

## **Evaluation of the Use of an Electronic Prescription System Using the HOT-Fit Approach at the Pharmacy Installation of UNS Hospital Surakarta**

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### **ABSTRACT**

The e-Prescribing system has become an essential part of the digitalization of healthcare services aimed at improving accuracy, efficiency, and patient safety. Despite being adopted in many hospitals, the implementation of this system in Indonesia still faces challenges, including limited user understanding, uneven organizational support, and limited technological infrastructure. This study aims to evaluate the implementation of the e-Prescribing system at the Pharmacy Installation of UNS Hospital Surakarta using the HOT-FIT model, which assesses the Human, Organization, and Technology dimensions, as well as the Fishbone diagram to identify the root causes of the challenges faced. A mixed-methods approach was used, with quantitative data collected through questionnaires distributed to 30 pharmacy staff, analyzed using descriptive statistics, Pearson validity tests, and Cronbach's Alpha reliability tests. The results showed that all questionnaire items were valid, with Pearson correlation values ranging from 0.518 to 0.898 and Cronbach's Alpha of 0.918, indicating a very high level of internal consistency. The Human Fit dimension had a mean score of 4.2 (SD 0.5), Organization Fit 4.3 (SD 0.4), Technology Fit 4.5 (SD 0.3), and Net Benefit 4.6 (SD 0.2), indicating a positive impact on efficiency and user satisfaction. However, challenges related to inadequate training, slow system access, and limited integration with other systems remain. Fishbone analysis identified six key factors affecting system performance. The study concludes that while the e-Prescribing system shows positive results, improvements in training, infrastructure, and system integration are needed to enhance its effectiveness.

Keywords : e-Prescribing; HOT-FIT Model; Usage Evaluation.

### **Introduction**

The approach used in this study, combining the HOT-FIT model and Fishbone Diagram, offers a more comprehensive advantage compared to previous research that primarily focused on the technological dimension. By incorporating analysis of the human and organizational dimensions, this study provides a more holistic view of the effectiveness of the e-prescribing system in hospitals (Ulum et al., 2023). The Fishbone Diagram also allows for a more structured identification of root causes, which has been less utilized in previous studies regarding the evaluation of e-prescribing systems (Wong *et al.*, 2021).

The development of information technology (IT) in the health sector has significantly transformed medical service systems, including drug prescribing

practices. Electronic prescribing (e-Prescribing) enables physicians to transmit prescriptions digitally to pharmacies through an integrated system, aiming to improve accuracy, efficiency, and reduce prescribing errors. This system has been widely adopted in many developed countries as part of healthcare digitalization (Arifin *et al.*, 2017). Several studies have shown that e-Prescribing reduces errors caused by illegible handwriting, enhances medication safety, and improves pharmaceutical workflow and patient satisfaction (Ahmed *et al.*, 2022; Feberina, 2023).

Despite its advantages, the implementation of e-Prescribing in Indonesian hospitals still faces obstacles, including limited technological infrastructure, weak integration with Hospital Information Systems (SIMRS), and varying levels of staff readiness (Zulfa, 2018; Arifin *et al.*, 2017). Misalignment between system features and hospital operational needs may also hinder utilization, as highlighted by Adrizal (2019). These challenges underscore the need to evaluate whether the e-Prescribing system at Universitas Sebelas Maret (UNS) Hospital operates effectively and meets the pharmacy unit's requirements.

To assess system performance, this study applies the HOT-FIT Model, which evaluates three key dimensions: Human (user readiness, skills, acceptance), Organization (management support, infrastructure, policies), and Technology (system quality, usability, and compatibility) (Yusof *et al.*, 2008). To further identify the root causes of system problems, a Fishbone (Ishikawa) Diagram is used to classify contributing factors into categories such as human, machine, method, material, environment, and measurement (Ishikawa, 1982).

Although numerous studies in Indonesia have examined e-Prescribing, most focus primarily on technology aspects and rarely provide a comprehensive evaluation of human, organizational, and technological dimensions simultaneously. Moreover, no previous research has evaluated the implementation of e-Prescribing at UNS Hospital or combined the HOT-FIT framework with Fishbone analysis. This gap highlights the need for a more holistic assessment.

Based on this background, the main problem addressed in this study is the lack of comprehensive evaluation regarding the alignment between the e-Prescribing system and the operational needs of UNS Hospital's pharmacy unit. Therefore, the objectives of this study are (1) to evaluate the implementation of the e-Prescribing system using the HOT-FIT Model and (2) to analyze the root causes of system-related challenges using a Fishbone Diagram.

## **Methodology**

This study has received ethical approval from the Research Ethics Committee of Universitas Sebelas Maret under Certificate No. 038/UN27.46/TA.04.19/KEP/EC/2025. Quantitative data were collected through HOT-FIT-based questionnaires completed by 30 pharmacy and medical staff and analyzed using descriptive statistics and validity-reliability tests in SPSS. Qualitative data were obtained from in-depth interviews with 10 key informants and three additional informants for Fishbone analysis to identify root causes of system issues. Thematic analysis supported by NVivo and data triangulation strengthened the

validity of the findings. This methodological approach provides an integrated understanding of system performance and supports strategic improvements for Electronic Prescribing at UNS Hospital.

### **Instruments and Materials**

The instruments and materials used in this study were adapted to the mixed-methods approach, consisting of both qualitative and quantitative methods. In the qualitative approach, the instruments included a semi-structured interview guide to obtain in-depth information from key informants regarding the use of the e-Prescribing system, a voice recorder to document the interview process, and a field notebook to record direct observations of user interactions with the system. To support the data analysis process, a computer or laptop equipped with NVivo software was used for coding, categorization, and systematic qualitative data analysis.

### **Research Procedure**

#### **1. Preparation Stage**

This stage began with a literature review to understand the theories and previous studies related to the use of e-Prescribing and its evaluation through the HOT-FIT Model (Zhang & Wildemuth, 2016). Subsequently, consultations were held with academic supervisors to finalize the research design, including methods, data collection techniques, and research instruments (Silverman, 2020). The researcher then prepared a research proposal covering the background, objectives, and methodology, while also securing research approvals from relevant authorities, including ethical clearance to ensure compliance with research ethics standards (Creswell & Poth, 2018). In addition, semi-structured interview guides, observation sheets, audio recording devices, and data analysis software were prepared to support the data collection process (Patton, 2015).

#### **2. Data Collection Stage**

Data were gathered through in-depth interviews and participatory observation. Interviews were conducted with key informants such as practicing pharmacists, pharmaceutical technicians, and hospital management (including the head of the pharmacy installation and the heads of inpatient, outpatient, and emergency pharmacy units). These aimed to explore in detail the informants' experiences and perspectives on the use of the Electronic Prescription System in terms of Human Fit, Organization Fit, and Technology Fit. All interviews were audio-recorded and documented in field notes. Additionally, participatory observations were conducted in the workplace to directly observe system use, user interactions, and technical obstacles. Data were collected using questionnaires distributed to 30 respondents, consisting of doctors, nurses, and pharmaceutical staff working in the Pharmacy Installation of UNS Hospital Surakarta. The questionnaires were designed based on the HOT-FIT variables and Net Benefit to measure healthcare workers' perceptions of the effectiveness and success of the Electronic Prescription System. The data obtained were processed using SPSS software to complement the findings from the qualitative approach. By combining both approaches, the study sought to provide a more

comprehensive picture of the system's effectiveness, challenges, and potential for development.

### 3. Data Processing and Analysis Stage

The analysis was supported by NVivo software, which facilitated systematic organization, coding, and interpretation of the data (Bazeley & Jackson, 2013). Interview data were transcribed and analyzed using Thematic Analysis in accordance with the HOT-FIT Model (Braun & Clarke, 2019). The process involved three main steps:

- a. Open Coding → Identifying initial codes from interview and observation results.
- b. Axial Coding → Grouping codes into categories based on Human Fit, Organization Fit, Technology Fit, and Net Benefit.
- c. Selective Coding → Defining core themes that reflect the success factors, challenges, and impacts of e-Prescribing implementation (Creswell & Poth, 2018).

To ensure the validity and reliability of qualitative data, several techniques were employed:

- a. Triangulation → Comparing findings from interviews, observations, and document analysis to check consistency.
- b. Member Checking → Requesting respondents to review interview results to confirm the researcher's interpretations.
- c. Audit Trail → Providing systematic documentation of the entire research process, including transcripts and field notes.
- d. Peer Debriefing → Engaging in discussions with experts or fellow researchers to obtain feedback on data interpretation.

The quantitative analysis focused on questionnaire results measuring Human Fit, Organization Fit, Technology Fit, and Net Benefit in the implementation of e-Prescribing. The data were analyzed using SPSS with the following steps:

- a. Descriptive Statistics → To examine data distribution and respondent characteristics.
- b. Validity Test → Using Pearson Product-Moment Correlation, with criteria:
  - $r > 0.3$  → Item valid
  - $r < 0.3$  → Item invalid, requiring revision or removal (Ghozali, 2018).
- c. Reliability Test → Using Cronbach's Alpha, with interpretation:
  - $\alpha \geq 0.7$  → Good reliability (Nunnally & Bernstein, 1994).

Findings from both qualitative and quantitative analyses were compared to identify correlations between user perceptions (questionnaire results) and the insights gained from interviews and observations. This integrated approach was expected to provide a more comprehensive understanding of the successes and challenges in the implementation of the Electronic Prescription System in the hospital.

#### 4. Reporting Stage

The final stage involved preparing the research report, which presented the key findings, discussion, conclusions, and recommendations for improving the Electronic Prescription System. The report was structured systematically and submitted to relevant stakeholders, including hospital management and the university, as a contribution to the development of the Electronic Prescription System and digital pharmacy service policies (Yin, 2018). The findings of this study are expected to serve as a basis for improving the system in terms of technology, user readiness, and organizational support at UNS Hospital Surakarta (Snyder & Lichter, 2021).

#### Data Analysis

Data analysis in this study was carried out using thematic analysis, an approach for identifying, analyzing, and interpreting patterns or themes within qualitative data (Braun & Clarke, 2019). Thematic analysis was chosen for its ability to explore user experiences, technical challenges, and organizational support in the use of e-Prescribing. Through this approach, the study was able to examine in depth the aspects of Human Fit, Organization Fit, Technology Fit, and Net Benefit as the key factors in evaluating the e-Prescribing system based on the HOT-FIT Model (Yusof et al., 2008).

#### Result and Discussion

##### Operational Table for Variables

Dimension	Mean	SD	N	p-value (if available)
Human Fit	4.2	0.5	30	0.05
Organization Fit	4.3	0.4	30	0.03
Technology Fit	4.5	0.3	30	0.01
Net Benefit	4.6	0.2	30	0.02

#### A. Characteristics of Informants

##### 1. Characteristics of Questionnaire Respondents (HOT-FIT Model)

A total of 30 respondents participated in the HOT-FIT questionnaire. The average length of employment among the respondents was 5.1 years, with an average experience of 1.5 years in using the Electronic Prescription System (Table 1).

**Table 1. Characteristics of HOT-FIT Questionnaire Respondents**

No	Respondent Position	Number of Respondents	Average Length of Employment (years)	Experience Using Electronic Prescription (years)
	Pharmacists	8	± 6.2	1.5
	Pharmaceutical Technicians (TTK)	12	± 5.5	1.5
	Resident Doctors	5	± 3.0	1.5

	Nurses	5	± 5.0	1.5
<b>Total Respondents</b>	—	<b>30</b>	<b>± 5.1</b>	<b>1.5</b>

A total of 30 respondents were involved in completing the questionnaire, which was developed based on the HOT-FIT evaluation framework. This sample size was chosen to provide a representative overview of user perceptions and experiences with the Electronic Prescription System in the Pharmacy Installation and related service units of UNS Hospital Surakarta. Respondents were selected through purposive sampling, considering their direct involvement in the system—whether in writing, receiving, or processing prescriptions.

The respondent composition included 8 pharmacists, 12 pharmaceutical technicians (TTK), 5 resident doctors, and 5 nurses. This distribution was designed to represent the various professions directly engaged in prescription workflows, validation, and drug dispensing. The involvement of both medical and pharmaceutical staff in an integrated system makes their perspectives particularly valuable for quantitative analysis, especially in relation to the Human, Organization, Technology, and Net Benefit dimensions of the HOT-FIT Model.

Overall, respondents had an average employment period of 5.1 years, ranging from 3 years (resident doctors) to over 6 years (pharmacists). This indicates that most respondents were already familiar with hospital workflows, enabling them to provide objective, experience-based evaluations of the changes introduced by the Electronic Prescription System. Their average experience of 1.5 years using the system corresponds to the implementation period at UNS Hospital Surakarta, ensuring that all respondents had sufficient exposure to the system under both normal conditions and technical challenges. Given their diverse yet relevant professional backgrounds and practical involvement, these four groups provided important contributions to evaluating the effectiveness, efficiency, and challenges of the Electronic Prescription System from multiple operational perspectives.

## 2. Characteristics of Interview Informants (HOT-FIT Model)

A total of 10 informants participated in the HOT-FIT interviews, with an average length of employment of 7.2 years and an average of 1.5 years of experience using the Electronic Prescription System (Table 2).

**Table 2. Characteristics of HOT-FIT Interview Informants**

No	Informant Position	Number of Informants	Average Length of Employment (years)	Experience Using Electronic Prescription (years)
1	Head of Pharmacy Installation	1	± 9	1.5
2	Head of Emergency Department (KARU IGD)	1	± 8	1.5
3	Head of Outpatient Pharmacy (KARU Outpatient)	1	± 7	1.5
4	Head of Inpatient Pharmacy	1	± 7	1.5

	(KARU Inpatient)			
5	Practicing Pharmacists	3	± 6.5	1.5
6	Pharmaceutical Technicians (TTK)	3	± 6	1.5
<b>Total</b>	—	<b>10</b>	<b>7.2</b>	<b>1.5</b>

This study involved 10 informants as subjects of in-depth interviews, selected through purposive sampling. Informants were chosen based on their active roles in the operation of the Electronic Prescription System and their direct involvement in pharmaceutical services at UNS Hospital Surakarta. This approach aimed to obtain comprehensive, representative, and in-depth information concerning the three main aspects of the HOT-FIT Model: Human, Organization, and Technology.

The informants represented various strategic positions within the pharmacy installation: one Head of Pharmacy Installation, three Heads of Units (KARU) from the Emergency Department, Outpatient Pharmacy, and Inpatient Pharmacy, three practicing pharmacists, and three pharmaceutical technicians (TTK). This composition reflects a diversity of perspectives, ranging from managerial to technical levels, all of whom are directly engaged in the use of the Electronic Prescription System.

On average, the informants had worked for ± 7.2 years, indicating that most had extensive professional experience in hospital pharmacy services. Such experience is valuable as it provides deeper insights into workflow changes following the implementation of the Electronic Prescription System. Meanwhile, their average system usage experience was 1.5 years, consistent with the initial implementation period of the system at UNS Hospital Surakarta.

This relatively uniform duration of system usage allowed the researcher to collect consistent information regarding user adaptation, training effectiveness, technical challenges, and the impact of the system on workflow and service quality. By involving multiple professional levels within the pharmacy installation, the in-depth interviews enhanced the validity of the findings and enriched the analysis based on the HOT-FIT approach.

### 3. Characteristics of Interview Informants for Fishbone Diagram Analysis

The Fishbone Diagram interviews involved three informants, each with more than seven years of work experience and 1.5 years of experience using the Electronic Prescription System (Table 3).

**Table 3. Characteristics of Fishbone Diagram Interview Informants**

No	Informant Position	Number of Informants	Average Length of Employment (years)	Experience Using Electronic Prescription (years)
1	Head of Pharmacy Installation	1	± 9	1.5
2	Head of IT	1	± 8	1.5

	Installation			
3	Practicing Pharmacist	1	± 7	1.5
<b>Total Fishbone Informants</b>	<b>3</b>	<b>&gt; 7</b>	<b>1.5</b>	

The in-depth interviews for the Fishbone Diagram analysis in this study involved three key informants, selected purposively due to their strategic positions and comprehensive knowledge of the implementation and management of the Electronic Prescription System at UNS Hospital Surakarta. These informants consisted of one Head of Pharmacy Installation, one Head of IT Installation, and one Practicing Pharmacist.

The inclusion of three informants was deemed sufficient, as the primary objective of the Fishbone analysis is to identify the root causes of problems within the Electronic Prescription System from a strategic and structural perspective, rather than to broadly assess user perceptions. Hence, the selected informants needed to possess a holistic understanding of policy, technical, and operational aspects of the system, allowing them to provide critical insights into the underlying causes of system challenges from managerial, information technology, and practical implementation standpoints.

All informants had an average of more than seven years of professional experience (ranging from 7 to 9 years), reflecting a mature understanding of hospital systems and workflows. Their 1.5 years of experience with the Electronic Prescription System corresponds with the implementation period of the system, equipping them with the ability to critically evaluate its progression from initial deployment to the evaluation stage.

Through their combined backgrounds in pharmacy, information technology, and direct practice, these three informants contributed highly relevant insights to the process of identifying root causes using the Ishikawa (Fishbone) Diagram. This multidisciplinary approach strengthened the validity of the analysis by incorporating diverse perspectives essential for evaluating health information systems.

## **B. Results of the Evaluation of Electronic Prescription Utilization**

### **1. Results of the HOT-FIT Model Questionnaire**

#### **a. Validity and Reliability Testing of the Instrument**

- 1) Questionnaire Validity Test. Validity refers to the degree of accuracy and appropriateness of an instrument in measuring what it is intended to measure. A research instrument, such as a questionnaire, is considered valid if each item demonstrates a significant correlation with the total score. In a validity test, if the calculated *r* value (*r*-count) is greater than the critical *r* value from the table (*r*-table), the instrument is declared valid. This principle is consistent with the findings of Krisnawati, Artanti, and Umar (2024).

**Table 4. R-Table Value**

df = N-2	r-table (0.05)
30	0.3494

**Table 5. Validity Test Results**

Item	Pearson Correlation	r-table	Remark
1	0.735	0.3494	VALID
2	0.735	0.3494	VALID
3	0.552	0.3494	VALID
4	0.518	0.3494	VALID
5	0.865	0.3494	VALID
6	0.673	0.3494	VALID
7	0.865	0.3494	VALID
8	0.898	0.3494	VALID
9	0.565	0.3494	VALID
10	0.727	0.3494	VALID
11	0.626	0.3494	VALID
12	0.770	0.3494	VALID
13	0.709	0.3494	VALID
14	0.735	0.3494	VALID
15	0.547	0.3494	VALID
16	0.611	0.3494	VALID

Based on Table 7, all 16 questionnaire items show Pearson correlation values greater than the *r*-table value (0.3494), with a range between 0.518 and 0.898. This indicates that each item in the instrument has a significant relationship with the total score. Therefore, it can be concluded that all items in the questionnaire are valid and appropriate for measuring the intended variables.

2) Questionnaire Reliability Test

**Table 6. Reliability Test Results**

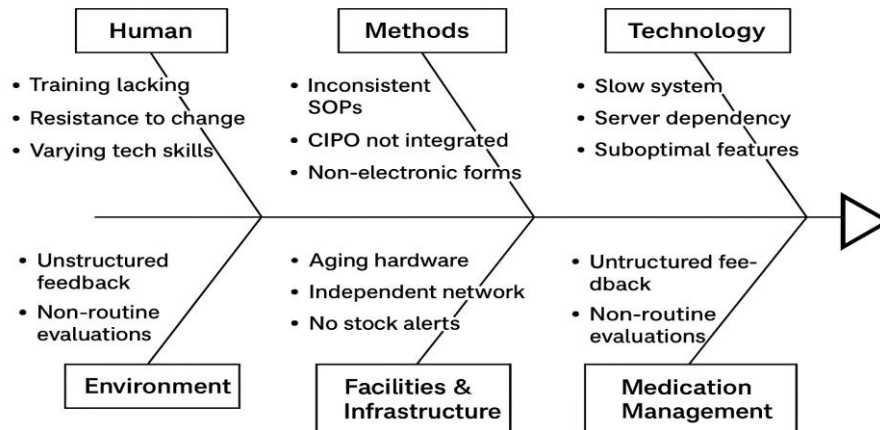
Cronbach's Alpha	Number of Items (N)
0.918	16

Based on the reliability test results shown in Table 8, the Cronbach's Alpha value was 0.918, indicating that the questionnaire demonstrates a very high level of internal consistency and can be considered reliable. This finding is consistent with the study by Krisnawati, Artanti, and Umar (2024), which states that a questionnaire is deemed reliable if the Cronbach's Alpha value exceeds 0.60. Therefore, the instrument used in this study has met the required reliability standards and is appropriate for measuring the intended variables.

**2. Interview Findings Using the Fishbone Diagram**

The Fishbone Diagram facilitates the mapping of various factors that comprehensively influence the identified problems, including human aspects, work

methods, technology, facilities and infrastructure, environmental conditions, and medication management. This approach enables a deeper analysis of the root causes, allowing more accurate and effective solutions to be formulated. Each category of contributing factors is described in detail to determine appropriate improvement measures that can enhance workflow processes and minimize the risk of recurring issues in the future.



**Figure 1.** Fishbone Diagram

### C. Discussion of the Evaluation Results of Electronic Prescription Use

The evaluation of the electronic prescription system at the Pharmacy Installation of UNS Hospital Surakarta was carried out using a combination of quantitative and qualitative approaches based on the HOT-FIT model. This approach enables a comprehensive analysis of the human, organizational, and technological factors, as well as the overall impact (net benefit) of the system's implementation (Yusof et al., 2008). The questionnaire administered to 30 respondents demonstrated high validity and reliability, while the qualitative data derived from in-depth interviews provided deeper insights into user perceptions and experiences.

From the Human aspect, the questionnaire results revealed the highest validity score for user convenience ( $Q2 = 0.790$ ), followed by workload and technological skills. This indicates that the system has been fairly well accepted by users. However, interviews uncovered that during the early stages of implementation, some pharmacy technicians experienced an increased workload due to the system's requirement for more detailed input and its dependency on network connectivity. Nevertheless, after several months of use, most pharmacy staff became accustomed to the system and acknowledged that it helped accelerate the prescription validation process. This aligns with the findings of Farida et al. (2017), who emphasized that technology adoption requires adequate time and training to foster user comfort. Continuous training therefore emerges as an essential strategy to strengthen the Human Fit dimension. Interviews also highlighted resistance among senior staff who preferred the manual system. Yet, the

questionnaire still showed that resistance (Q4 = 0.466) was valid, though it had the lowest value among Human aspects. This demonstrates that while resistance exists, it is not dominant, and with consistent policies and persuasive training, such resistance can be mitigated.

In the Organizational aspect, questionnaire results showed particularly high scores, especially in management support (Q5 = 0.896) and regulation (Q8 = 0.937). These findings were reinforced by interview data highlighting internal policies and technical assistance provided by the IT and pharmacy teams since the outset of implementation. Organizational support played a pivotal role in fostering trust and compliance among pharmacy staff regarding system use. However, while regular system evaluations were stipulated in the SOP, interviews revealed that user involvement in these evaluations was limited. Several pharmacy staff members reported that they were not included in system evaluation meetings, indicating that although organizational support exists at the policy level, user participation at the practical level remains insufficient. Infrastructure was another issue raised in interviews. Some units reported limited availability of computers and network disruptions during peak hours. Nevertheless, the questionnaire results indicated a positive perception of infrastructure (Q7 = 0.896), likely reflecting the experiences of respondents from better-equipped units. This discrepancy underscores the need for more equitable distribution of facilities across service units.

With regard to the Technological aspect, the questionnaire results revealed high validity in system quality (Q12 = 0.797) and ease of use (Q10 = 0.737). These findings were supported by interviews, where respondents noted that the system became easy to use once they were familiar with it, and it significantly accelerated prescription validation and drug preparation. Nonetheless, technical obstacles remained, particularly with auto-logout issues and delays during simultaneous access at peak hours. This was reflected in the questionnaire results for Q11 (technical constraints = 0.691). Thus, while the system was perceived as high quality, there is still a need for server performance and capacity improvements, consistent with Kurniawati et al. (2022), who stated that system reliability and network stability are critical requirements for successful hospital IT systems. Data security also emerged as a concern during interviews. Most respondents felt that access was appropriately restricted based on user rights, yet they lacked full understanding of encryption mechanisms or backup procedures. Questionnaire results (Q9 = 0.476) indicated moderately positive perceptions, suggesting the need for further education on the importance of medical data protection in accordance with the Health Law and the Electronic Information and Transactions (ITE) Law.

The Net Benefit aspect demonstrated that the system has had a positive impact in terms of efficiency (Q13 = 0.763) and user satisfaction (Q14 = 0.759). This was consistent with interview narratives showing that the system expedited services, reduced patient queues, and facilitated monitoring of prescription histories. These findings are supported by Feberina (2023), who reported that electronic prescribing enhances user satisfaction and trust. The reduction of medication errors (Q15 = 0.490) was reflected in interview data indicating that the system eliminated mistakes stemming from illegible handwriting. However, the

system has not yet fully optimized its clinical benefits, as it does not automatically detect drug interactions or allergies. This presents an opportunity for developing a Clinical Decision Support System (CDSS), as suggested by Ahmed et al. (2022). On the indicator of Q16 (system recommendation), the value of 0.540 showed that most respondents would recommend the system, provided that technical improvements and regular training are implemented. During interviews, respondents also expressed hope that e-Prescribing would be further integrated with the pharmacy system and electronic medical records to avoid duplicate entries.

Overall, the quantitative and qualitative results complemented one another. The questionnaire provided statistical evidence of the system's effectiveness and reliability, while the in-depth interviews illustrated real-world challenges, such as infrastructure limitations and training needs. This synthesis offers a holistic view: although the system has been functioning well, gaps remain that must be addressed. Hence, the strategy for further development of the electronic prescription system should prioritize system performance enhancement, continuous training, and greater user involvement in system evaluation. Such comprehensive evaluation is essential to ensure that the system is not merely an administrative policy, but also a practical solution that truly improves the quality of hospital pharmacy services (Motulsky et al., 2015; Yusof et al., 2008).

### **Conclusion**

The evaluation of the e-Prescribing system at UNS Hospital Surakarta indicates positive outcomes, such as improved efficiency, user satisfaction, and reduced prescription errors. However, challenges remain, including the need for ongoing user training to address resistance and enhance technical skills, as well as improvements in infrastructure and system integration. While organizational support is strong, there is a need for greater user involvement in system evaluations. Technologically, the system functions well but faces issues such as slow access during peak hours and insufficient integration with other systems. The system's net benefit is clear in terms of efficiency and error reduction, but further optimization, such as integrating drug interaction alerts, is necessary. The Fishbone diagram analysis highlights key areas for improvement: human resources, methods, technology, infrastructure, environment, and monitoring. In conclusion, while the system has delivered benefits, continued efforts in training, technical enhancements, and infrastructure development are essential for ensuring its long-term success.

### **Declaration of Competing Interest**

The author declares that there are no conflicts of interest that could influence the objectivity and conclusions presented in this article.

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