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ADOPTION OF ELECTRONIC PRESCRIBING ACCEPTANCE FOR USERS: APPLYING AN EXTENDED TAM MODEL

Penggunaan Resep Elektronik: Penerapan Model Tam Yang Diperluas

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ABSTRAK

Penelitian ini bertujuan untuk menganalisis implementasi penerimaan resep elektronik pada pengguna yang menerapkan model extended TAM. Metode yang digunakan dalam penelitian ini adalah penelitian kausal dengan pendekatan kuantitatif. Jumlah sampel yang digunakan sebanyak 74 responden. Penentuan sampel menggunakan teknik simple random sampling yang merupakan teknik yang dapat mengurangi bias dalam penelitian. Variabel yang diteliti adalah Penerimaan Penggunaan, Persepsi Kegunaan, Persepsi Kemudahan Penggunaan dan Sikap Penggunaan. Analisis data menggunakan software Smart PLS untuk mengukur data dengan auto coding. Temuan penelitian ini menunjukkan bahwa seluruh hipotesis yang digunakan dalam penelitian ini diterima dengan hasil uji reliabilitas dengan Cronbach's Alpha. Penerimaan Penggunaan (0,730), Persepsi Kegunaan (0,877), Persepsi Kemudahan Penggunaan (0,887) dan Sikap Penggunaan (0,894). Persepsi kemudahan penggunaan berpengaruh positif dan signifikan terhadap persepsi kegunaan difusi elektronik. Persepsi kemudahan penggunaan berpengaruh positif dan signifikan terhadap sikap penggunaan infiltrasi elektronik. Persepsi kegunaan berpengaruh positif dan signifikan terhadap sikap penggunaan infiltrasi elektronik. Persepsi kegunaan berpengaruh positif dan signifikan terhadap penerimaan infiltrasi elektronik. Sikap terhadap teknologi ini secara positif dan signifikan memengaruhi penerimaan resep elektronik. Kegunaan yang dirasakan memediasi pengaruh persepsi kemudahan penggunaan terhadap sikap difusi elektronik. Kemudahan penggunaan mempengaruhi kegunaan infiltrasi elektronik. Persepsi kemudahan penggunaan berpengaruh positif dan signifikan terhadap sikap penggunaan infiltrasi elektronik. Implikasi dari penelitian ini hanya menganalisis penerimaan resep elektronik dengan menggunakan model extended TAM. Diharapkan ada penelitian lebih lanjut dengan menggunakan alat dan pendekatan lain.

***Kata kunci**: resep elektronik, manajemen rumah sakit, penerimaan bagi pengguna, model tam*

ABSTRACT

This study aims to analyze the implementation of electronic prescription acceptance among users who apply the extended TAM model. The method used in this research is causal research with a quantitative approach. The number of samples used was 74 respondents. Determination of the sample using a simple random sampling technique. It is a technique that can reduce bias in research. The variables studied are Acceptance of Use, Perception of Usability, Perception of Ease of Use, and Usage Attitude. Data analysis uses Smart PLS software to measure data by auto coding. The findings of this research show that all hypotheses used in this research are accepted by the reliability test results with Cronbach's Alpha. Acceptance of use (0.730), Perception of Usability (0.877), Perception of Ease of Use (0.887), and Usage Attitude (0.894). Perceived ease

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of use has a positive and significant effect on the perceived usefulness of electronic diffusion. Perceived ease of use positively and significantly affects attitudes towards using electronic prescription. Perceived usefulness positively and significantly affects attitudes towards using electronic prescription. Perception of usefulness positively and significantly affects the acceptance of electronic prescription. This attitude towards the technology positively and significantly affects the acceptance of electronic prescription. Perceived usefulness mediates the influence of perceived ease of use on electronic diffusion attitudes. Ease of use influences the usefulness of electronic prescription. Perceived ease of use positively and significantly affects attitudes towards using electronic prescription. The implications of this research only analyze the receipt of electronic prescriptions using the extended TAM model. It is hoped that further research will be conducted using other tools and approaches will be conducted.

Keywords: electronic prescribing, hospital management, acceptance for users, tam model

INTRODUCTION

Electronic prescription writing is a new policy implemented in hospital services [1]. One of the goals is to make it easier for the public to receive services. It is also a breakthrough in management and can take advantage of digitalization [2]. Acceptance of the use of electronic prescriptions also needs to be considered. Besides being able to influence patient confidence psychologically, it is also considered very effective for implementation in hospitals [3]. Plus, the perception of usefulness also provides a positive response because it can prevent errors in prescribing medication to doctors [4]. Meanwhile, the perception of ease of use has a good impact on hospital management in making electronic prescriptions, which can minimize the use of much paper [5]. Furthermore, the attitude towards using electronic prescriptions is also able to provide a positive response because of the perceived usefulness [6]. This condition is also in line with the Industrial Revolution Era 4.0, which encouraged the development of information technology, including in the health sector [7]. The use of health information technology in the healthcare industry is critical for patients, healthcare providers, policymakers, payers, and customers. Information technology helps provide the possibility to improve the quality of health services and treatment, as well as increase the productivity and effectiveness of programs. Plus, it can reduce organizational costs in health and treatment centres, especially in hospitals. Digitalization of health services in improving patient care standards [8].

Thus, electronic prescriptions are very important in encouraging accelerated hospital administrative management. Additionally, the prescribing process is one of the common challenges the current field of public health policy has faced [9]. Prescribing is an important tool physicians use (e.g., nurse practitioners, pharmacists, physicians, and physician assistants) [10][11] . Prescribing medication can intervene in patients and provide direction in treating, healing and preventing disease [11]. When prescribing, physicians must use professional judgment and follow professional standards to ensure patient safety and treatment [12]. It is important that the prescriber clearly defines the right patient, the right treatment, the right dose, the right duration, and the right route. Otherwise, potential harm may occur to the patient; if serious, it can be fatal. Traditionally, prescriptions are written by hand or by fax. Therefore, illegible prescriptions increase the risk of medication errors [13].

In some countries, Al-Worafi stated that electronic prescriptions have become an advancement that hospitals must implement to make things easier for patients and administration [10]. One is in Singapore, all hospitals have utilized digital technology for all services to provide patient information [11]. This condition is considered necessary in the form of globalization and encouraging digitalization and digital literacy in hospital

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services for sustainable development [16]. The same thing has also been implemented in European countries where hospital administration services are focused on digital openness, including providing electronic prescriptions to patients [17][18]. Dean et al. say that the aim is to prevent errors that could pose a risk to patients in the hospital [4]. However, it is different in Pakistan; electronic prescribing still needs to be implemented comprehensively in hospital services because the influencing factor is the level of education in the community, which still needs to be improved [19]. Data shows that health services in India still need to improve in public services. Prescription errors are the main cause (70%) affecting the safety and quality of patient health [4]. A study in a teaching hospital concluded that 4 prescribing errors per 1000 prescriptions could harm patients [20]. Added meta-analysis studies also noted variations in ~~recipe~~ prescription errors, ranging from 2 to 514 per 1,000 prescriptions, and their impact on 4.2 to 82% of patients [21]. In Indonesia, several hospitals have started providing electronic prescriptions; this condition is considered very effective and efficient in good hospital management.

One of the efforts to overcome recipe writing errors is the implementation of an electronic prescribing system (*e-prescribing). E-prescribing* is a drug prescribing system that utilizes software designed to simplify the steps in giving drug prescriptions, starting from writing prescriptions (*prescribing*), reading prescriptions for the dispensing process (*transcribing*), preparing to hand over drugs by officers (*dispensing*), the process of using drugs (administration), to the monitoring process [22]. Electronic prescriptions are also needed to increase the compliance of the Doctor in Charge of Patients (DPJP) with the Hospital Formulary. Electronic prescriptions play a role in increasing *medication safety* in the prescribing process [23]. Electronic prescribing systems are used in many countries and show many benefits for patient care, including ease of access, flexibility, time savings for patients and pharmacists, increased drug availability, better control over drug delivery, and improved patient safety [24].

The various benefits of electronic prescribing systems can be considered for hospitals to implement as part of their services. One of the hospitals that has recently implemented an electronic prescription system is one of the hospitals in Central Java province. This Hospital is the second regional general hospital in Central Java province and is a type C hospital. This Hospital is still relatively new in implementing electronic prescribing. The application of a system by a hospital is not always acceptable or adopted by various groups of health professionals in the hospital. Examining user attitudes towards electronic prescribing systems has proven beneficial, as clinical software systems can lead to new types of errors when prescribers have difficulty implementing them [25]. The implementation of e-prescribing in one of the hospitals in Central Java province has also not been fully accepted by doctors and the pharmacy department. At the beginning of its implementation, even though socialization had been given, some doctors asked nurses for help in operating e-prescribing and inputting the required forms and prescriptions.

The results of initial observations with doctors and pharmacists in the emergency room found that although there were positive sides, there were still obstacles in its operation [26]. The obstacle is related to the computer network. If there is a problem, e-prescribing cannot run properly [27]. Another obstacle is that it is sometimes slow because the e-prescribing system takes the whole thing, so it takes a long time to load, especially on devices that lack support. The positive aspect related to prescribing is the clarity related to the prescribed drug so that there are no misreadings from the prescriber or the prescription reader. The negative is that the doctor has to adjust the medication that must be prescribed to the availability of the drug in the system [28]. For example, in paracetamol drugs, not all drug brands are available, so we have to adjust the availability of drugs if there is no brand that can be prescribed. Sometimes, we know the generic drug but don't know what brand is available, so it takes a long time to search for the

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drug's available brand. Another obstacle is related to treatment. In manual prescription, there is a treatment package, but if you use an electronic prescription, it must be re-described one by one, so it takes longer. In addition, in the prescription of buyer drugs, the prescribing orders are relatively complicated, making the prescription of buyer drugs longer [29].

Initial observations show that various responses related to e-prescribing were carried out in one of the hospitals in Central Java province. There are different obstacles in each section, so the acceptance of the e-prescribing system is also different. In this regard, an evaluation of the acceptance of electronic prescribing needs to be carried out. Therefore, the purpose of this study was to analyze the acceptance of electronic prescriptions based on the technology acceptance model in one of the hospitals in Central Java province. Carr-Hill says that with the hope of knowing public satisfaction from using electronic prescriptions that have been carried out [30]. Therefore, it is important to maximize the use of electronic technology in providing public services to make them easier and more effective. Thus, this research aims to analyze the implementation of electronic prescription acceptance among users who apply the extended TAM model, especially one hospital in Central Java.

METHODS

This research uses quantitative research methods with a causal research approach. Causal research investigates the cause-and-effect relationship between two or more variables. The data for this research are from all doctors and pharmacy departments, totaling 43 doctors, 14 pharmacists, and 17 pharmacist assistants, so the total population is 74 respondents. This research uses ~~saturated~~ simple random sampling, where all population members are used as research samples [31]. The research sample criteria are as follows: Inclusion criteria are used to select respondents who have worked at this hospital for at least one year and are willing to become respondents. The exclusion criteria were doctors and hospital pharmacists who could not attend due to illness or study assignments. This research was carried out for one full month, that is, in March 2024, at the Bung Karno Regional General Hospital (RSUD) Surakarta, with Ethics Approval Letter Number "159/EC-KEPK FKIK UMY/III/2024". The variables studied are Acceptance of Use, Perception of Usability, Perception of Ease of Use, and Usage Attitude. The data instrument uses a Google form to distribute questionnaires to 74 respondents to measure statement variables based on electronic prescriptions applied to hospital patients for the data analysis method using Smart PLS software. Smart PLS was chosen as a method of data analysis known as soft modeling because it eliminates regression assumptions such as multivariate normality and the absence of multicollinearity between exogenous variables [32]. Plus, Smart PLS can carry out automatic coding in visualizing found data. Smart Partial Least Square (PLS) is also a method that can be used as an alternative *Modeling Structural Equations***,** designed to handle situations where variables are complex, data distribution is not normal, and the number of data samples is limited (less than 100 samples) [33].

RESULT

Description of Respondent Profile Data

The respondents in this study were doctors and the pharmacy department at one of the hospitals in Central Java province, with a total of 74 respondents, and all were given questionnaires. The questionnaires that were returned and could be processed were 72 questionnaires.

The profiles of the respondents included in this study were gender, age, last education, and employment period. The results of the respondent profile research can be described in the following table:

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Tabel 1. Frequency Distribution of Respondent Profiles

Number	Profile	n	%
1.	**Gender**		
	Men	17	23,6
	Woman	55	76,4
	Total	72	100,0
2.	**Age**		
	≤ 30 year	19	26,4
	31 – 40 year	31	43,1
	41 – 50 year	13	18,1
	> 50 year	9	12,5
	Total	72	100,0
3.	**Last Education**		
	D3	18	25,0
	S1	14	19,4
	Profesi	16	22,2
	Sp1	19	26,4
	S2, Sp1	4	5,6
	S3, Sp1	1	1,4
	Total	72	100,0
4.	Working Period		
	≤ 1 year	3	4,2
	1 – 2 year	22	30,6
	2 – 3 year	7	9,7
	> 3 year	40	55,6
		72	100,0

Source: Data analysis, (2024)

~~Table 3~~ Tabel 1 showed that based on gender, most of the respondents are women, namely 55 respondents (76.4%). Based on age, most of the respondents were 31-40 years old, namely 31 respondents (43.1%), and at least > 50 years old, namely nine respondents (12.5%). Based on the last education, most of the respondents had an education of Sp1, namely 19 respondents (26.4%), and at least S3, Sp1, namely one respondent (1.4%). Based on the length of service, most of the respondents had a working period of > 3 years, namely 40 respondents (55.6%), and at least ≤ 1 year, namely three respondents (4.2%).

Measurement Model Evaluation

Evaluation of the measurement model was carried out using convergent validity, discriminant validity, and reliability tests.

Convergent Validity Test

The results of *convergent validity* tests can be described in the following table:

Table 2. *Convergent Validity Test Results*

Number	Variable	*Factor Loading*	AVE
1.	**Perception of Ease of Use**		0,640
	PKP1	0,781	
	PKP2	0,862	
	PKP3	0,836	
	PKP4	0,827	
	PKP5	0,764	
	PKP6	0,720	
2.	**Perception of Usability**		0,620
	PK1	0,791	

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Number	Variable	*Factor Loading*	AVE
	PK2	0,760	
	PK3	0,802	
	PK4	0,751	
	PK5	0,837	
	PK6	0,780	
3.	**Usage Attitude**		0,540
	SKP1	0,737	
	SKP2	0,722	
	SKP3	0,748	
	SKP4	0,727	
	SKP5	0,735	
	SKP6	0,724	
	SKP7	0,746	
	SKP8	0,732	
	SKP9	0,744	
4.	**Acceptance of Use**		0,649
	PEN1	0,820	
	PEN2	0,825	
	PEN3	0,772	

Source: Data analysis, (2024)

Description:

1. Perception of Ease of Use (PKP)
2. Perception of Usability (PK)
3. Acceptance Usefulness Attitude (SKP)
4. Acceptance (PEN)

Tabel 2 showed that all latent construction indicators have a *factor loading* value > 0.7. This indicates that all indicators for all latent constructs meet the convergence validity criteria. This can also be seen from the AVE value for all latent constructs, which is more than 0.5, with the lowest AVE value of 0.540 in the attitude construct towards the use of electronic prescribing.

Discriminant Validity Test

The *discriminant validity* test was carried out by looking at *the cross-loading* and *heterotrair-monotrait ratio* (HTMT) values. The *value of cross-loading* can be described as follows:

Table 3. Cross *Loading Values*

	Acceptance of Use	Perception of Usability	Perception of Ease of Use	Usage Attitude
PEN1	0,820	0,344	0,263	0,514
PEN2	0,825	0,497	0,207	0,448
PEN3	0,772	0,241	0,232	0,512
PK1	0,344	0,791	0,295	0,232
PK2	0,250	0,760	0,277	0,255
PK3	0,471	0,802	0,287	0,258
PK4	0,399	0,751	0,287	0,411
PK5	0,288	0,837	0,294	0,267
PK6	0,338	0,780	0,374	0,327
PKP1	0,133	0,270	0,781	0,352
PKP2	0,270	0,383	0,862	0,402
PKP3	0,139	0,197	0,836	0,239
PKP4	0,234	0,248	0,827	0,400
PKP5	0,326	0,361	0,764	0,229
PKP6	0,262	0,357	0,720	0,205

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	Acceptance of Use	Perception of Usability	Perception of Ease of Use	Usage Attitude
SKP1	0,283	0,274	0,380	0,737
SKP2	0,336	0,268	0,373	0,722
SKP3	0,384	0,178	0,187	0,748
SKP4	0,398	0,144	0,178	0,727
SKP5	0,523	0,279	0,284	0,735
SKP6	0,492	0,425	0,260	0,724
SKP7	0,423	0,285	0,382	0,746
SKP8	0,570	0,279	0,158	0,732
SKP9	0,515	0,291	0,377	0,744

Source: Data analysis, 2024

Table 3 showed that all indicators have a *cross-loading* value of more than 0.7. In addition, the *cross-loading* values of all these indicators are also higher than the *cross-loading* values of indicators with other constructs in the model. Based on the *cross-loading* value of more than 0.7 and the value greater than the *cross-loading* value against other constructs, it is concluded that all indicators have met *the discriminant validity*.

Reliability Test

The reliability test was carried out using Cronbach's Alpha and *Composite Reliability* (CR). The results are described as follows:

Table 4. Reliability Test Results

Number	Variable	Cronbach's Alpha	CR
1.	Acceptance of Use	0,730	0,847
2.	Perception of Usability	0,877	0,907
3.	Perception of Ease of Use	0,887	0,914
4.	Usage Attitude	0,894	0,914

Source: Data analysis, (2024)

Tabel 4 showed that all latent constructs have Cronbach's Alpha and *Composite Reliability* (CR) values greater than 0.7. Based on this, it is concluded that all latent constructs in the research model are reliable.

Structural Model Evaluation

The structural model in this study was evaluated by looking at the R-square value in the endogenous construct and *the effect size* value of f2.

R-square evaluation

In this study, there are three endogenous constructs, namely perceived *usefulness*, attitude toward the use of electronic prescriptions, and acceptance of the use of electronic prescriptions. The R-square value of the acceptance construct for the use of electronic prescribing is 0.428. The value is between 0.33 and 0.67, so it is concluded that the category is medium to high. If we look at the R-square value of the electronic prescription acceptance construct, it can be concluded that the acceptance of electronic prescriptions can be explained by *the perceived usefulness* and attitude towards the use of electronic prescriptions by 42.8%.

The R-square value of the attitude construct towards the use of electronic prescribing was 0.215. The value is between 0.19 and 0.33, so it is concluded to be a weak to medium category. If we look at the R-square value of the construct of attitudes towards the use of electronic prescribing, it can be concluded that attitudes towards the use of electronic prescribing can be explained by *perceived ease of use* and *perceived usefulness* of 21.5%. The R-square value of *the perceived usefulness* construct is 0.150.

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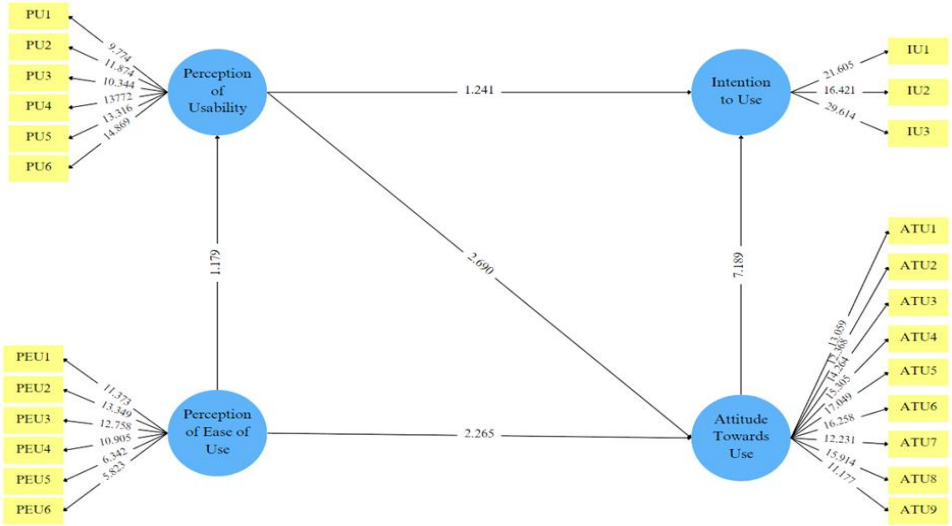
The value is below 0.19, so it is categorized as weak. When looking at the R-square value of *the perceived usefulness* construct, it can be concluded *that perceived usefulness* can be explained by the *perceived ease of use* of 15.9%.

Evaluate Effect Size f2

The evaluation of the f2 effect size in this study was carried out with the aim of determining the magnitude of the influence of an exogenous variable on the endogenous variable. The model of the acceptance construct of electronic prescribing, the *perceived usefulness* construct has an f2 value of 0.101 so that it is in the range of 0.02 to 0.15, so it is concluded that the perceived *usefulness* constructed an effect size value of F2 on the acceptance of the use of electronic prescribing in the weak to moderate category. The attitude construct towards the use of electronic prescribing has an f2 value of 0.390, so it is greater than 0.35, so it is concluded that the attitude construct towards the use of electronic prescribing has an effect size value of f2 on the acceptance of the use of electronic prescribing in the strong category.

Hypothesis Testing

Data analysis for hypothesis testing was carried out using the *bootstrapping* method. The results can be depicted in the following figure:



Source: Data analysis, (2024)

Figure 1. Results of *Structural Equation Model* with Bootstrapping Method

Figure 1 shows that hypothesis testing, perception of usability, intention to use, attitude towards use, and perception of ease of use can all influence each other positively and significantly. This is supported by the TAM model used to test the bootstrapping. The method can be said to be accepted if the resulting number is at least above 0.900. Thus, it can be concluded that giving electronic prescriptions to patients is acceptable in hospitals[34]. This condition is supported by digital developments that have touched all aspects, including health services [35]. The results of the Structural *Equation Model* test using the bootstrapping method can be described in the following table:

Tabel 5. SEM Testing Results of Bootstrapping Method

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P-Values
Ease of Use Perception -> Usability Perception	0,387	0,099	3,913	0,000

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	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P-Values
Perception of Ease of Use -> Usage Attitude	0,291	0,112	2,602	0,010
Perception of Usability -> Usage Attitude	0,266	0,105	2,519	0,012
Perception of Usability -> Acceptance of Use	0,259	0,125	2,070	0,039
Usage Attitude -> Acceptance of Use	0,511	0,086	5,970	0,000
Ease of Use Perception -> Usability Perception -> Usage Attitude	0,103	0,051	2,016	0,044
Perception of Usability -> Usage Attitude -> Acceptance of Use	0,136	0,061	2,224	0,027

Source: Data analysis, (2024)

DISCUSSION

First, this study showed that *perceived ease of use* has a positive and significant effect on *the perceived usefulness* of electronic prescription in one of the hospitals in Central Java province. The results of this study support those of Ivan Rifqi Ramadya, who said that the use of this technology is a means of supporting/encouraging organizations to achieve organizational goals, namely increasing the effectiveness and efficiency of organizational performance [36]. The research by, Himastuti, et al. proves that *perceived ease of use* has no effect on *perceived usefulness*. *Perceived ease of use* can be well received because the public definitely expects perceived ease in accessing public health services [37]. This is also supported by technological developments that have become a human need to access their daily needs. The development of the TAM model applied in health services helps doctors and patients make their activities easier [38].

The perception of high ease of use of a system can influence users to use the system. The existence of a high perception of ease of use will encourage the continuous use of the system because it can provide convenience and speed up work. This causes users to better understand the function and usefulness of the system, thereby increasing the perception of usability [39]. Users will find it easier to get benefits or usability if they feel that using the application does not require much effort [40].

Based on these findings, the ease of the electronic prescribing system will have a psychological impact on its users and stimulate them to continue using it. When users feel that a system can be used easily, they will usually have a more positive view of it and tend to perceive it as a useful tool. This can reinforce the belief that the system is useful, as users will see ease of use as a key indicator of its usefulness. Additionally, if users find an electronic prescribing system easy to use, they are more likely to use the system more often and are more willing to explore its features. This will increase users' understanding of the benefits provided by such electronic prescribing systems, which will ultimately strengthen their confidence in the usefulness of the system.

The user's perception of the ease of use of the electronic prescribing system will also increase the user's confidence in using the system. Users do not feel anxious or worried about technical difficulties or errors that may occur. This perception helps to reduce uncertainty and increase user confidence in the ability of electronic absorption to meet their needs and goals.

Along with more frequent use, users will feel the benefits of using an electronic prescribing system to increase work productivity. Users can access information or perform tasks more efficiently and quickly. This directly contributes to the perception of

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the usefulness of such electronic prescription, as users see it as a tool that helps increase their productivity.

Second, This research shows that perceived ease of use has a positive and significant effect on attitudes towards the use of electronic prescriptions in one hospital in Central Java Province. The better the perceived ease of use, the better the attitude towards the use of electronic prescriptions. Another supporting reason is that e-prescribing system provides prescribing drugs electronically that can be a stand-alone system or be integrated with Electronic Health Records (EHRs) system. The main advantage of using an E-Prescribing system is to increase patient safety, meanwhile, the biggest barriers and challenges are it's cost-related and adaptation by health facilities and related health workers [23, 24, 25, 26, 27].

Perceived ease of use can improve attitudes towards the use of technology because the perception of ease of use allows individuals to identify new technologies, procedures, and services to get the job done better [46]. When individuals find the use of electronic absorption easy, they tend to have a more positive attitude toward their use. This is due to the perceived convenience and efficiency when using the technology.

The perception of ease of use can also reduce the fear and uncertainty that users may experience with new technologies. When users feel that the use of technology does not require great effort or special skills, they will be more likely to form a positive attitude toward it. In addition, a positive user experience, especially as it relates to ease of use, can reinforce a positive attitude towards the use of electronic absorption. Users who have a pleasant and hassle-free experience while using technology will be more likely to recommend it to others.

Third, this study shows that *perceived usefulness* has a positive and significant effect on attitudes toward the use of electronic prescription in one of the hospitals in Central Java province. The better the *perceived usefulness*, the better the attitude toward the use of electronic prescription. The results of this study support the results[41]–[45].

The perception of usability represents a person's belief that a new technology can improve its performance. Belief in the benefits felt by individuals tends to influence the use of technology. The perceived usability plays an important role in predicting user attitudes towards technology. The perceived usefulness can be an important factor in predicting whether the use of information technology will be accepted or rejected.

When users feel that the use of electronic absorption will provide significant benefits in improving performance or meeting needs, then users tend to have a more positive attitude towards its use. Electronic prescribing in one of the hospitals in Central Java province has been proven to provide quite a lot of benefits, one of which is shortening patient waiting time in pharmaceutical services, minimizing the level of errors in prescribing, and not requiring paper (*paperless*) in prescribing so as to save costs. In addition, in the prescription of drugs that belong to the narcotics and illegal drug class, the use of electronic prescribing will reduce prescription leakage that can be abused by other parties.

Fourth, this study shows that *perceived usefulness* has a positive and significant effect on the acceptance of the use of electronic prescription in one of the hospitals in Central Java province. The results of this study support the results of Gani, et al. [47] the research of Teferi *et al.* [48] obtained the results that the perceived benefits of the electronic prescription system were positively related to the positive perception of doctors 3.31 (95% CI 1.01–12.12). Doctors who found the electronic prescribing system useful for positive perception were 3.31 times more likely than their peers. A possible reason for this is that, since users think the system will be useful, they will most likely have a positive perception. Positive perceptions of doctors will increase acceptance of electronic prescription systems.

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Perceived usefulness is one of the two important elements that influence an individual's tendency to accept new and innovative technologies. *Perceiving user usefulness* on a technology can improve the performance of potential users [47]. Usability perception describes the extent to which users believe that electronic absorption can help them complete tasks or achieve goals more efficiently. When users believe that the use of electronic absorption will improve efficiency, productivity, and performance, they are more likely to accept and actively use the technology.

When users see a clear value in the use of electronic prescription that provides significant benefits for needs or purposes, increasing work efficiency and productivity, users will be more motivated to adopt and use the technology. In addition, a good perception of usability often has an impact on a more positive user experience. Users who feel that e-infiltration provides clear and easy-to-use benefits will be more satisfied with their experience, which in turn will further increase the likelihood of acceptance and use of e-prescribing.

Fifth, this study shows that attitudes have a positive and significant effect on the acceptance of the use of electronic prescription in one of the hospitals in Central Java province. The better the attitude, the better the acceptance of the use of electronic prescription. The results of this study support the results of Intansari, et al. [39]. Attitude refers to the subjective evaluation that an individual has of an object, idea, or behavior. In this context, attitudes reflect the individual's tendency to feel positive or negative towards the use of electronic prescribing.

Users who have a positive attitude towards electronic absorption tend to use the device more effectively. They are more likely to explore the available features and make optimal use of them to achieve their goals. A positive attitude towards electronic prescription can also improve overall user satisfaction. Users who are satisfied with the use of the device tend to become loyal users and recommend the technology to others.

A positive attitude towards the use of electronic diffusion tends to increase the intention to use. If a person has a positive attitude towards the use of electronic prescription, they are more likely to intend to use the technology. Intended use is an important step before the actual use of electronic prescribing technology. A positive attitude towards electronic prescription, with the intention of use, tends to encourage users to start using the device actively and productively. They will be more motivated to integrate this technology into their work or daily life routines.

Sixth, this study shows that *perceived usefulness* mediates the influence *of perceived ease of use* on attitudes towards the use of electronic prescription in one of the hospitals in Central Java province. The results of this study support the results of Lee, et al.[49]. The perception of usability influences attitudes toward the use of electronic absorption by considering the rational value of such use. When users believe that electronic prescription can provide significant benefits in achieving goals or solving problems, they tend to have a more positive attitude toward the use of the technology. This perception results from a better understanding of the concrete benefits provided by electronic prescription, which can be influenced by the perception of ease of use.

The perception of ease of use can strengthen users' confidence in their ability to use electronic infusions. When users feel that they can easily master the system, they tend to feel more confident in their ability to use the technology effectively. This belief influences a positive attitude towards the use of electronic prescription, as users feel better able to overcome potential obstacles or challenges that may arise in the process of use.

Seventh, this study shows the attitude of mediating the influence *of perceived usefulness* on the acceptance of the use of electronic infusion in one of the hospitals in Central Java province. When users think the system will be useful, they are more likely to have a positive perception. Positive perceptions of doctors will increase acceptance

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of the electronic prescription system. The influence of *perceived usefulness* on the acceptance of technology use is evidenced by the research of Gani, et al.[47].

The psychological process underlying the influence of attitudes as a mediator involves feelings and beliefs related to technology use. Therefore, taking advantage of developments in digitalization in providing electronic prescriptions to patients is important to prevent errors in administering medication and facilitate services for hospital management. Plus, technological developments are very fast, touching various aspects of services to the public. Thus, implementing electronic prescriptions in hospitals is a new alternative that must be supported to increase digital literacy in the 4.0 era for patients. This condition is also considered very effective and efficient in hospital management services [50].

CONCLUSION

Positive attitudes reflect a positive evaluation of an electronic prescribing technology based on perceptions of its usefulness, which ultimately influences the decision to accept or use the e-prescribing technology. It is important to carry out hospital management so that it can self-correct and improve features that users consider lacking. This is expected to increase user perceptions of the ease and usefulness of electronic prescribing as well as improve user attitudes towards electronic prescribing, which will ultimately increase acceptance of the use of electronic prescribing. Electronic prescription users can also explore all the features available in other electronic services at the hospital, especially understanding how to operate the electronic prescription system. One of the concrete advantages is that it can increase perceptions of the ease and usefulness of electronic prescribing, thereby increasing attitudes and acceptance of the use of electronic prescribing. This research implies that it only analyzes the use of electronic prescriptions for patients by focusing on the variables used, *such as perception of usability, perception of ease of use, and usage attitude.* It is hoped that future researchers can conduct research from a different angle regarding the acceptance of electronic prescriptions by adding other factors such as organizational culture, management support, information technology infrastructure, and training.

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