Vol. 8 No.1 (2026) Hal. 245-251
HealthCare Nursing Journal
available on : https://journal.umtas.ac.id/index.php/healtcare
e-ISSN : 2655-6812

Research Article

The Relationship Between The Use of The HOT Fit Model on e-Puskesmas With The Reliability Dimension

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Article Information

Received: 15 October 2025
Revised: 7 January 2026
Accepted: 29 January 2026
Available online: 31 January 2026

Keywords

e-Puskesmas; Information System, Service Quality; HOT Fit; Reliability

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Doi

https://doi.org/10.35568/healthcare.v8i1.7258

ABSTRACT

The rapid development of technology is driving the government to improve healthcare services thru digitalization, including e-Puskesmas. The e-Puskesmas application is one of the web-based puskesmas management information systems used to manage patient data from registration, examination, to treatment. However, the problems that arise in the implementation of e-Puskesmas will impact the decline in the quality of services provided by health centers. This study aims to determine the relationship between the use of the Human Organization Technology Net Benefit (HOT Fit) model in e-Puskesmas with the reliability dimension at Cisitu Health Center, Sumedang Regency. The type of research used is quantitative with a descriptive analytic research method and a cross-sectional research design. The sampling technique used is total sampling. The sample in this study consisted of 56 officers using e-Puskesmas. Data was collected using a questionnaire and then analyzed using a chi-square test. The research results show a relationship between human usage of e-Puskesmas with the reliability dimension (p-value 0.001) and no relationship between organizational usage of e-Puskesmas with the reliability dimension (p-value 0.696). It is hoped that the health center will improve its internet network and conduct regular evaluations to monitor the performance of e-Puskesmas at the Cisitu Health Center.

INTRODUCTION

The rapid development of science and technology has transformed various aspects of human life, from the way we communicate and work to the way we think and perceive the world. This progress has resulted in many innovations that have had a significant impact on various sectors, such as education,

health, economy, and industry (Ananda & Putri, 2025). In the field of health, technological advancements can increase public expectations for obtaining quality, more efficient, and easily accessible healthcare services (Prameswari et al., 2025). Since 2013, PT Infokes Indonesia has consistently developed the quality of digital based healthcare facility services through the implementation of the e-Puskesmas application. E-Puskesmas is a multi-user web-based application that can be accessed simultaneously by several users (Christian, 2023). Until now, more than 4000 community health centers and over 200 city/regency health offices throughout Indonesia have implemented e-Puskesmas as a healthcare service system for patients at community health centers (Rifaniar et al., 2023).

A new framework that can be used to evaluate information systems is called the Human Organization Technology (HOT) Fit Model. HOT Fit is a combination of the Information Success Model (DeLone and McLean) and the IT Organization Fit Model by Morton. HOT FIT not only focuses on the system components being evaluated themselves but also on additional supporting components, making this model suitable for use in research aimed at generating comprehensive recommendations for application improvement and development (Yusof et al., 2008 dalam Halawa, 2025).

The quality of healthcare services is the level of healthcare provided to individuals and communities that can improve optimal health outcomes, given according to service standards, the latest scientific developments, and to fulfill the rights and obligations of patients (Permenkes RI, 2022). Two main factors that influence service quality are expected service and perceived service (Muninjaya, 2014).

The research conducted by Dede Ramdan (2024), mentions that the relationship between humans, organizations, and the e-Puskesmas technology is of good quality. This shows that the use of the system is good because all departments at the Gunung Halu health center are already using e-Puskesmas. The accuracy of data in e-Puskesmas makes the staff's work easier, making it very effective in its implementation. The officers expressed satisfaction with the features and functionality of e-Puskesmas, although some data reports for each polyclinic could not be addressed directly and required additional editing. However, this did not significantly impact the services provided.

In accordance with Minister of Health Regulation No. 24 of 2022, which states that every healthcare facility is required to implement electronic medical records. This is followed by Circular Letter No. HK.02.01/MENKES/1030/2023 regarding the implementation of electronic medical records in healthcare facilities and the application of administrative sanctions for development and supervision purposes, so that all healthcare facilities implement electronic medical records and integrate with the SATUSEHAT Platform as an effort to improve the quality of healthcare services (Kemenkes, 2023).

The Sumedang District Health Office stated that e-Puskesmas was first implemented in 2017. All health centers in Sumedang Regency, spread across 26 sub-districts with a total of 35 health centers, have committed to using the e-Puskesmas service to provide the best service for the community. The implementation of e-Puskesmas in all health centers in Sumedang Regency does not yet guarantee that these health centers do not have issues in terms of the quality of health services. Based on data from the Sumedang District Health Office in 2024, the percentage of healthcare service quality in Sumedang District is 94.17%, with the highest percentage of healthcare service quality at Cimalaka Health Center at 99.69% and the lowest percentage at Cisitu Health Center at 87.02% (Sumedang District Health Office).

Cisitu Community Health Center is a first-level healthcare facility equipped with a treatment area. In providing healthcare services and processing data, the Cisitu Community Health Center has been using e-Puskesmas since

2019. Over time, the use of e-Puskesmas at Cisitu Community Health Center has shown continuous improvement year after year. This is evident from the increased skills of officers in operating e-Puskesmas, which has impacted time efficiency in their work. The staff also felt the convenience when they needed certain data, as the data could be obtained easily (Cisitu Health Center).

Based on a preliminary study conducted by the researcher on April 9, 2025, the results of interviews with 10 officers using e-Puskesmas at Cisitu Public Health Center revealed that 2 officers stated the e-Puskesmas application sometimes experiences server downtime because the system is not yet bridged with BPJS PCare, and 8 officers stated the e-Puskesmas application is still constrained by unstable internet networks affected by simultaneous network usage, resulting in errors when entering data. Nevertheless, the implementation of e-Puskesmas also provides convenience in data recording, which was previously done manually and prone to errors, but is now done digitally, thus increasing work time efficiency and data accuracy.

Based on the background above, the researcher is interested in conducting research on the relationship between the use of the Human Organization Technology Net Benefit (HOT Fit) model in e-Puskesmas with the reliability dimension at the Cisitu Public Health Center in Sumedang Regency.

METHOD

The type of research used is quantitative with a cross-sectional research design. The population in this study consists of all the Puskesmas Cisitu staff who use e-Puskesmas, totaling 56 staff members. The sampling technique used is total sampling. The number of samples in this study is 56 officers. The instrument used is a questionnaire. Data analysis includes univariate and bivariate analysis using the chi-square test.

RESULTS

1) Univariate Analysis

Table 1. Frequency Distribution of Human Usage in e-Puskesmas

Human	Frequency	(%)
Less	1	1,8
Enough	19	33,9
Good	36	64,3
Total	**56**	**100,0**

The majority of officers using e-Puskesmas stated that the human aspect at Puskesmas Cisitu is in the good category, namely 36 people (64,3%).

Table 2. Frequency Distribution of Organization Usage in e-Puskesmas

Organization	Frequency	(%)
Enough	19	33,9
Good	37	66,1
Total	**56**	**100,0**

The majority of officers using e-Puskesmas stated that the organizational aspect at Puskesmas Cisitu is in the good category, with 37 people (66,1%).

Table 3. Frequency Distribution Reliability Dimension

Reliability Dimension	Frequency	(%)
Not Good	4	7,1
Good	52	92,9
Total	**56**	**100,0**

The majority of officers using e-Puskesmas stated that the reliability dimension at Puskesmas Cisitu is in the good category, with 52 people (92,9%).

2) Bivariate Analysis

Table 4. The Relationship Between Human Use on e-Puskesmas with the Reliability Dimension

Human	Reliability Dimension						P-Value
	Not Good		Good		Total		
	F	%	F	%	F	%	
Less	1	1,8	0	0,0	1	1,8	0,001
Enough	2	3,6	17	30,4	19	33,9	
Good	1	1,8	35	62,5	36	64,3	
Total	**4**	**7,1**	**52**	**92,9**	**56**	**100,0**	

The results of the Chi-Square test show a p-value = 0,001 < 0,05, this means H_a is accepted

and H_0 is rejected, so it can be concluded that there is a significant relationship between the use of human resources in e-Puskesmas with the reliability dimension.

Table 5. The Relationship Between Organization Use on e-Puskesmas with the Reliability Dimension

Organization	Reliability Dimension						P-Value
	Not Good		Good		Total		
	F	%	F	%	F	%	
Enough	1	1,8	18	32,1	19	33,9	0,696
Good	3	5,4	34	60,7	37	66,1	
Total	**4**	**7,1**	**52**	**92,9**	**56**	**100,0**	

The results of the Chi-Square test show a p-value = 0,696 > 0,05, this means H_a is rejected and H_0 is accepted, so it can be concluded that there is no significant relationship between the use of organization on e-Puskesmas with the reliability dimension.

DISCUSSION

Overview of Human Use on e-Puskesmas

The majority of officers using e-Puskesmas stated that the human aspect at Puskesmas Cisitu is in the good category, namely 36 people (64,3%).

This research is in line with the study by Ni Ketut Juliantari et al., (2023), it was found that the majority of respondents who rated the human aspect as good were 43 people (71,7%) and those who rated it as poor were 17 people (28,3%).

According to the research assumption, human resources as the main element play a key role in the successful implementation of information systems, especially in e-Puskesmas. Healthcare services will not run well without quality human resources, even if the available facilities and infrastructure are adequate. Therefore, the development of human resources thru equitable training, education, and work experience is very important to enhance their competencies so they can adapt to information systems. When the involved human resources possess the appropriate competencies according to their job descriptions, they will be more capable of providing optimal services, there by increasing capacity and building a foundation for quality healthcare services.

Overview of Organization Use on e-Puskesmas

The majority of officers using e-Puskesmas stated that the organizational aspect at Puskesmas Cisitu is in the good category, with 37 people (66,1%).

This research is in line with the study by Ni Ketut Juliantari et al., (2023), it was found that the majority of respondents who rated the organization aspect as good were 54 people (90%) and those who rated it as poor were 6 people (10%).

According to the research assumption, humans need good organization to achieve the set goals. The absence of SOP regulating the use of e-Puskesmas will hinder the performance between management and employes. In addition, strong management support from the government, leadership, and colleagues is essential to create a conducive work environment. In this case, good team organization and the presence of structured SOP play an important role in improving the efficiency and effectiveness of services.

Overview Reliability Dimension

The majority of officers using e-Puskesmas stated that the the reliability dimension at Puskesmas Cisitu is in the good category, with 52 people (92,9%).

This research is in line with the study by Andreas N Siagian et al., (2024), it was found that the majority of respondents who rated the quality of healthcare services in the reliability dimension as good were 133 people (88,7%) and those who rated it as not good were 17 people (11,3%).

According to the research assumption, the reliability dimension related to the services provided by the staff is greatly determined by service performance. Performance must meet patient expectations, which means timeliness, consistent service, and high accuracy. When patients believe that the staff are skilled in providing healthcare services, they will feel satisfied. Satisfied patients tend to be loyal, return to use the

services, and give positive recommendations to others.

The Relationship Between Human Use on e-Puskesmas with the Reliability Dimension

The results of the Chi-Square test show a p-value = 0,001 < 0,05, this means H_a is accepted and H_0 is rejected, so it can be concluded that there is a significant relationship between the use of human resources in e-Puskesmas with the reliability dimension.

This is in line with the research Wayan Wahyu Apriliantika et al., (2023), it was found that human resources with the application of digital health show a very strong relationship (r=0,964), with a positive pattern. A coefficient of determination value of 0,930 was also obtained, which means that the resulting regression line equation can explain 93% of the variation in the implementation of digital health. The results of the statistical test showed a significant relationship between human resources and the readiness for the implementation of digital health (P-value=0,005). This is because the human resources at the Semarang City Health Centers have been prepared quite well, with most health centers already having training and human resources, although not optimally.

According to the research assumption, the quality of human resources will determine the extent to which e-Puskesmas can contribute to the improvement of reliability dimension. With the existence of SOP and training that reach all personnel using e-Puskesmas, they will not experience difficulties in operating e-Puskesmas. This will facilitate the provision of healthcare services to the community and reporting to the health office. If the implementation of e-Puskesmas can run effectively and efficiently, then when certain data is needed, it will be easier to obtain that data.

The Relationship Between Organization Use on e-Puskesmas with the Reliability Dimension

The results of the Chi-Square test show a p-value = 0,696 > 0,05, this means H_a is rejected and H_0 is accepted, so it can be concluded that there is no significant relationship between the use of organization on e-Puskesmas with the reliability dimension.

This is in line with the research by Annisa' Arifatul Hikmah et al., (2021), which found that organizational factors did not have a relationship with net benefit for SIKP users at Dempet and Gajah 2 Health Centers in Demak Regency in 2020 (p-value=0.392, r=0.194). This is because the periodic monitoring and evaluation by both the health centers and the District Health Office has not been optimal.

According to the research assumption, to improve the reliability dimension thru e-Puskesmas, strong organization is needed, where organizational readiness for its implementation is very important. In the implementation of e-Puskesmas, Puskesmas cannot stand alone; support and cooperation with other parties such as the government, the health office, BPJS, and other related institutions are necessary. Good collaboration between all parties will ensure that e-Puskesmas runs effectively and efficiently.

CONCLUSIONS AND RECOMMENDATION

1) The majority of officers using e-Puskesmas stated that the human aspect at Puskesmas Cisitu is in the good category, namely 36 people (64,3%).
2) The majority of officers using e-Puskesmas stated that the organizational aspect at Puskesmas Cisitu is in the good category, with 37 people (66,1%).
3) The majority of officers using e-Puskesmas stated that the reliability dimension at Puskesmas Cisitu is in the good category, with 52 people (92,9%).
4) There is a relationship between the use of human resources in e-Puskesmas with the reliability dimension with a p-value of 0.001 < 0.05.
5) There is no relationship between the use of organizational resources in e-Puskesmas with the reliability dimension with a p-value of 0.696 > 0.05.

Based on the research, there are several suggestions provided by the researchers that can be considered as follows.

1) For Future Research
   Can be used as a reference for similar research and can conduct research with different variables.
2) For The Cisitu Community Health Center
   There is a need for improvements in providing a stable internet connection and regular training for staff, especially those who are not yet accustomed to using e-Puskesmas.
3) For The Public Health Science Study Program at Sebelas
   This research can be useful as additional information and reference in the development of digital information systems.

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