service quality. Both risk management and service digitalization were also found to have positive and significant direct effects on service quality. The indirect effect analysis further confirms that employee competence significantly mediates the relationships between risk management and service quality as well as between service digitalization and service quality. These findings indicate that improving healthcare service quality requires more than effective risk management and digital technology adoption; it also depends on employees' ability to effectively utilize and implement these practices. Therefore, strengthening risk management practices, optimizing digital-based services, and continuously developing employee competencies

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are essential strategies for improving the effectiveness, efficiency, safety, and overall quality of healthcare services at Adi Luhur Community Health Center.

Keywords: Risk Management; Service Digitalization; Employee Competence; Service Quality; Community Health Center.

INTRODUCTION

Healthcare services represent a fundamental component of national development because they are directly associated with improving public health and social welfare. As primary healthcare facilities, community health centers (Puskesmas) have a strategic role in providing essential health services that are accessible to the community (Parkinson, 2018). Consequently, the quality of services delivered by Puskesmas has become an important concern, as it reflects not only compliance with established service standards but also the ability of healthcare providers to ensure patient safety, comfort, satisfaction, and trust(Khairudin et al., 2016). High-quality healthcare services require organizations to respond effectively to the needs and expectations of service users while maintaining consistency in the delivery process (Al-Kahtani et al., 2022).

The provision of quality healthcare is closely related to an organization's ability to identify and manage risks that may arise during service activities. Risk management involves a systematic process of recognizing potential risks, assessing their possible consequences, and implementing appropriate control and mitigation measures (Gabriel & Aguinis, 2022). Within Puskesmas, effective risk management is necessary to anticipate various operational problems, including delays in patient treatment, procedural deviations, administrative difficulties, and other factors that may interfere with service delivery. A well-established risk management system can minimize the likelihood of errors, strengthen patient safety, and support more effective and efficient healthcare processes (Dzulhijatussarah & Defrizal, 2024).

In addition to risk management, technological developments have encouraged healthcare organizations to transform conventional service systems through digitalization (Zhou et al., 2024). Service digitalization refers to the utilization and integration of digital technologies to improve the efficiency, speed, accuracy, accessibility, and transparency of healthcare services. Digital systems can facilitate administrative procedures, patient data management, information exchange, and coordination among service units (Saeidi et al., 2021). Nevertheless, the successful implementation of digital services depends not only on technological infrastructure but also on the ability of employees to utilize these systems appropriately. Digital transformation therefore

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requires personnel who possess adequate knowledge, technical skills, adaptability, and professional attitudes to ensure that technology contributes optimally to service improvement (Al-Kahtani et al., 2022).

Employee competence consequently represents an important factor in connecting risk management and service digitalization with healthcare service quality (Haninun et al., 2024). Competence encompasses the knowledge, skills, attitudes, experience, and individual capabilities required to perform work effectively. Employees with adequate competence are more capable of understanding service procedures, recognizing potential problems, utilizing digital technologies, making appropriate decisions, and interacting professionally with patients. Conversely, differences in employee competence may create obstacles in implementing organizational systems and may affect the consistency of services provided. Accordingly, competence is positioned in this study as an intervening variable that may explain how risk management and service digitalization contribute to improvements in healthcare service quality (Gultom et al., 2026).

This issue is particularly relevant to Puskesmas Adi Luhur in Panca Jaya District, Mesuji Regency, where the institution is expected to maintain high-quality healthcare services amid changing community needs and developments in service systems. The research context indicates that potential risks remain within the service process, including possible delays in patient handling, procedural inconsistencies, and administrative constraints. At the same time, employee competence is not yet fully uniform, particularly regarding the utilization of digital technologies and the implementation of risk management practices. Differences in employees' knowledge, technical abilities, and communication skills may influence the quality of services received by patients. Variations in patient perceptions concerning service speed, clarity of information, and comfort during healthcare interactions further demonstrate the importance of examining the factors underlying service quality.

Previous studies have indicated that effective risk management and digitalization can contribute to improved healthcare service quality(Husnaniyah & Hadjo, 2026). Research concerning Puskesmas management has demonstrated that effective organizational management, including appropriate risk management, planning, and supervision, can support improvements in service quality. Other studies have reported that digital-based services, such as electronic health systems and Puskesmas information management systems, can improve service effectiveness and patient satisfaction. However, previous research has generally examined risk management or service digitalization separately and has tended to emphasize their direct

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relationships with service quality. Studies that simultaneously integrate both factors while considering employee competence as an intervening mechanism remain relatively limited (M. Khanfar et al., 2024).

This research addresses the identified gap by developing an integrated conceptual model in which risk management and service digitalization function as independent variables, employee competence serves as an intervening variable, and healthcare service quality represents the dependent variable. This framework enables the study to examine not only the direct effects of risk management and service digitalization on service quality but also the indirect pathways through which employee competence may strengthen these relationships. The study further contributes novelty through its research setting at Puskesmas Adi Luhur, where this combination of variables has received limited empirical attention. The use of the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach also provides an opportunity to examine the relationships among the constructs in an integrated manner.

Based on this research gap, the present study aims to examine the effects of risk management and service digitalization on employee competence and healthcare service quality, as well as the effect of employee competence on service quality. Furthermore, the study investigates whether employee competence mediates the relationships between risk management and service quality and between service digitalization and service quality at Puskesmas Adi Luhur, Panca Jaya District, Mesuji Regency. The findings are expected to contribute empirical evidence to the fields of human resource management and healthcare service management while providing practical insights for Puskesmas management in developing strategies to improve service quality through stronger risk management, effective digitalization, and continuous employee competency development.

LITERATUR REVIEW

Risk Management

Risk management refers to a systematic organizational process for identifying, assessing, and controlling uncertainties that may affect the achievement of organizational objectives. ISO 31000:2018 describes risk management as a structured approach to dealing with uncertainty by reducing potential threats while taking advantage of available opportunities. Saeidi et al., (2021) states that risks may generate either negative or positive consequences for an organization; therefore, appropriate risk management is required to minimize potential losses and support the achievement of organizational goals. In healthcare services, risk management plays an important

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role in anticipating potential disruptions, maintaining service safety, and ensuring that service activities remain effective and sustainable (Al-Kahtani et al., 2022).

Risk management is implemented through several stages, including establishing the context, identifying risks, assessing risks, determining appropriate risk responses, and conducting continuous monitoring and evaluation. Harahap et al., (2021) categorizes risks into financial, operational, strategic, and external risks. In this study, risk management refers to the ability of the Puskesmas to identify potential risks, assess their likelihood and consequences, determine appropriate control measures, and continuously monitor risks that may interfere with healthcare services. The effective implementation of these processes is expected to support safer, more efficient, and well-organized healthcare services.

Service Digitalization

Service digitalization can be understood as the transformation of conventional service processes through the use of digital technologies to improve efficiency, speed, transparency, and accessibility. Husnaniyah & Hadjo, (2026) explains that digitalization involves converting information and activities from analog forms into digital formats with the support of appropriate technological infrastructure, software, and competent human resources. Within public services, digitalization is reflected in the implementation of systems such as e-government and e-health, which facilitate more integrated service delivery, information management, and communication with users. Therefore, digitalization in healthcare services represents an important strategy for providing services that are faster, more accessible, and more responsive to community needs (Viendyasari, 2020).

The implementation of digitalized services can be assessed through service efficiency, digital accessibility, system responsiveness, and user satisfaction. Efficiency refers to the ability of digital technology to shorten waiting times and accelerate administrative procedures, while accessibility reflects the extent to which users can obtain services easily through digital platforms. Responsiveness concerns the capability of the system to respond promptly to users' needs and complaints. In addition, successful digital transformation requires adequate technological infrastructure, clear operational procedures, capable human resources, and active user participation. Thus, service digitalization should not merely be viewed as the adoption of digital applications but as a comprehensive organizational transformation supported by adequate technological and human-resource readiness (Bandiyono & Rama Daneshwara, 2020).

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Service Quality

Service quality refers to an organization's ability to provide services that correspond to the needs, expectations, and established standards of service users. In the context of public services, quality is determined not only by the final outcome but also by the overall service process and interactions between service providers and the community. The Service Quality Theory, particularly the SERVQUAL model developed by Parasuraman, explains service quality as the degree of consistency between users' expectations and the services they actually receive. High-quality services are generally characterized by promptness, accuracy, safety, friendliness, and the ability to provide certainty to service users. Consequently, service quality is particularly important in healthcare because it directly influences users' experiences, trust, and satisfaction (Tan et al., 2019).

In this study, service quality is assessed through five SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Tangibles refer to physical facilities, equipment, staff appearance, and the service environment. Reliability reflects the ability to deliver services accurately, consistently, and as promised. Responsiveness concerns the willingness and readiness of employees to assist users and respond to their needs promptly. Assurance relates to employees' competence, courtesy, and ability to create a sense of security and trust. Meanwhile, empathy represents the extent to which service providers understand and provide individualized attention to users' needs (Nadi et al., 2016). These five dimensions provide a basis for evaluating the extent to which healthcare services are able to meet community expectations (Barusman, 2019).

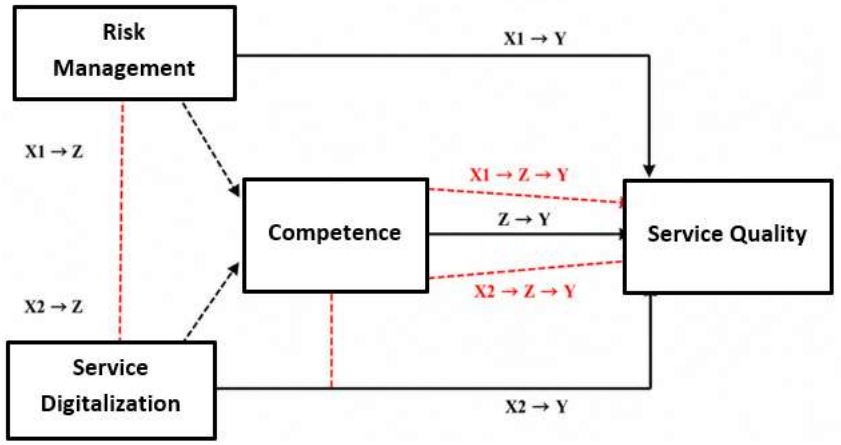
Competence

Competence represents a combination of knowledge, skills, personal characteristics, and attitudes that are demonstrated through an individual's work behavior when performing assigned responsibilities. Sari & Siregar, (2021) emphasizes that competence is not limited to what an individual knows but also involves the ability to apply knowledge in practical situations, including the capacity to think, act, communicate, and make appropriate decisions. Competence also incorporates psychological and social elements that influence how employees perform their duties. Employees with adequate competence are expected to perform their responsibilities professionally, adapt to organizational changes, and produce work that meets established standards and objectives (Ratnasarai et al., 2024).

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Competence consists of several fundamental characteristics, including motives, personal traits, self-concept, knowledge, and skills. Motives represent internal drives that influence an individual's consistency and commitment to work, while personal traits reflect characteristics that shape behavioral responses in workplace situations. Self-concept concerns an individual's beliefs and perceptions regarding personal abilities, whereas knowledge provides the foundation for understanding procedures and making appropriate decisions. In this study, employee competence is measured through work knowledge, work skills, and work attitudes, which collectively represent employees' capacity to perform their responsibilities effectively and contribute to improvements in healthcare service quality (Silantra et al., 2020).

Framework



Hypothesis

H1: Risk management has a positive effect on employee competence at Adi Luhur Community Health Center.

H2: Service digitalization has a positive effect on employee competence at Adi Luhur Community Health Center.

H3: Competence has a positive effect on healthcare service quality at Adi Luhur Community Health Center.

H4: Risk management has a positive effect on healthcare service quality at Adi Luhur Community Health Center.

H5: Service digitalization has a positive effect on healthcare service quality at Adi Luhur Community Health Center.

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H6: Competence mediates the effect of risk management on healthcare service quality at Adi Luhur Community Health Center.
H7: Competence mediates the effect of service digitalization on healthcare service quality at Adi Luhur Community Health Center.

RESEARCH METHODS

This study employed a quantitative approach using a descriptive survey design to examine the effects of risk management and service digitalization on service quality, with employee competence serving as an intervening variable . A quantitative approach was selected because the research data were collected in numerical form through questionnaires and subsequently analyzed using statistical procedures to assess the relationships among the research variables. The study was conducted at Adi Luhur Public Health Center (Puskesmas Adi Luhur), Panca Jaya District, Mesuji Regency, during April–July 2026. The research model consisted of risk management as the first independent variable (X1), service digitalization as the second independent variable (X2), competence as the intervening variable (Z), and service quality as the dependent variable (Y).

The variables were operationalized based on predetermined indicators. Risk management was assessed through financial risk, operational risk, strategic risk, and external risk. Service digitalization was measured using service efficiency, accessibility of digital services, system responsiveness, and community satisfaction. Competence was evaluated based on education, work skills, and work attitudes, while service quality was assessed using the five SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy. All indicators were incorporated into a questionnaire and measured using a Likert scale.
The study utilized both primary and secondary data. Primary data were obtained directly from respondents through questionnaires and interviews, whereas secondary data were collected from relevant documents, literature, and other supporting sources. Data collection involved observation, interviews, questionnaires, and documentation. Observation was conducted to obtain information regarding the research setting, interviews were used to gather supporting information and identify relevant research issues, questionnaires served as the main instrument for measuring the variables, and documentation was used to complement the data concerning the profile and conditions of Adi Luhur Public Health Center.

The research population consisted of all employees of Adi Luhur Public Health Center, totaling 53 individuals. Since the population was fewer than 100 individuals, a total sampling technique was applied, meaning that every member of the population was included as a research

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respondent. Therefore, the final sample comprised 53 employees of Adi Luhur Public Health Center.

Data analysis was conducted using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach with the assistance of SmartPLS software. This method was employed to examine relationships among the variables and to assess both direct and indirect effects within the proposed research model, including the mediating role of competence (Hair et al., 2021). The measurement model (outer model) was evaluated through convergent validity, discriminant validity, and reliability tests. Convergent validity was assessed using outer loading values, while discriminant validity was examined through cross-loading and Average Variance Extracted (AVE). Construct reliability was evaluated using Cronbach's Alpha and Composite Reliability.

The structural model (inner model) was subsequently assessed using the coefficient of determination (R^2), inter-variable correlations, and effect size (f^2) to determine the model's explanatory capacity and the contribution of each exogenous variable. Hypothesis testing was performed using the bootstrapping procedure in PLS-SEM by examining the t-statistic and p-value. The significance of relationships among variables was determined according to the established statistical criteria, providing the basis for accepting or rejecting the proposed research hypotheses.

RESULT AND DISCUCCION

Outer Model Analysis

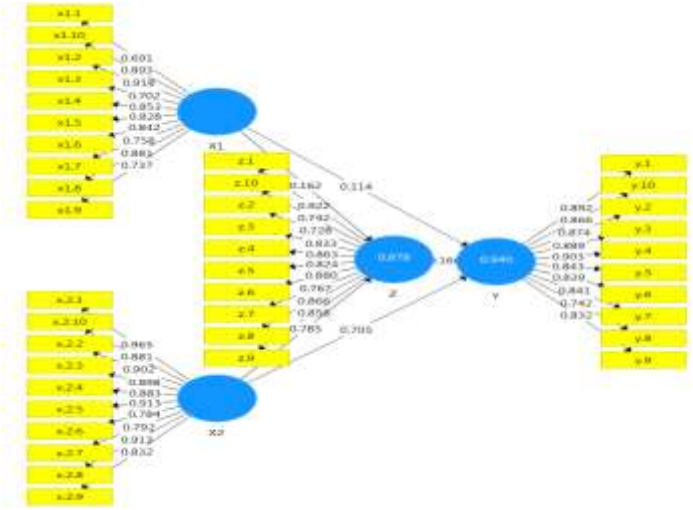


Figure 2. Loding Factor Value Results Via PLS Path Diagram

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Convergent Validity Test

Table 1. Outer Loading Factor Values

	Service Quality	Risk Management	Service Digitalization	Competence
Y.1	0.892			
Y.2	0.874			
Y.3	0.889			
Y .4	0.903			
Y .5	0.843			
Y .6	0.839			
Y .7	0.841			
Y .8	0.742			
Y .9	0.832			
Y .10	0.866			
X 1.1		0.691		
X 1.2		0.918		
X 1.3		0.702		
X 1.4		0.853		
X 1.5		0.828		
X 1.6		0.842		
X 1.7		0.758		
X 1.8		0.881		
X 1.9		0.737		
X 1.10		0.893		
X 2.1			0.965	
X 2.2			0.902	
X 2.3			0.898	
X 2.4			0.883	
X 2.5			0.913	
X 2.6			0.784	
X 2.7			0.792	
X 2.8			0.913	
X 2.9			0.832	
X 2.10			0.881	
Z .1				0.922
Z .2				0.728
Z .3				0.833

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Z .4				0.863
Z .5				0.824
Z .6				0.880
Z .7				0.767
Z .8				0.866
Z .9				0.858
Z .10				0.742

Source: Processed primary data, 2026

The convergent validity assessment indicates that the Risk Management construct has outer loading values ranging from 0.691 to 0.918. Indicator X_1.2 records the highest loading value at 0.918, while X_1.1 has the lowest value at 0.691. Although the loading value of X_1.1 is slightly below the ideal threshold of 0.70, the indicator remains acceptable within the tolerance level of PLS-SEM and continues to provide an adequate contribution to the measurement of the Risk Management construct. Therefore, the indicators used for this variable are considered sufficiently representative of the underlying construct.

For the Service Digitalization variable, the outer loading values range from 0.784 to 0.965. Indicator X_2.1 produces the highest loading value of 0.965, whereas X_2.6 records the lowest value of 0.784. All indicators exceed the recommended threshold, demonstrating satisfactory convergent validity. These findings indicate that the indicators have strong associations with the Service Digitalization construct and consistently reflect the implementation of digital-based services.

The assessment of the Competence variable shows outer loading values between 0.728 and 0.922. Indicator Z.1 has the highest loading value of 0.922, while Z.2 has the lowest value of 0.728. Since all indicators exceed the minimum criterion for convergent validity, they can be regarded as valid and appropriate for further analysis. This result demonstrates that the selected indicators adequately capture the Competence construct and have strong relationships with the corresponding latent variable.

Meanwhile, the Service Quality variable generates outer loading values ranging from 0.742 to 0.903. Indicator Y.4 records the highest value at 0.903, while Y.8 has the lowest value at 0.742. All indicators meet the convergent validity requirement because their outer loading values exceed 0.70. Accordingly, the indicators used to measure Service Quality are considered capable of adequately representing the construct and are suitable for subsequent stages of analysis.

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Discriminant Validity Test

Table 2. Average Variance Extracted (AVE) Value Results

No	Variable	*Average Variance Extracted (AVE)*	Description
1.	Risk Management	0.663	Valid
2.	Service Digitalization	0.771	Valid
3.	Competence	0.690	Valid
4.	Service Quality	0.728	Valid

Source: Processed primary data, 2026

Based on the results presented in Table, all constructs obtained Average Variance Extracted (AVE) values above the minimum threshold of 0.50, indicating that the measurement model meets the required discriminant validity criteria. The Risk Management construct recorded an AVE of 0.663, meaning that it explains 66.3% of the variance in its indicators, while Service Digitalization achieved the highest AVE value of 0.771, indicating that 77.1% of the variance in its indicators is explained by the construct. Meanwhile, Competence obtained an AVE of 0.690, demonstrating its ability to account for 69.0% of the variance in the corresponding indicators, and Service Quality recorded an AVE of 0.728, indicating that 72.8% of the indicator variance is explained by the construct. Since all AVE values exceed 0.50, the constructs demonstrate adequate discriminant validity and are sufficiently capable of representing their respective indicators while maintaining distinct characteristics from the other constructs in the model. Therefore, the measurement model (outer model) can be considered appropriate and suitable for further evaluation through the structural model (inner model).

Reliability Test

Table 3. Hasil Nilai Composite Reliability

No	Variables	Composite Reliability
1.	Risk Management	0.951
2.	Service Digitalization	0.971
3.	Competence	0.957
4.	Service Quality	0.964

Source: Processed primary data, 2026

The reliability of the constructs was assessed using Composite Reliability to determine the

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internal consistency of the indicators representing each latent variable. Based on the results presented in Table 4.17, all constructs achieved Composite Reliability values above 0.70, indicating that the measurement instruments demonstrated a high level of internal consistency and reliability. Risk Management obtained a Composite Reliability value of 0.951, while Service Digitalization recorded the highest value of 0.971, demonstrating excellent consistency among its indicators. Competence and Service Quality also produced high Composite Reliability values of 0.957 and 0.964, respectively. These results show that all constructs exceeded the recommended reliability threshold and were therefore considered reliable in measuring their respective latent variables. Overall, the Composite Reliability values for Risk Management (0.951), Service Digitalization (0.971), Competence (0.957), and Service Quality (0.964) confirm that the indicators consistently and reliably represent their respective constructs. Accordingly, the measurement model (outer model) satisfies the reliability requirements and is appropriate for subsequent structural model (inner model) evaluation.

Table 4. Cronbach's Alpha Value Results

No	Variables	Cronbach's Alpha
1.	Risk Management	0.942
2.	Service Digitalization	0.967
3.	Competence	0.949
4.	Service Quality	0.958

Source: Processed primary data, 2026

The reliability assessment was further strengthened through Cronbach's Alpha testing in addition to Composite Reliability, with the purpose of evaluating the internal consistency of the indicators used to measure each latent construct. Referring to Ghozali (2014), a construct is generally considered reliable when its Cronbach's Alpha value exceeds 0.70, while values above 0.60 may still be regarded as acceptable in exploratory studies. The results presented in Table 4.19 demonstrate that all research constructs achieved Cronbach's Alpha values substantially above the recommended threshold, confirming a high level of internal consistency among the measurement indicators. Risk Management obtained a Cronbach's Alpha value of 0.942, indicating strong consistency among its indicators; Service Digitalization recorded the highest value of 0.967, reflecting excellent reliability; Competence achieved a value of 0.949, demonstrating a high degree of consistency; and Service Quality obtained a value of 0.958, indicating that its indicators provide stable and consistent measurements. Overall, the Cronbach's Alpha values for Risk Management (0.942), Service Digitalization (0.967), Competence (0.949), and

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Service Quality (0.958) confirm that all research instruments satisfy the required reliability standards. These findings are also consistent with the previous Composite Reliability results, indicating that the measurement model (outer model) demonstrates adequate reliability and is suitable for further structural model (inner model) evaluation.

Inner Model (Structural Model) Testing

Table 5. R-squared Results and Interpretation

Endogenous Construct	R-squared value	R-square Adjusted	Category (Hair et al., 2019)	interpretation
Competence (Z)	0,879	0,874	Substantial (Strong)	The variables of Risk Management and Service Digitalization explain 87.9% of the variation in Competence, while the remaining 12.1% is explained by variables outside the research model.
Service Quality (Y)	0,903	0,899	Substantial (Strong)	The variables of Risk Management, Service Digitalization, and Competence explain 90.3% of the variation in Service Quality, while the remaining 9.7% is explained by other variables outside the research model.

Source: Processed primary data, 2026

The R-Square value was assessed to determine the extent to which the exogenous variables explain variations in the endogenous variables within the proposed research model. Referring to Hair et al. (2019), R-Square values of 0.75, 0.50, and 0.25 represent substantial, moderate, and weak explanatory power, respectively. The results in Table 4.16 show that the Competence variable obtained an R-Square value of 0.879 and an Adjusted R-Square of 0.874, indicating substantial explanatory power. This result demonstrates that Risk Management and Service Digitalization jointly account for 87.9% of the variance in Competence, while the remaining 12.1% is attributable to other factors outside the research model. Meanwhile, Service Quality produced an R-Square value of 0.903 and an Adjusted R-Square of 0.899, which also falls within the substantial category. Thus, Risk Management, Service Digitalization, and Competence

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collectively explain 90.3% of the variation in Service Quality, with the remaining 9.7% attributable to factors not included in the model. Overall, the R-Square values ranging from 0.879 to 0.903 indicate that the structural model has strong explanatory and predictive capability in describing the relationships among Risk Management, Service Digitalization, Competence, and Service Quality, thereby supporting its suitability for subsequent hypothesis testing.

Direct Effect

Table 7. Summary of Bootstrapping Significance Test Results for Path Analysis (Direct Effect)

Hypotheses	Original Sample (O)	t-statistic	P-Value	Significance
Risk management (X1) → Competence (Z)	0,361	3.058	0.029	Accepted
Service digitalization (X2) → Competence (Z)	0,786	5.339	0.000	Accepted
Competence (Z) → Service quality (Y)	0,533	6.459	0.000	Accepted
Risk management (X1) → Service quality (Y)	0,529	4.979	0.000	Accepted
Service digitalization (X2) → Service quality (Y)	0.786	3.841	0.000	Accepted

Source: Processed primary data, 2026

The multicollinearity test shows that all independent variables have Tolerance values above 0.10 and VIF values below 10. Organizational culture has a Tolerance value of 0.154 and VIF of 6.497, leadership has a Tolerance value of 0.104 and VIF of 9.636, while job satisfaction has a Tolerance value of 0.151 and VIF of 6.644. Although leadership has the highest VIF value, it remains below the established threshold. Therefore, the regression model is free from multicollinearity, allowing organizational culture, leadership, and job satisfaction to be jointly included in the multiple linear regression analysis.

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1. Effect of Risk Management (X1) on Competence (Z)

   The results indicate that Risk Management has a positive and significant effect on employee Competence at Adi Luhur Public Health Center. This is evidenced by an original sample value of 0.361, a T-statistic of 3.058, and a P-value of 0.029. Since the T-statistic exceeds 1.96 and the P-value is below 0.05, the alternative hypothesis is accepted. This finding suggests that effective risk management encourages employees to improve their knowledge, skills, and ability to respond appropriately to potential problems. Systematic risk identification, analysis, evaluation, and mitigation also serve as learning mechanisms that strengthen employees' technical and adaptive capabilities. This result is consistent with Dzulhijatussarah & Defrizal, (2024) who found that operational risk management supports service digitalization through improved efficiency, security, and service quality. Therefore, Adi Luhur Public Health Center should strengthen risk management training, risk analysis skills, and risk awareness to continuously improve employee competence.

2. Effect of Service Digitalization (X2) on Competence (Z)

   The findings demonstrate that Service Digitalization has a positive and highly significant effect on employee Competence. The original sample value is 0.786, with a T-statistic of 5.339 and a P-value of 0.000. Because the T-statistic is greater than 1.96 and the P-value is below 0.05, the alternative hypothesis is accepted. The result indicates that the wider implementation of digital systems encourages employees to develop their ability to operate information systems, manage data, and adapt to technology-based service procedures. Continuous interaction with digital applications also provides practical learning experiences that strengthen technical and analytical skills. This finding supports Zhou et al., (2024) who reported that digital transformation through EMR, telemedicine, and hospital information systems can improve service efficiency and decision-making. Thus, Adi Luhur Public Health Center should enhance employees' digital competence through information technology training, application assistance, and regular digital skills evaluation.

3. Effect of Competence (Z) on Service Quality (Y)

   The analysis confirms that Competence has a positive and highly significant effect on Service Quality at Adi Luhur Public Health Center. The relationship is indicated by an original sample value of 0.533, a T-statistic of 6.459, and a P-value of 0.000. As the T-statistic exceeds 1.96 and the P-value is below 0.05, the alternative hypothesis is accepted. This result shows that employees with adequate knowledge, skills, and

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professional attitudes are better able to perform their duties, communicate with patients, and respond effectively to service problems. Competence therefore becomes an important organizational resource for delivering efficient and customer-oriented health services. This finding is consistent with Yurosma et al., (2021) who found that healthcare worker competence positively influences service quality and patients' intention to revisit. Accordingly, continuous training, technical and non-technical skill development, digital literacy, and periodic competency evaluations are needed to improve service quality.

4. Effect of Risk Management (X1) on Service Quality (Y)

   The results show that Risk Management has a positive and highly significant effect on Service Quality at Adi Luhur Public Health Center. The original sample value is 0.529, with a T-statistic of 4.979 and a P-value of 0.000. Since the T-statistic exceeds 1.96 and the P-value is below 0.05, the alternative hypothesis is accepted. Effective risk management enables the organization to identify potential service problems, evaluate their consequences, and implement appropriate mitigation measures. This process can reduce service errors, delays, procedural deviations, and operational disruptions, thereby supporting safer and more reliable services. The finding is consistent with Michael et al., (2021) who emphasized the role of operational risk management in improving efficiency, security, and service quality. Therefore, the health center should strengthen risk mapping, internal controls, employee capacity, and periodic evaluation of risk mitigation to maintain sustainable service quality.

5. Effect of Service Digitalization (X2) on Service Quality (Y)

   The findings indicate that Service Digitalization has a positive and highly significant effect on Service Quality at Adi Luhur Public Health Center. This relationship is supported by an original sample value of 0.786, a T-statistic of 3.841, and a P-value of 0.000. Because the T-statistic is above 1.96 and the P-value is below 0.05, the alternative hypothesis is accepted. Digitalization can improve service quality by simplifying administrative procedures, accelerating service delivery, increasing data accuracy, and facilitating information exchange between service units. This result is consistent with Verma et al., (2020)who found that digitalized public services improve service speed, data accuracy, and administrative efficiency.

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Indirect Effect

Table 8. Indirect Effect Test Results

Hypotheses	Original Sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Risk management (X1) → Competence (Z) → Service quality (Y)	0.386	0.386	0.078	3.095	0.027
Service digitalization (X2) → Competence (Z) → Service quality (Y)	0.419	0.419	0.109	3.841	0.000

Source: Processed primary data, 2026

1. **Indirect Effect of Risk Management (X1) on Service Quality (Y) through Competence (Z)**

   The indirect effect of Risk Management on Service Quality through Competence is positive and significant, with an *Original Sample* of 0.386, T-statistic of 3.095, and P-value of 0.027. These results confirm that Competence significantly mediates the relationship between Risk Management and Service Quality. Effective risk management can improve employees' ability to identify problems, make appropriate decisions, and perform services according to established standards. This finding is consistent with Haryanto and Widana (2025) and Ernawati et al. (2025), who emphasized the importance of risk management and employee competence in improving service quality. Therefore, strengthening risk management should be accompanied by continuous employee competency development.

2. **Indirect Effect of Service Digitalization (X2) on Service Quality (Y) through Competence (Z)**

   The indirect effect of Service Digitalization on Service Quality through Competence is positive and significant, with an Original Sample of 0.419, T-statistic of 3.841, and P-value of 0.000. This confirms that Competence significantly mediates the relationship between Service Digitalization and Service Quality. Digitalization improves employees' ability to use technology, manage information, and deliver services more efficiently. The finding supports Suyitno et al. (2026), Pratama and Lestari (2025), and Ernawati et al. (2025), who highlighted the contribution of digitalization and employee competence to service quality. Since both variables also have significant direct effects, Competence functions as

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a partial mediator. Thus, digital service development should be accompanied by continuous employee competency improvement.

CONCLUSION

a. Risk Management has a positive and significant effect on employee Competence at Adi Luhur Community Health Center.
b. Service Digitalization has a positive and significant effect on employee Competence at Adi Luhur Community Health Center.
c. Competence has a positive and significant effect on Service Quality at Adi Luhur Community Health Center.
d. Risk Management has a positive and significant effect on Service Quality at Adi Luhur Community Health Center.
e. Service Digitalization has a positive and significant effect on Service Quality at Adi Luhur Community Health Center.
f. Competence significantly mediates the effect of Risk Management on Service Quality at Adi Luhur Community Health Center. This indicates that Risk Management affects Service Quality not only directly but also indirectly through improving employee Competence.
g. Competence significantly mediates the effect of Service Digitalization on Service Quality at Adi Luhur Community Health Center. This demonstrates that Service Digitalization improves Service Quality not only directly but also indirectly through enhancing employee Competence.

IMPLICATION

1. Adi Luhur Community Health Center should strengthen risk management through regular risk identification, evaluation, and mitigation. These efforts can support safer, more effective, and higher-quality services.
2. Service digitalization makes the greatest contribution to employee competence and service quality. Therefore, continuous development of digital systems, technological infrastructure, data integration, and system maintenance is needed to support optimal service delivery.
3. Employee competence plays an important role in improving service quality and serves as a link between risk management, service digitalization, and service quality. Competence

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can be enhanced through continuous training, digital technology skills development, problem-solving capabilities, and stronger employee professionalism.

4. Service quality improvement should be pursued through an integrated approach combining risk management, service digitalization, and employee competency development. Integrating these three aspects is expected to provide faster, more accurate, safer, more effective, and customer-oriented services..

REFERENCES

Al-Kahtani, N., Alruwaie, S., Al-Zahrani, B. M., Abumadini, R. A., Aljaafary, A., Hariri, B., Alissa, K., Alakrawi, Z., & Alumran, A. (2022). Digital health transformation in Saudi Arabia: A cross-sectional analysis using Healthcare Information and Management Systems Society' digital health indicators. Digital Health, 8. https://doi.org/10.1177/20552076221117742

Bandiyono, A., & Rama Daneshwara. (2020). ANALYSIS OF IMPLEMENTATION OF SERVICE TO TAX MANDATORY IN PRATAMA TAX SERVICE OFFICE. Dinasti International Journal of Digital Business Management, 1(1), 11–28. https://doi.org/10.31933/dijdbm.v1i1.73

Barusman, A. R. P. (2019). The Effect of Security, Service Quality, Operations and Information Management, Reliability &Trustworthiness on E-Loyalty moderated by Customer Satisfaction on the Online Shopping Website. International Journal of Supply Chain Management, 8(6), 586–594. http://excelingtech.co.uk/

Dzulhijatussarah, P., & Defrizal, D. (2024). The Influence of Price QUality, and Risk Perception on Bulying Interest in Alfamart Private Label Production in Bandar Lampung. International Journal of Accounting, Management, Economics and Social Sciences (IJAMESC), 2(1), 76–89. https://doi.org/10.61990/ijamesc.v2i1.174

Gabriel, K. P., & Aguinis, H. (2022). How to prevent and combat employee burnout and create healthier workplaces during crises and beyond. Business Horizons, 65(2), 183–192. https://doi.org/10.1016/j.bushor.2021.02.037

Gultom, M., Budiyanto, H., Wisuda Purba Management, D., Shahid Khan, M., Rizka Angelia, C., Wisuda, D., & Shahid, M. (2026). Human Capital Management and Digital Transformation: Driving Sustainable Hospital Service Quality in the Industry 5.0 Era. Jurnal Ekonomi Dan Studi Pembangunan, 18(1), 10. https://doi.org/10.17977/um002v18i12026p026

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). An Introduction to Structural Equation Modeling (pp. 1–29). https://doi.org/10.1007/978-3-030-80519-7_1

Haninun, H., Damayanti, T., Rahayu, N. P. W., Aminah, A., & Graisman.P, N. (2024). Family

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

Ownership as a Moderator Variable on Board, Leverage, and Environmental Performance. Jurnal Manajemen Bisnis, 15(1), 135–151. https://doi.org/10.18196/mb.v15i1.21505

Harahap, A. S., Syam, H., Akib, H., Mukmin, A., & Haris, H. (2021). The Perspective of Corruption Risk Management Strategy in Indonesia. https://doi.org/10.2991/aebmr.k.210928.069

Husnaniyah, D., & Hadjo, S. (2026). The Effect of Digital Technology on the Quality of Health Services in Health Centers. Professional Evidence-Based Research and Advances in Wellness and Treatment, 3(2), 69–81. https://doi.org/10.69855/perawat.v3i2.490

Khairudin, K., Tarmizi, R., Soedarsa, H. G., & Erlanda, R. (2016). THE INFLUENCE OF TRANSPARENCY AND ACCOUNTABILITY LOCAL GOVERNMENT FINANCIAL REPORT ON THE LEVEL OF CORRUPTION LOCAL GOVERNMENT OF SUMATERA AREA. The Third International Conference on Law, Business and Government 2016 Universitas Bandar Lampung (UBL), Indonesia. www.ubl.ac.id

M. Khanfar, N., A. Nafei, W., & G. Mujtaba, B. (2024). Impact of Digital Twinning on Health Service Quality and Sustainable Competitive Advantage: A Study with Private Hospital Professionals. Health Economics and Management Review, 5(4), 75–90. https://doi.org/10.61093/hem.2024.4-05

Michael, A., Effah, N. A. A., Joel, T. N., & Nkwantabisa, A. O. (2021). Stock Market Development, Financial Deepening and Economic Growth in Africa. Journal of Financial Risk Management, 10(01), 1–24. https://doi.org/10.4236/jfrm.2021.101001

Nadi, A., Shojaee, J., Abedi, G., Siamian, H., Abedini, E., & Rostami, F. (2016). Patients' Expectations and Perceptions of Service Quality in the Selected Hospitals. Medical Archives (Sarajevo, Bosnia and Herzegovina), 70(2), 135–139. https://doi.org/10.5455/medarh.2016.70.135-139

Parkinson, M. D. (2018). The Healthy Health Care Workplace: a Competitive Advantage. In Current Cardiology Reports (Vol. 20, Number 10). Current Medicine Group LLC 1. https://doi.org/10.1007/s11886-018-1042-3

Ratnasarai, S. L., Badawi, S., Susanti, E. N., Susanto, A., Sari, H., Natta, U., Saputra, A., Nasution, M., Bon, A. T., & Sutjahjo, G. (2024). THE EFFECT OF LEADERSHIP STYLE, WORK MOTIVATION, WORK DISCIPLINE, COMPETENCE AND WORK ENVIRONMENT ON POLICE PERSONNEL PERFORMANCE. Proceeding 2ndInternational Conference on Multidisciplinary Studies Universitas Riau Kepulauan, Batam, December 14, 2024, 2, 18–29. https://proceeding.unrika.ac.id/index.php/ICMS/index

Saeidi, P., Saeidi, S. P., Gutierrez, L., Streimikiene, D., Alrasheedi, M., Saeidi, S. P., & Mardani, A. (2021). The influence of enterprise risk management on firm performance with the

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moderating effect of intellectual capital dimensions. Economic Research-Ekonomska Istrazivanja , 34(1), 122–151. https://doi.org/10.1080/1331677X.2020.1776140

Sari, N. I. P., & Siregar, S. U. (2021). Mathematics Teacher Performance Based on the Perceptions and Competence of Junior High School Students in Labuhanbatu District. Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences, 4(1), 1485–1491. https://doi.org/10.33258/birci.v4i1.1777

Silantra, I. M., Mareni, P. K., Sapta, I. ketut S., & Suryani, N. K. (2020). The Effect of Leadership Style and Competence on Employee Performance. European Journal of Business and Management Research, 5(5), 1–8. https://doi.org/10.24018/ejbmr.2020.5.5.494

Tan, C. N. L., Ojo, A. O., Cheah, J. H., & Ramayah, T. (2019). Measuring the influence of service quality on patient satisfaction in Malaysia. Quality Management Journal, 26(3), 129–143. https://doi.org/10.1080/10686967.2019.1615852

Verma, P., Kumar, S., & Sharma, S. K. (2020). e-Healthcare service quality: consumer satisfaction and its association with demographic characteristics. International Journal of Health Care Quality Assurance, 33(6), 413–428.

Viendyasari, M. (2020). The Application of Digital Administration to Minimize Malad-ministration in Public Services: A Case Study of Jakarta Invest-ment and One Stop Service Department.

Yurosma, Lian, B., & Eddy, S. (2021). The Effect of Competence and Certification on Teacher Performance. https://doi.org/10.2991/assehr.k.210716.044

Zhou, Z., Jin, D., He, J., Zhou, S., Wu, J., Wang, S., Zhang, Y., & Feng, T. (2024). Digital Health Platform for Improving the Effect of the Active Health Management of Chronic Diseases in the Community: Mixed Methods Exploratory Study. J Med Internet Res, 26, e50959. https://doi.org/10.2196/50959

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