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by Electronic Medical Records Implementation At Soera Atma

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Electronic Medical Records Implementation at Soeradji Tirtonegoro Hospital, Klaten, Indonesia

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Abstract

Soeradji Tirtonegoro Central General Hospital uses electonic medical records (EMRs) to accelerate technological transformation in the health sector. However, the completeness of EMRs in the outpatient clinic was only 74.3% in June 2022, falling short of the 100% service standard. This study aims to analyze the factors contributing to the implementation of EMRs at Soeradji Tirtonegoro Central General Hospital. This study used a quantitative analytical approach with a cross-sectional design, adapted from the Model for Mandatory Use of Software Technologies (MMUST). A total of 108 respondents participated in this study, including doctors, nurses, midwives, and medical records clerks. Data analysis was carried out using SmartPLS 3.2.9 with the PLS-SEM technique. This study found a significant relationship between information quality and information satisfaction with a t-value of 10.377. This study also found significant relationships between information satisfaction and performance expectations (t = 5.711) as well as performance expectations and attitudes (t = 6.063). In addition, social influence influenced performance expectations (t = 2.660), while facility conditions influenced attitudes (t = 2.145). Meanwhile, attitudes influenced overall satisfaction (t = 26.209), while overall satisfaction influenced net benefits (t = 10.876). However, this study found no significant relationships between attitudes and usage (t = 0.367) as well as usage and net benefits (t = 1.393). In conclusion, the exogenous variables influenced the endogenous variables despite the fact that two relationships between variables were not significant. It is recommended that future research modifies the model by adding control variables to account for confounding factors such as work schedules.

INTRODUCTION

The Regulation of the Minister of Health of the Republic of Indonesia No. 21 of 2020 concerning the strategic plan of the Ministry of Health during the 2020-2024 period emphasizes the necessity to transform the governance in health development, which is followed by the integration of information system, research, and health development (Ministry of Health of the Republic of Indonesia, 2020). Integrating information technology into the health sector constitutes a pivotal step towards achieving integrated health services, resulting in faster and more accurate information sharing. In addition, the use of information technology in the health sector can promote better health planning through e-planning, e-budgeting, and e-monitoring (Sudra, 2021).

The role of information technology in the health sector has gained particular attention from the government as stated in the blueprint for the 2024 digital health transformation strategy, pla-

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cing technological transformation in health as a priority (Ministry of Health of the Republic of Indonesia, 2021). The initial stage of technological transformation in health involves the integration of health information systems and the development of big data analytics in health. The integration of health information systems is required in both primary healthcare facilities and advanced referral healthcare facilities. As medical records are kept manually, with the transformation of information technology, the practice of keeping manual medical records will transition to electronic medical records (EMRs). In addition, the integration of health information systems will reduce medical errors, improve cost efficiency and effectiveness, and support decision-making processes, which ultimately lead to better quality of health services (Deharja et al., 2020). EMRs and other technological innovations in the health sector are expected to bring considerable benefits to healthcare facilities (Krismadinata et al., 2018) in terms of economic and clinical aspects as well as easy access to information (Tiorentap, 2020).

A previous study conducted in June 2022 showed that the implementation of EMRs was faced with problems concerning the quality of information. Among these problems were the lack of integration of EMR support services in hospitals and the non-compatibility of certain EMR features with existing devices, such as the absence of an upload menu for other healthcare support facilities. The quality of information significantly influences the satisfaction of information recipients, which subsequently influences the performance expectations and attitudes of EMR users (Alfathia et al., 2020).

Meanwhile, in terms of social influence, the problem was the uneven dissemination of a circular concerning the implementation of EMRs to all users. As a result, several users had not fully implemented EMRs because they were not considered mandatory. Social influence significantly influences performance expectations, while performance expectations influence attitudes toward the use of information systems (Santoso et al., 2017).

Another preliminary study found other problems concerning the facility conditions. For example, the layout of the outpatient clinic delayed nurses in filling out EMRs as they had to repeatedly enter and exit examination rooms. Network problems also hindered the process of sending prescriptions to pharmacies or retrieving supplementary data from other healthcare support facilities, which subsequently influenced the completeness of patient data. In addition, several healthcare facilities did not have a scanner to upload the supplementary data. Therefore, better facility conditions resulted in better attitudes toward the use of information systems (Andriani et al., 2017).

The current completion rate for EMRs within a 24-hour timeframe in the outpatient clinic at Soeradji Tirtonegoro Central General Hospital was at 74.3%. In fact, the minimum service standard for the completion of medical records in hospitals is 100% within a 24-hour timeframe (Jepisah et al., 2021). In other words, the completion of EMRs at Soeradji Tirtonegoro Central General Hospital has yet to meet the standard. Given the importance of EMRs in ensuring data quality in providing health services to patients and as a basis for digital health transformation into an integrated national big data system in healthcare, it is necessary to conduct a study which analyzes the factors influencing the successful implementation of EMRs at Soeradji Tirtonegoro Central General Hospital.

Many models are available for evaluating information systems. Among them is the Technology Acceptance Model (TAM), which is recognized for its ability to explain user acceptance of a system (Syahril & Rikumahu, 2019). However, the TAM model falls short of explaining two key factors, namely usefulness and ease of use. TAM relies on users' voluntary intention, making it less applicable to the mandatory use of information systems (Koh et al., 2010). Current research has not focused on analyzing the difference between mandatory and voluntary information systems in terms of acceptance and use (Mutmainnah, 2017). The Model for Mandatory Use of Software Technologies (MMUST) is a detailed model used to analyze the relationship between the acceptance and use of mandatory applications with the benefits brought by an information system (Alfathia et al., 2020). The MMUST was considered appropriate for the context of this study, namely a government hospital. Therefore, this study aims to analyze the implementation of EMRs in terms of exogenous variables, namely information quality, social influence, and facility conditions, as well as endogenous variables, namely information satisfaction, performance expectations, attitudes, usage, overall satisfaction, and net benefits adapted from the MMUST.

METHODS

This study used a quantitative analytical approach with a cross-sectional design. A total of 147 respondents participated in this study, including doctors, nurses, midwives, and medical

records clerks at the Integrated Outpatient Clinic of Soeradji Tirtonegoro Central General Hospital, Klaten, Indonesia. A sample size of 108 respondents was determined using the Slovin's formula with an □-value of 0.05. The respondents were selected via stratified random sampling based on their professions and EMR user roles. The sampling process was done randomly with proportional allocation in each stratum. Prior to data collection, a validity and reliability test of the questionnaire was conducted, involving a minimum of 30 respondents for a correlational study (Alwi, 2015). Therefore, 38 respondents who were EMR users participated in the validity and reliability tests at Cipto Mangunkusumo National Central General Hospital, Jakarta, Indonesia, which has similar characteristics with Soeradji Tirtonegoro Central General Hospital. Both hospitals are general hospitals managed by the Ministry of Health of the Republic Indonesia and use EMRs in their health services.

The validity test was conducted to assess the convergent and discriminant validities. The convergent validity was met if the factor loading value was above 0.70 and the average variance extracted (AVE) value was above 0.50. In contrast,

Table 1. Validity Test Results

Variable	AVE	Indicator	Factor Loading
Information Quality	0.707	KI1	0.777
		KI2	0.906
		KI3	0.834
Social Influence	0.773	PS1	0.870
		PS2	0.889
Facility Conditions	0.601	KF1	0.705
		KF2	0.840
		KF3	0.786
		KF4	0.770
		KF5	0.839
		KF6	0.701
Information Satisfaction	0.900	KP1	0.942
		KP2	0.955
Performance Expectations	0.782	HK1	0.840
		HK2	0.872
		HK3	0.908
		HK4	0.915
Attitudes	0.764	SP1	0.818
		SP2	0.883
		SP3	0.894
		SP4	0.899
Usage	0.784	PG1	0.875
		PG2	0.895
Overall Satisfaction	0.812	KK1	0.910
		KK2	0.919
		KK3	0.831
		KK4	0.941
Net Benefits	0.693	MB1	0.874
		MB2	0.801
		MB3	0.815
		MB4	0.836
		MB5	0.867
		MB6	0.800

the discriminant validity was assessed by comparing the square root of the AVE (√AVE) for each construct with the correlation values between two constructs within the model (Ghozali, 2021). Meanwhile, a reliability test aims to demonstrate the instrument's accuracy, consistency, and precision in measuring constructs. The test was conducted by measuring the composite reliability in the measurement model using reflective indicators. The constructs were considered reliable if the composite reliability value was above 0.70 (Ghozali, 2021). The results of the validity test are presented in the following Table 1.

Table 1 illustrates that all AVE values are above 0.50 and factor loading values are above 0.7. This suggested that all variables were valid. The results of the reliability test are presented in the following Table 2.

Table 2 illustrates that the Cronbach's alpha and composite reliability values are above 0.7. This suggested that all variables were reliable. Data analysis was conducted using the PLS-SEM technique and the Smart-PLS software version 3.2.9 (Ringle et al., 2015). The analysis began with the assessment of the outer model by analyzing the values of p, convergent validity, discriminant validity, and reliability. Subsequently, the inner model was assessed by analyzing the values of r-squared, q-squared, f-squared, goodness of fit, and two-tailed hypothesis testing. This study included three exogenous variables, namely information quality, social influence, and facility conditions, as well as six endogenous variables, namely information satisfaction, performance expectations, attitudes, usage, overall satisfaction, and net benefits. Facility conditions were modified from the original MMUST and can influence user attitudes, which subsequently influence satisfaction in the use of information systems.

A correlation analysis was conducted to identify the correlation coefficients of the variables. In addition, a graphical path model was adopted to test the hypotheses of the proposed model. The proposed conceptual path model (Figure 1) was developed and tested using the PLS-SEM technique. This figure illustrates the constructs and their influences on the research variables. This figure also validates the fitness of the model for EMRs. In the path analysis, the path coefficients (β) and their corresponding p-values were estimated and presented as indicators of a relationship. In other words, the path coefficients (β) demonstrated a significant relationship between the exogenous and endogenous variables if the p-values were below 0.05. The final conceptual path model is presented in Figure 1.

Table 2. Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability
Information Quality (KI)	0.792	0.878
Social Influence (PS)	0.707	0.872
Facility Conditions (KF)	0.868	0.900
Information Satisfaction (KP)	0.889	0.947
Performance Expectations (HK)	0.907	0.935
Attitudes (SP)	0.897	0.928
Usage (PG)	0.725	0.879
Overall Satisfaction (KK)	0.923	0.945
Net Benefits (MB)	0.911	0.931

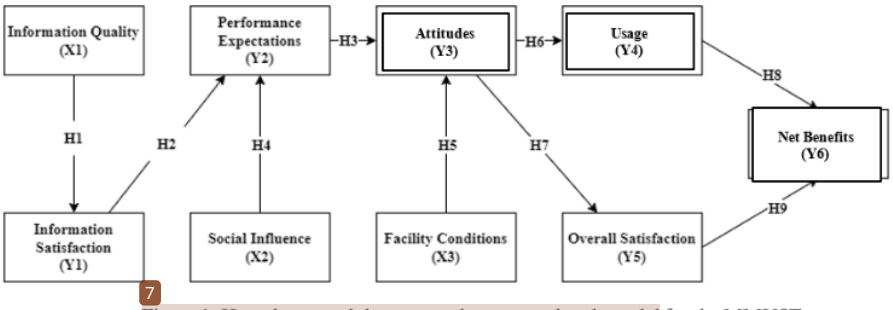

Figure 1. Hypotheses and the proposed conceptual path model for the MMUST

RESULTS AND DISCUSION

The questionnaires filled out by 108 respondents were analyzed. The characteristics of the respondents are presented in Table 3. The variables were summarized based on the research questions and objectives. The summary is presented in Table 4.

Model Specification

Initially, the analysis was conducted to specify the model or estimate the model parameters by creating a path diagram using the SmartPLS software. This diagram was used to illustrate the relationships between the exogenous and endogenous variables, which were determined at the beginning of developing this model. This study included three exogenous variables, namely information quality, social influence, and facility conditions. Meanwhile, six endogenous variables included in this study were information satisfaction, performance expectations, attitudes, usage of information technology, overall satisfaction, and net benefits (Alfathia et al., 2020). The indicators were measured using a Likert scale from one (strongly disagree) to five (strongly agree). The model specification is presented in Figure 2.

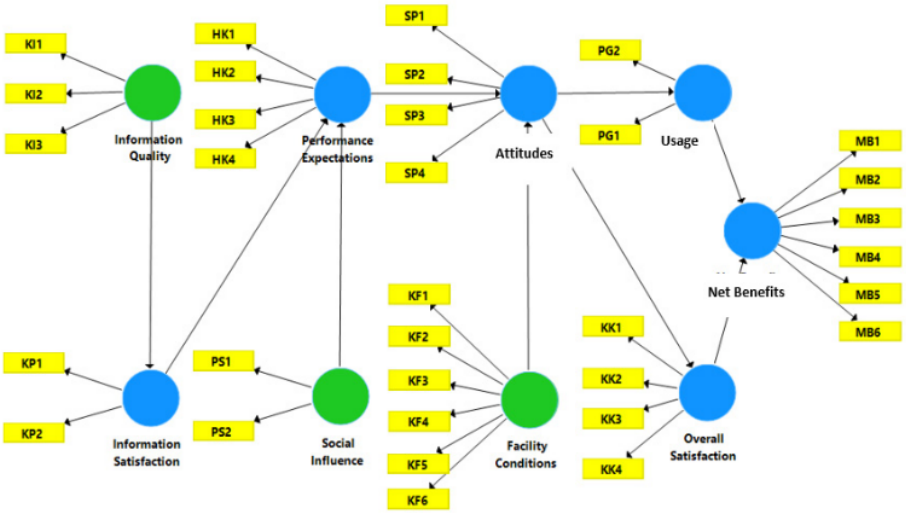

Figure 2. Model Specification

Analysis of the Outer Model

The analysis of the outer model involved three stages. Firstly, the convergent validity was assessed by analyzing the factor loading and AVE values. Secondly, the discriminant validity was assessed by comparing the square root of the AVE values (√AVE) for each construct with the correlation values between two constructs within the model. Thirdly, the reliability test was conducted by analyzing the composite reliability and Cronbach's alpha values.

Table 1 presents the outer loading values for each variable that met the criterion for convergent validity, that is, above 0.70. In addition, the AVE values for each variable were above 0.50, thereby meeting the criterion for convergent validity (Fornell & Larcker, 1981; Ayuningrum & Murti, 2020).

Furthermore, based on the Fornell-Larcker criterion values in Table 4, the square roots of the AVE values for all constructs are higher than the correlation values with their corresponding latent constructs, indicating good discriminant validity of the constructs. Meanwhile, Table 2 presents the results of reliability test where the composite reliability values for all constructs were above 0.70, indicating good reliability of the constructs.

Table 2 also shows that the Cronbach's alpha values for all constructs were above 0.70, indicating good reliability of the constructs. In addition to the Cronbach's alpha, the reliability of a construct can be seen from its composite value.

Analysis of the Inner Model

The analysis of the inner model aims to identify any influences among the measured variables. Figure 3 illustrates a consistent alignment of all path coefficients associated with all constructs. The positive values suggested that all

Table 3. Characteristics of the Respondents

Characteristic	Number of Respondents	Percentage
Male	44	40.74%
Female	64	59.26%
Age Under 25	0	0.00%
Age between 25 and 35	35	32.41%
Age between 36 and 45	46	42.59%
Age above 45	27	25.00%
Midwife	2	1.85%
Doctor	51	47.22%
Nurse	28	25.93%
Medical Records Clerk	27	25.00%

Table 4. Identification of the variables

Variable	Score Calculation	Score Percentage	Category
Information Quality	12.2	81%	Good
Social Influence	7.7	77%	Influential
Facility Conditions	22.4	75%	Good
Information Satisfaction	7.5	75%	Satisfied
Performance Expectations	15.7	79%	High
Attitudes	16.6	83%	Good
Usage	7.4	74%	Often
Overall Satisfaction	16.0	80%	Satisfied
Net Benefits	24.5	82%	Beneficial

variables had positive relationships.

Table 6 presents r-squared (r2) values, where one variable, namely overall satisfaction, fell into the ”strong” category with an r2 value above 0.67. In addition, four variables, namely performance expectations, information satisfaction, net benefits, and attitudes, fell into the ”moderate” category with r2 values above 0.33. Meanwhile, one variable, namely usage, fell into the ”weak” category with an r2 value below 0.25. According to Ghazali (2021), r2 is divided into three categories: above 0.67 indicating a strong influence on the endogenous variable, between 0.67 and 0.33 indicating a moderate influence, and below 0.19 indicating a weak influence.

Performance expectations had an r2 value of 0.357, indicating that information satisfaction and social influence accounted for 35.7% of the variability. The remaining 64.3% was attributed to other constructs beyond the scope of this study. Information satisfaction had an r2 value of 0.399, indicating that information quality accounted for 39.9% of the variability, with the remaining 60.1% attributed to other constructs beyond the scope of this study. Overall satisfaction had an r2 value of 0.710, indicating that attitudes accounted for 71.0% of the variability, with the remaining 29.0% attributed to other constructs beyond the scope of this study. Furthermore, net benefits had an r2 value of 0.532, indicating that usage and overall satisfaction accounted for 53.2% of the variability. The remaining 46.8% was attributed to other constructs beyond the scope of this study. Usage had an r2 value of 0.002, indicating that attitudes accounted for 0.2% of the variability, with the remaining 99.8% attributed to other constructs beyond the scope of this study. Attitudes had an r2 value of 0.471, indicating that performance expectations and facility conditions accounted for 47.1% of the variability, with the remaining 52.9% attributed to other constructs beyond the scope of this study.

The goodness of fit (GoF) value was used to evaluate and measure the overall suitability of the model. The formula used to calculate the GoF value is shown in the following Equation 1:

$$GoF = \sqrt{\overline{AVE}\ X\ \overline{r^2}} \qquad (1)$$

In Table 6, the average AVE value is 0.757, while the average r2 is 0.412. The following step involved calculating the square root of AVE and r2 in the GoF formula.

$$GoF = \sqrt{\overline{AVE}\ X\ \overline{r^2}}$$
$$GoF = \sqrt{\overline{0.757}\ X\ \overline{0.412}}$$
$$GoF = \sqrt{0.312}$$
$$GoF = 0.558$$

The GoF value obtained is 0.558. This suggested that the value met the criterion for high GoF with a minimum of 0.36. Fornell dan Larcker (1981) suggested that a model is considered to have a high GoF if the value is above 0.36, medium if the value is 0.20, and small if the value is 0.10. Therefore, a GoF value of 0.558 suggested that the data were appropriate for the studied model.

Moreover, the calculation of q-squared (q^2) aims to evaluate the range of variability in the research data. The results of the q^2 calculation are as follows:

$q^2 = 1 - [(1-r^2_{HK}) (1-r^2_{KP}) (1-r^2_{KK}) (1-r^2_{MB}) (1-r^2_{PG}) (1-r^2_{SP})]$ (2)
$q^2 = 1 - [(1-0.357) (1-0.399) (1-0.710) (1-0.532) (1-0.002) (1-0.471)]$
$q^2 = 1 - [(0.643) (0.601) (0.290) (0.468) (0.998) (0.529)]$
$q^2 = 1 - 0.028$
$q^2 = 0.972$
$q^2 = 97.2\%$

The q^2 calculation yielded a value of 0.972 or 97.2%, indicating that the model was predictive and relevant.

The f-squared (f^2) value indicates the influence of variables on the constructs with values falling between 0.02 and lower than 0.15 was categorized as small; values falling between 0.15 and 0.35 were categorized as medium influence, and values higher than 0.35 were categorized as large influence.

Table 5. The Fornell-Larcker Criterion Values

	HK	KP	KK	KF	KI	MB	PS	PG	SP
HK	0.884								
KP	0.551	0.949							
KK	0.632	0.397	0.901						
KF	0.614	0.483	0.614	0.775					
KI	0.702	0.632	0.628	0.506	0.841				
MB	0.680	0.414	0.723	0.459	0.710	0.833			
PS	0.389	0.308	0.552	0.442	0.433	0.541	0.879		
PG	-0.036	-0.080	0.038	-0.325	-0.026	0.126	-0.031	0.885	
SP	0.670	0.418	0.843	0.528	0.673	0.781	0.494	0.040	0.874

Table 6. Average Variance Extracted and r-squared Values

Variable	AVE	r^2
Information Quality (KI)	0.707	
Social Influence (PS)	0.773	
Facility Conditions (KF)	0.601	
Information Satisfaction (KP)	0.900	0.399
Performance Expectations (HK)	0.782	0.357
Attitudes (SP)	0.764	0.471
Use (PG)	0.784	0.002
Overall Satisfaction (KK)	0.812	0.710
Net Benefit (MB)	0.693	0.532
Average	0.757	0.412

Hypothesis Testing

The hypothesis testing was conducted by analyzing the significance of the influence of independent variables on dependent variables. A relationship was considered significant if the t-stat was higher than the t-value, the hypothesis was accepted. However, if the t-stat was lower than the t-value, the hypothesis was rejected, with a significance level of 5% corresponding to a t-table or t-value of 1.960.

Table 7 reveals a significant influence of information quality on information satisfaction (t = 10.377 > 1.960). In addition, information quality had a positive correlation with information satisfaction, as indicated by the original sample (O) value of 0.632. These findings suggested that information quality had a positive and significant

Table 7. Hypothesis Test Results of The Research Model

Hypothesis	f^2	Original Sample	t-Value (|O/STDEV|)	p-Value	Conclusion
Information Quality → Information Satisfaction	0.664	0.632	10.377	0.000	H0 Accepted
Information Satisfaction → Performance Expectations	0.319	0.476	5.711	0.000	H0 Accepted
Performance Expectations → Attitudes	0.363	0.555	6.063	0.000	H0 Accepted
Social Influence → Performance Expectations	0.083	0.243	2.660	0.008	H0 Accepted
Facility Conditions → Attitudes	0.041	0.187	2.145	0.032	H0 Accepted
Attitudes → Usage	0.002	0.040	0.367	0.713	H0 Rejected
Attitudes → Overall Satisfaction	2.449	0.843	26.209	0.000	H0 Accepted
Usage → Net Benefits	0.021	0.099	1.393	0.164	H0 Rejected
Overall Satisfaction → Net Benefits	1.104	0.719	10.876	0.000	H0 Accepted

influence on information satisfaction, with an f^2 value of 0.664, which indicates a strong influence. The information quality of medical records was evaluated in terms of their usefulness, quality, and relevance. The quality of information received by the users in their daily services and interactions would increase their satisfaction with the medical records information. This could be seen from the direct provision of medical records information via EMRs.

Information quality was reported to have an influence on information satisfaction in the implementation of EMRs at Gadjah Mada University Academic Hospital, with a path coefficient value of 0.639 and a t-value of 4.934 (Andriani et al., 2017). Similarly, information quality was reported to have an influence on information satisfaction in the implementation of an electronic employee performance report (e-LKP) application at Raden Fatah State Islamic University of Palembang with a path coefficient value of 0.963 and a t-value of 151.456 (Alfathia et al., 2020). In addition, information quality was reported to have an influence on information satisfaction in the implementation of a hospital management information system (HIMS) at Bhakti Husada General Hospital, Banyuwangi with a t-value of 23.165 (Izza et al., 2021).

Table 7 also revealed a significant influence of information satisfaction on performance expectations (t = 5.711 > 1.960). In addition, information satisfaction had a positive correlation with performance expectations, as indicated by the original sample (O) value of 0.476. These findings suggested that information satisfaction had a positive and significant influence on performance expectations, with an f^2 value of 0.319, which indicates a moderate influence. The higher the information satisfaction of the users is, both with the system in general and the information in particular, the higher their performance expectations would be. This could be seen from the easy and quick access to the complete medical history of a patient, which helped the users to provide better health services.

These findings align with research on the implementation of EMRs at Gadjah Mada University Academic Hospital, which reported that information satisfaction influenced performance expectations, with a path coefficient value of 0.540 and a t-value of 5.144 (Andriani et al., 2017). In addition, it was reported that information satisfaction influenced performance expectations in the implementation of the e-LKP application at UIN Raden Fatah Palembang, with a path coefficient value of 0.400 and a t-value of 5.094 (Alfathia et al., 2020).

In addition, Table 7 shows a significant influence of performance expectations on attitudes (t = 6.063 > 1.960). Performance expectations had a positive correlation with attitudes, as indicated by the original sample (O) value of 0.555. These findings suggested that performance expectations positively and significantly influenced attitudes. In other words, an increase in performance expectations would result in an increase in attitudes, with an f^2 value of 0.363, which indicates a strong influence. In other words, high expectations for EMRs in terms of increased productivity and performance would influence positive attitudes towards EMR users in health facilities. This could be seen from the effective provision of medical records and the easy access to patients' laboratory results and other supporting services.

Research has shown that performance expectations influences attitudes towards the

implementation of the e-LKP application at UIN Raden Fatah Palembang, with a path coefficient value of 0.655 and a t-value of 12.988 (Alfathia et al., 2020). Similarly, it was reported that attitudes influenced performance expectations (Dwivedi et al., 2019). In another study, it was reported that performance expectations had a positive influence on attitudes (Alkhowaiter, 2020).

Furthermore, Table 7 presents a significant influence of social influence on performance expectations (t = 2,660 > 1.960). In addition, social influence had a positive correlation with performance expectations as indicated by the original sample (O) value of 0.243. This suggested that social influence positively and significantly influenced performance expectations. In other words, an increase in social influence would lead to an increase in performance expectations. Social influence, such as orders from superiors, organizational policies, or encouragements from colleagues, would influence trust in EMRs and increase performance expectations, with an f2 value of 0.083, which indicates a weak influence. The trust given by organizational leaders or the social environment of EMR users would also increase performance expectations for the use of EMRs. In contrast, low trust and weak influence from the environment due to the lack of seriousness in terms of policy and motivation to use EMRs would lower performance expectations for the use of EMRs.

However, social influence did not have any significant influence on performance expectations in the implementation of a regional health information system (Sistem Informasi Kesehatan Daerah/SIKDA) at Brebes Regional General Hospital, with a path coefficient value of 0.103 and a t-value of 0.678 (Mutmainnah, 2017). Nevertheless, the findings of this study align with other studies which reported that social influence had an influence on performance expectations in the implementation of the E-LKP application at UIN Raden Fatah Palembang, with a path coefficient value of 0.260 and a t-value of 3.746 (Alfathia et al., 2020). Another study that supports this hypothesis reported that leadership style and work motivation positively and significantly influenced employee performance at the Office of the Ministry of Religious Affairs in South Sulawesi Province (Nurlina et al., 2021).

Table 7 displays a significant influence of facility conditions on attitudes (t = 2.145 > 1.960). In addition, facility condition had a positive correlation with attitudes as indicated by the original sample (O) value of 0.187. This suggested that facility conditions positively and significantly influenced attitudes. In other words an increase in facility conditions would lead to an increase in attitudes, with an f2 value of 0.041, which indicates a weak influence. Adequate facility conditions, measured by the state of facilities and the ease of obtaining guidance and assistance, would facilitate the use of EMRs. This could be seen from the availability of personal computers (PCs) in each examination room and nurses' station, the availability of technical guidebooks, and the presence of officers who provided direct assistance to the users. These factors could increase positive attitudes towards the use of EMRs.

Research has shown that facility conditions significantly influenced attitudes towards implementing SIKDA at Brebes Regional General Hospital with a path coefficient value of 0.360 and a t-value of 3.427 (Mutmainnah, 2017). In addition, a study that reevaluated the Unified Theory of Acceptance and Use of Technology (UTAUT) found that attitudes mediated the influence of facility conditions on behavioral intention (Dwivedi et al., 2019).

Subsequently, Table 7 shows that attitudes had no significant influence on usage (t = 0.367 < 1.960). However, attitudes had a positive correlation with usage as indicated by the original sample (O) value of 0.040. This suggested that attitudes influenced usage, although insignificantly. In other words, an increase in attitudes would not result in a significant increase in usage, as indicated by the f2 value of 0.002, which indicates a negligible influence. The use of EMRs at Soeradji Tirtonegoro Central General Hospital is mandatory according to the management's policy. This resulted in the use of EMRs being driven not by attitudes towards the use of EMRs, but rather by the users' predetermined work hours and services.

Usage is not a mandatory variable in research, but rather it is mandatory to use EMRs (Andriani et al., 2017). However, another study showed a different result, where attitudes influenced usage in the implementation of the e-LKP application at UIN Raden Fatah Palembang with a path coefficient value of 0.404 and a t-value of 7.266 (Alfathia et al., 2020).

Table 7 demonstrates a significant influence of attitudes on overall satisfaction (t = 26.209 > 1.960). In addition, attitudes had a positive correlation with overall satisfaction as indicated by the original sample (O) value of 0.843. This suggested that attitudes positively and significantly influenced overall satisfaction. In other words, an increase in attitude would result in an increase in overall satisfaction, with an f^2 value of 2.449,

which indicates a strong influence. Positive attitudes, measured by the way EMRs made work more interesting and enjoyable, would positively influence the users' overall satisfaction. This could be seen from dissemination of information and training programs that maintained positive attitudes of the users towards the use of EMRs.

This study is consistent with previous research showing that attitudes influenced overall satisfaction. Research on the implementation of EMRs at Gadjah Mada University Academic Hospital yielded a path coefficient value of 0.776 and a t-value of 16.353 (Andriani et al., 2017). In addition, research on the implementation of the e-LKP application at UIN Raden Fatah Palembang showed that attitudes influenced overall satisfaction with a path coefficient value of 0.690 and a t-value of 13.122 (Alfathia et al., 2020).

Table 7 shows no significant influence of usage on net benefits (t = 1.393 < 1.960). In addition, usage had a positive correlation with net benefits as indicated by the original sample (O) value of 0.099. This suggested that usage influenced net benefits although the influence was insignificant. In other words, an increase in usage would not lead to an increase in net benefits as indicated by the f2 value of 0.021, which indicates a weak influence. This could be attributed to the mandatory use of EMRs in providing health services at Soeradji Tirtonegoro Central General Hospital, where officers only used EMRs when providing services during their working hours. Therefore, further research is necessary to determine the influence of usage on net benefits with control variables such as officers' working hours and services.

This study aligns with research on the implementation of the e-LKP application at UIN Raden Fatah Palembang, which showed that usage variable influenced net benefits although the influence was insignificant with a path coefficient value of 0.082 and a t-value of 1.083 (Alfathia et al., 2020). Another study suggested that usage variable is not used in research because of the mandatory nature of using EMRs (Andriani et al., 2017). However, research on the relationship between user satisfaction and net benefits of the SIMRS revealed a significant relationship, as indicated by the chi-square test results using the Fisher's exact test with a p-value of 0.001 (Sari et al., 2021).

Finally, Table 7 shows a significant influence of overall satisfaction on net benefits (t = 10,876 > 1.960). In addition, overall satisfaction had a positive correlation with net benefits, as indicated by the original sample (O) value of 0.719. This suggested that overall satisfaction positively and significantly influenced net benefits. In other words, an increase in overall satisfaction would result in an increase in net benefits, with the f2 value of 1.104, which indicates a strong influence. This could also suggest that overall satisfaction with EMR user experience, such as feeling proud and happy, positively influenced net benefits for users and improved the quality of service in the hospital.

This study aligns with a study on the implementation of the e-LKP application at UIN Raden Fatah Palembang, which showed that overall satisfaction influenced net benefits, with a path coefficient value of 0.520 and a t-value of 7.426 (Alfathia et al., 2020). In addition, research on the influence of system quality, information quality, and service quality on net benefits in the information system for student admission (Sistem Informasi Penerimaan Mahasiswa Baru/

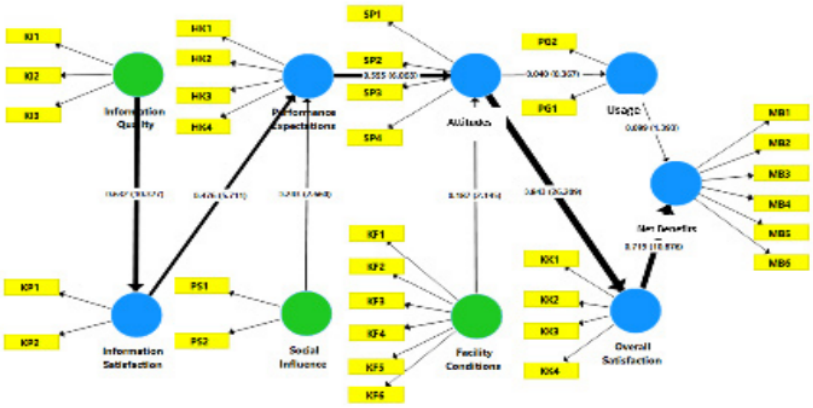

Figure 3. Structural Model Execution (Inner Model)

SI-PMB) showed that user satisfaction positively and significantly influenced net benefits variables with a t-value of 9.294 (Suradi et al., 2021).

CONCLUSION

Data sampling was conducted following the model under investigation as indicated by the Goodness of Fit (GoF) value of 0.558. All exogenous variables were demonstrated to influence the endogenous variables. However, two relationships, namely between attitudes and usage as well as usage and net benefits, were shown to have an influence although it was not significant. Facility condition, which were modified from the MMUST, showed a positive and significant influence on attitudes. Further research is recommended to modify the MMUST by adding control variables to account for confounding factors such as working hours.

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