

Original Article

Analysis of Resilience and Leadership on the Commitment to the Implementation of Electronic Medical Records

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ABSTRACT

Background: Healthcare facilities, particularly hospitals, must deliver swift, precise, and reliable medical services. Additionally, all healthcare providers are mandated to implement electronic medical records as part of their service delivery. Quality services can be good if the patient's medical records are complete, fast, and precise in providing information for health services. Implementing the electronic medical record system ensures resilience, leadership, and commitment. The study aimed to analyze the factors that influence resilience policies on the commitment of the electronic medical record system at the Muhammadiyah Siti Khodijah Hospital.

Methods: The quantitative research method uses a cross-sectional design. The population is all Hospital Employees. The sample is 125 employees, and the sampling technique uses Proportional Random Sampling. Independent Variables Resilience and Leadership, Independent Variable Commitment. The instrument used is a questionnaire with a Likert scale. Statistical tests use multiple linear regression

Results: The results of the resilience study (X1) have an influence on commitment (Y) with $(p = 0.000) < 0.05$, and leadership (X2) has an impact on commitment (Y) with $(p = 0.000) < 0.05$, and the Adjusted R Square value is 0.935 or 93.5%.


Conclusion: There is a relationship between resilience and leadership variables and commitment. Employee resilience needs to be improved to maintain the quality of policies and commitments in working. Good leadership will support the Commitment of each employee.

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
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Introduction

A hospital is a healthcare institution that professionally delivers individual health services to patients, including medical treatment, care, and other supporting medical or public health services. Implementing professional and responsible hospital services is needed to

support health efforts in a comprehensive and integrated series of health development. As a means of public health services, hospitals have a strategic role in improving public health. Different types of hospitals, from public to specialized, government-owned to private, perform the same task: providing health services. The Central Statistics Agency (BPS) noted 3,072

hospitals in Indonesia in 2022, an increase of 0.99% compared to last year. Based on the type, 2,561 units are general hospitals (RSU), and the remaining 511 units are exceptional hospitals (RSK). The East Java region has the highest number of hospitals in 2022, namely 410 units.

Hospitals must provide fast, precise, and accurate health services as health service providers. Health services in hospitals aim to improve the highest degree of public health. Hospitals must also enhance the quality of existing services to support good service. Service quality is considered excellent when a patient's medical record is complete, timely, and accurate in providing information to support healthcare services. According to the Ministry of Health's decree on minimum service standards for hospitals, medical record services are evaluated based on the completeness of medical records and informed consent, with a standard set at 100%. Ensuring the completeness of medical record documentation is essential for maintaining high service quality. Consequently, hospitals need to leverage advancements in knowledge and technology within the healthcare industry to meet these service demands effectively.

According to Law No. 44 of 2009 on Hospitals, all hospitals must document and report their management activities through the Hospital Management Information System (SIMRS). The Ministry of Health of the Republic of Indonesia has established policies that serve as guidelines for health development efforts by the government and private sectors. These guidelines aim to enhance healthcare access, improve hospital service quality, and ensure efficiency, effectiveness, professionalism, and optimal performance. The critical importance of implementing SIMRS is further emphasized in the Regulation of the

Minister of Health of the Republic of Indonesia No. 82 of 2013.

According to ([Gunawan & Christianto, 2020](#)), with the advancement of information technology, Electronic Medical Records and Traditional medical records that were previously used to collect patient health information in various health facilities with advances in information technology, Electronic Medical Records (have surpassed traditional medical records that were previously used to collect patient health information across multiple health facilities. Medical records are part of the health service system that manages and produces data and information on service results, such as hospital health sources in presenting reports ([Christianto, 2020](#)).

Hospitals in Indonesia have taken action to fill in electronic medical record files using SIMRS Khanza Software, which has been implemented at the Jombang Complementary Medical Center Hospital, Pratama Griya Husada Karanganyar Clinic, and Mataram City Hospital. The use of the SIMRS Khanza system concluded that this system could minimize the storage space of medical record documents, complete filling, service effectiveness, and efficiency. Still, some obstacles often occur, such as system errors during service that cause service delays ([Kurniadi, Wulandari, & Arinnisa, 2024](#)). In this case, continuous updates are carried out to create integrated data management by existing regulations. The hospital management information system is expected to help the performance of hospital management to provide optimal services to the community ([Kurniadi et al., 2024](#); [Maulana, 2024](#)).

The commitment of its employees largely determines the success of an organization. Resilience affects Commitment. Resilience is an individual capacity that can be developed by returning from difficulties, conflicts, and failures to

positive events, progress, and increased responsibility (Jain et al., 2024; Pathak & Joshi, 2021). Resilience is the capacity of individuals to rise from failure because they perceive failure as a challenge to achieve their goals by overcoming obstacles to be happy. Although different definitions of Resilience emerge, they all have the same focus on conceptualization.'

Resilience operates across multiple levels, from biological to social structures, emphasizing its dynamic and adaptable nature rather than viewing it solely as a fixed trait of individuals. Leadership is the actions of a leader carrying out his leadership function, which includes two functions, namely the task function and the maintenance function (By, 2021; Shakil, Memon, & Ting, 2023). Leaders who carry out their duties and functions well will make subordinates more committed to the organization, understand their duties and responsibilities, quickly get information related to self-development, be motivated to carry out their duties and improve their work discipline. In the Organization, leadership plays an important role. Leadership is vital because the leader will move and direct the organization in achieving goals. It is also a task that is not easy because it must understand every different subordinate behavior. Subordinates are influenced so that they can provide their service and participation to the organization effectively and efficiently. One of the challenges that is quite difficult and often has to be faced by a leader is how he can move his subordinates so that they are always willing to exert their best abilities to benefit their group or organization.

This has led researchers to research the factors affecting the commitment to implement electronic medical records at Muhammadiyah Siti Khodijah Gurah Hospital. The management and leadership

at Muhammadiyah Siti Khodijah Gurah Hospital support the full implementation of RME by providing a budget and efforts to fulfill it. Hopefully, this study can analyze Resilience and Leadership in the commitment to implement Electronic Medical Records to determine whether resilience and leadership can provide a definite commitment to implementing the digital system.

Methods

This study is a quantitative research with a cross-sectional design. The population consists of 175 employees at RSM Siti Khodijah, with a sample size of 120 respondents determined using the Krejcie-Morgan table. The respondents are categorized into two groups based on profession: Medical and Non-Medical Personnel. A proportional sampling technique was used, where the sample size for each group was calculated based on their proportion in the population. This technique is appropriate when the population is heterogeneous and needs to be stratified proportionally.

The independent variables in this study are Resilience and Leadership, while the dependent variable is Commitment.

Resilience was measured using the CD-RISC (Connor-Davidson Resilience Scale) questionnaire, consisting of 16 questions. The responses were rated on a 5-point Likert scale: "strongly agree" = 5, "agree" = 4, "neutral" = 3, "disagree" = 2, and "strongly disagree" = 1. (Appendix).

The scores range from 16 (lowest) to 80 (highest), with higher scores indicating higher levels of resilience (Appendix).

Commitment was measured using a Likert Scale questionnaire comprising 15 questions with the same response options. The total score ranges from 15 (lowest) to 75 (highest), with higher scores indicating higher levels of commitment (Appendix).

Leadership was also assessed using a Likert Scale questionnaire with 15 questions, scored similarly. The lowest possible score is 15, and the highest score is 75, with higher scores indicating higher levels of leadership.

Based on the validity test results, the Resilience variable has a validity value range between 0.639 and 0.868, indicating that all items in this variable are valid with a table r of 0.1764. The Leadership variable also showed good validity with values ranging from 0.495 to 0.902, so all items were declared valid with the same r table. Similarly, the commitment variable has a validity value range between 0.485 and 0.779, which is also declared valid according to the r table 0.1764. These results show that all items in the three variables meet the required validity standards.

The analysis showed that the variables Resilience, Leadership, and Commitment had a Cronbach Alpha value of 0.844, which exceeded the minimum standard of 0.6 for reliability. In addition, from the other data series provided, the smallest value found was 0.485, while the most significant value was 0.902. These figures reflect varying levels of consistency and reliability in measurements, with all key variables indicating high reliability and reliability in producing accurate data.

Descriptive analysis of each variable from the data obtained on the data collection sheet. The data that has been collected is then calculated as a percentage. The data analyzed descriptively were resilience, leadership, and commitment to implementing electronic medical records in hospitals.

The statistical analysis in this study employs Multiple Linear Regression to predict or forecast outcomes using interval or ratio scale data with more than one predictor variable. This test is used to

examine the relationship between the independent variables and the dependent variable. It is similar to simple linear regression but involves multiple independent variables. This study's significance value (p-value) was set at 0.05, indicating a 5% chance of error in decision-making.

A linear regression model is considered good if it meets certain classical assumptions. The variables tested in this study are Resilience, Leadership, and Commitment. The classical assumption tests required before conducting multiple linear regression include:

- Normality Test: This test ensures that the residuals (errors) from the regression are normally distributed. A good regression model should have customarily distributed residuals. The data is generally distributed if the p-value is more significant than 0.05.
- Multicollinearity Test checks for perfect or near-perfect correlation between the independent variables. A good regression model should not have multicollinearity, meaning no independent variables should correlate close to 1. Multicollinearity can be detected by examining the Tolerance and Variance Inflation Factor (VIF) values. A good model avoids Tolerance values below 0.1 and VIF values above 10.
- Linearity Test: This test assesses whether there is a significant linear relationship between two or more variables. From the linearity deviation table, the relationship is linear if the p-value is more critical than 0.05; if it is less than 0.05, it is not linear.
- Heteroscedasticity Test: This test checks for unequal variance of residuals across observations. A

good regression model should not exhibit heteroscedasticity. The Glejser method detects heteroscedasticity by examining the relationship between the residuals and independent variables. If the significance value is more significant than 0.05, heteroscedasticity is absent in the model.

Universitas Strada Indonesia has ethically approved the study (001256/EC/KEPK/I/04/2024).

Results

Table 1. Frequency Distribution of Demographic Data

No	Demographic Data	Frequency	Percentage
A Age			
1	12-25 years	19	15.2
2	26-45 years old	101	80.8
3	46-65 years old	5	4.0
B Gender			
1	Man	31	24.8
2	Woman	94	75.2
C Education			
1	SMA	9	7.2
2	D3	43	34.4
3	D4	15	12.0
4	S1	36	28.8
5	S2	21	16.8
6	S3	1	.8
D Profession			

No	Demographic Data	Frequency	Percentage
1	Computer	3	2.4
2	Pharmacy	14	11.2
3	Radiographer	4	3.2
4	Health Analysis	5	4.0
5	Midwife	16	12.8
6	Doctor	10	8.0
7	Nurse	70	56.0
8	Physiotherapy	3	2.4

The research results from the demographic data listed show that most respondents are between the ages of 26 and 45 years, with a percentage of 80.3% or as many as 98 people. This age group dominated the population studied, suggesting that this productive age was most represented in the data. In addition, women are the majority of the respondents' gender, with 93 people or 76.2% of the total population. This shows the high representation of women in this study.

Regarding education, respondents with a D3 education level were the most found, namely 43 people or 35.2%. This education occupies the most significant portion compared to other levels of education. In terms of profession, nurses are the largest professional group, with a total of 70 people (57.4% of the total respondents). The dominance of nurses in this data shows that they are the group most involved in researching the importance of this profession in the context studied.

Table 2. Statistic Test

No	Variable	Model Summary						ANOVA	
		Mean	SD	R	R Square	t	p	F	p
	Leadership	58.9	7.4	0.779	0.606	13.697	0.000	93.3	0.000
	Resistance	64.3	7.3			25.199	0.000		
	Commitment	58.6	6.9						

Which is strong between the variables of leadership and resilience and commitment. In addition, the R Square value or the determination coefficient obtained is 60.6%. This shows that the Leadership and Resilience variables can explain 60.6% of the variation in the Commitment variable, while the remaining 31.1% is influenced by other variables outside of the two variables. The ANOVA test results showed a significance value of 0.000, more diminutive than 0.05. This means the regression equation model formed between the Leadership and Commitment Resilience variables is significant and meets the linearity criteria. In other words, the relationship between these variables can be considered substantial in the context of analysis.

Discussion

The study found that the variables of resilience and leadership significantly influence commitment, with an R Square value of 93.6%. This indicates that the influence of resilience and leadership on commitment is powerful. However, 6.4% of the variation in commitment is influenced by other factors not examined within the variables of leadership and resilience. The results of the ANOVA test showed a significance value of 0.000, which is less than 0.05. This indicates that this model can effectively explain the relationship between resilience, leadership, and commitment. However, the 6.4% variation in commitment may be influenced by other variables not included in this study, suggesting that researchers could explore additional factors in future research.

Leadership encompasses the actions undertaken by leaders in carrying out their functions, consisting of two main aspects: task functions and maintenance functions (By, 2021; Kozioł-Nadolna, 2020). Leaders who execute these two functions effectively can enhance subordinates' commitment to the organization. This enables subordinates to understand their duties and responsibilities better, acquire the necessary information for self-development, feel motivated to fulfill their obligations and improve their work discipline. Another concept of organizational commitment is the sense of psychological and physical attachment or connection of employees to the organization where they work or are members. Organizational commitment is the extent to which a person identifies with the company and its goals (Ridwan, Mulyani, & Ali, 2020). Organizational commitment is an essential work attitude because individuals with commitment are expected to demonstrate a willingness to work harder to achieve

organizational goals and have a more excellent drive to remain with the company.

Based on the research findings, it was discovered that resilience and leadership significantly influence employee commitment, emphasizing the importance of these two variables in increasing employees' engagement and dedication to the organization. These findings align with previous studies showing that effective leadership, with the ability to perform task and maintenance functions well, can enhance employees' commitment to the organization (Cai, 2023; Oyewobi, 2024)

Good leadership helps employees understand their duties and responsibilities and boosts motivation, self-development, and work discipline. Although the regression model shows a significant relationship between resilience, leadership, and commitment, the study also revealed that other unexplored factors may influence part of the variation in commitment. These could include organizational culture, social support, or work-life balance, which might be essential in shaping employee commitment. For instance, in organizations with a highly supportive and inclusive culture, employee commitment may be higher, even as resilience and leadership contribute.

Additionally, social support from colleagues and supervisors can provide an extra positive impact on commitment. There might also be differences in how resilience and leadership variables are applied in various contexts or types of organizations. For example, differing leadership styles or levels of leader involvement could influence how employees respond and commit to organizational goals. Therefore, further research is needed to explore additional factors that may affect commitment and to understand how the interaction between resilience, leadership, and other variables might differ across different

situations and types of organizations.

Conclusion

Overall, the analysis of the respondents' demographic data in the study on the application of Electronic Medical Records at Muhammadiyah Siti Khodijah Gurah Hospital, Kediri Regency, provides a clear picture of the characteristics of the population involved. Most respondents are between 26 and 45 years old, with the dominant female gender, D3 and S1 educational backgrounds, and the dominant nursing profession. This demographic data provides an in-depth understanding of the factors that may influence the adoption and acceptance of Electronic Medical Record technology. With a better understanding of the demographic characteristics of the respondents, the implementation of Electronic Medical Records at Muhammadiyah Siti Khodijah Gurah Hospital can be designed and adjusted to the needs and characteristics of the intended population. Identifying certain groups that require a specific approach in the implementation process can also be done based on the collected demographic data. This can increase such technology's effectiveness, efficiency, and acceptance in the hospital environment. Hopefully, this demographic data analysis results can be a strong foundation for designing a more focused and directed implementation strategy. By strengthening the role and contribution of certain groups, such as nurses who dominate the respondent population, implementing Electronic Medical Records at Muhammadiyah Siti Khodijah Gurah Hospital is expected to impact the quality of health services provided positively. The alignment between respondents' demographic characteristics and implementation strategies can be key to success in adopting this innovative health technology.

Authors Contributions

The contributions to this manuscript were distributed as follows: one author was involved in conceptualizing and designing the study, and another undertook data collection and analysis. In contrast, the third author participated in literature review and manuscript drafting. All authors have reviewed and approved the final version for submission.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper” or “There is no conflict of interest.

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