

Optimizing Filling Completeness Of Electronic Medical Records With Work Engagement As Mediator

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Abstract

Background: In order to meet the 2030 Sustainable Development Goals (SDGs) on the third point of health and welfare, the Soetomo General and Teaching Hospital, as an East Java provincial government hospital that provides national referral health services as well as a tertiary hospital, has a known number of fillings completes EMR has not met the government's aim of 100 % completion by 2020. This is contrary to the Ministry of Health's strategic plan for 2020-2024, which will have an impact on SDG attainment. **Purpose** This study aimed to develop a model for filling in the EMR completeness by the Specialist Medicine Academic Program at the Soetomo General and Teaching Hospital in Surabaya based on the Unified Theory of Acceptance and Use of Technology (UTAUT) through the addition of a work engagement variable as a mediator. **Method:** This was an observational study with a cross sectional research design. A sample of 195 was drawn from a population of 390 physicians of Specialist Physician Education Program using the proportionate random sampling technique. SPSS software can be used to test the validity and reliability. SEM PLS software is used to test the analysis. **Results:** Performance expectancy, effort expectancy, social influence, and facilitating conditions all have an indirect effect on technology use via work engagement, which subsequently had an effect on behavioral intention. Meanwhile, behavioural intention and facilitating conditions had a direct impact on technology use. **Conclusion:** Performance expectancy, effort expectancy, social influence, and facilitating conditions may explain 64% of work engagement, work engagement can explain 70% of behavioral intention, and behavioral intention can explain 61% of technology use.

Keywords: Acceptance and Use Models, Electronic Medical Records, Work Engagement, UTAUT Determinants

1. INTRODUCTION

In Indonesia, computer integration is necessary. This is evidenced by [1] regarding hospital which states "Every hospital is expected to record and

report all hospital operations in the form of Hospital Management Information System". According to article 3 of [2] "every hospital is required to organize HIMS." From this statement, it is clear that HIMS must be

implemented in order for hospitals to give the best possible service to their clients, both internally and externally.

According to data compiled by the Ministry of Health of the Republic of Indonesia through the hospital digitization policy until July 1, 2020, there are several classifications of use from 2,650 hospitals throughout Indonesia, notably hospitals that do not have HIMS in 2019 amounting to 19% of the total 2,650 hospitals in Indonesia in 2019. In 2020, this fell to 11%. Meanwhile, data on hospitals using HIMS in the front and back offices declined from 52% in 2019 to 35% in 2020. Another finding is that hospitals with HIMS but do not use it will account for 3% of all hospitals in 2019 and 2020. However, 30% of hospitals have yet to declare their use classification in 2020 [3].

Based on the information shown above, it is clear that the adoption of HIMS in Indonesia continues to fall short of the provisions in [1] about Hospitals, which state that "every hospital is expected to record and report all hospital operations in the form of Hospitals Management Information System (HIMS)" and Minister of Health Regulation Number 82 of 2013 concerning Hospital Management Information System article 3 further states that "Every hospital is required to organize HIMS" [2].

This could be due to a variety of issues, including HIMS users' lack of understanding of the significance of benefits in promoting the improvement of the quality of integrated health services [4]. The Dr. Soetomo General and Teaching Hospital in Surabaya is one of the hospitals in Indonesia that operates a hospital information system. All transactions can be streamlined through a single entrance. The Dr. Soetomo General and Teaching Hospital Surabaya have implemented EMR, a component of HIMS that should considerably improve the release of both summary and detailed patient medical records. Physicians can readily access patient data using their login credentials.

The readiness of Indonesia's human resources is the most significant factor in fostering growth,

particularly in the field of health information technology. Physicians, dentists, medical students, and other health workers provide the greatest issues and obstacles in the management of medical records. Those who are needed to create medical records do not completely comprehend the benefits and applications of medical records in health care facilities and private practices. So that medical records are incomplete, ambiguous, and not current. This poses complications in the future if a Physician or healthcare worker omits or makes an error that causes harm to a patient, leading in a lawsuit. While the medical record is crucial to a case's analysis as the primary correct evidence [5].

2. THEORITICAL FRAMEWORK

The consideration of researchers utilizing the UTAUT theory was based on the fact that this method was the most widely used in research pertaining to the use of information system technology in health care facilities, the results of which indicated that performance expectancy, effort expectancy, social influence, and facilitating conditions have a high level of acceptance of the use of information system technology in research [6]; [7]; [8]. UTAUT has the advantage of explaining 70% of the variance in behavioral intentions and around 50% of the variance in actual use [9]; [10]; [11]; [12].

In evaluating the utilization of information system technology, the UTAUT model [13] did not consider work engagement. The researchers therefore attempted to employ the work engagement variable as a new endogenous mechanism for UTAUT extensions or mediating variables that influence behavioral intention and technology use in completing electronic medical records at Dr. Soetomo General and Teaching Hospital in Surabaya. This is based on the findings of prior research indicating that work involvement partially influences behavioral intent [14]; [15]; [16] [17]. Work engagement can also effect the utilization of technology in electronic health records. [18]; [19]; [20]; [21]; [22]; [23].

Through investigation of the topic, it is hoped that a new model can be discovered that can explain the completeness of EMR filling at Dr. Soetomo General and Teaching Hospital, Surabaya. This study intends to construct a model for filling out the EMR by Physicians in outpatient general and teaching hospital of Dr. Soetomo Surabaya based on the Unified Theory of Acceptance and Use of Technology (UTAUT) through the addition of work engagement variables as mediators.

3. MATERIALS AND METHODS

Participants and Procedures

This was an example of observational research. This study used a cross-sectional design, meaning that all data are collected over a single time period. The study was conducted in Surabaya, Indonesia, at the outpatient General and Teaching Hospital of Dr. Soetomo. As many as 499 physician of specialist medicine academic program on duty in outpatient units who filled out electronic medical records comprised the study's population. Samples were gathered using proportional random sampling procedure 194. Dr. Soetomo's inclusion criteria were physicians of specialist medicine academic program who were willing to serve as respondents and who had expertise using EMR in outpatient general and hospital settings. Sick, absent, and resigned respondents were removed. This study focused on the four outpatient units with the greatest number of physician's specialist medicine academic program, namely pediatric units, obstetrics and gynecology, general surgery, and urologic surgery. With Letter of Exemption number 0146/LOE/301.4.2.X/2020, the general and teaching hospital of Dr. Soetomo Surabaya, Indonesia, has granted ethical approval for this study.

Measurements

This questionnaire composed of three sections, the first of which provides respondents with information on the purpose, advantages, and confidentiality assurances. The second component was a statement of consent from responders to complete the questionnaire link. The third step was to complete the questionnaire using a Likert scale with seven variables, twenty-four indicators, and seventy-two questions. Using SPSS software, validity and reliability tests were conducted to confirm the precision of the measuring instrument. The validity test is based on the Pearson correlation coefficient Item-Total ($r\text{-count} > 0.138$ ($r\text{-table}$)), but the reliability test is based on Cronbach's alpha > 0.60 .

Statistical Analysis

By summarizing the characteristics of respondents and all variables, descriptive analysis with univariate was used to obtain a picture of the variables that influence the usage of technology to fill electronic medical records. Calculating the minimum, maximum, mean, and standard deviation of each indicator as a derived composite indicator value. The total score is comprised of four categories: less good, good enough, good, and excellent.

Multivariate analysis by used of Structural Equation Modeling (SEM) and Partial Least Squares (PLS). Analysis of the external model using convergent validity, discriminant validity, composite reliability, and Cronbach's alpha. Analysis of inner loadings using the goodness-of-fit test on the R-square value, path coefficient estimates, and specific indirect effects.

Research Model and Hypothesis

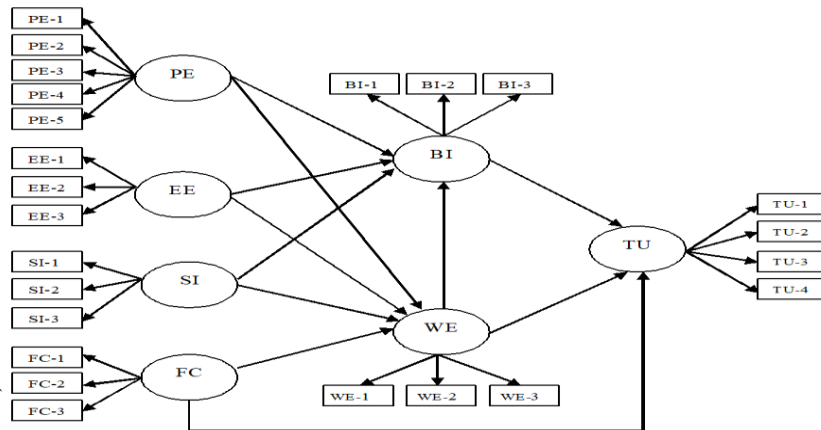


Figure 1. Research Analysis Framework

- H1: Performance expectancy has an effect on behavioural intention in filling out the completeness of the EMR
- H2: Performance expectancy has an effect on work engagement in filling out the completeness of the EMR
- H3: Effort expectancy has an effect on behavioural intention in filling out the completeness of the EMR
- H4: Effort expectancy has an effect on work engagement in filling out the completeness of the EMR
- H5: Social influence has an effect on behavioural intention in filling out the completeness of the EMR
- H6: Social influence has an effect on work engagement in filling out the completeness of the EMR
- H7: Facilitating condition has an effect on work engagement in filling out the completeness of the EMR
- H8: Facilitating condition has an effect on technology use in filling out the completeness of the EMR
- H9: Work engagement has an effect on behavioural intention in filling out the completeness of the EMR
- H10: Work engagement has an effect on using EMR in filling out the completeness of the EMR
- H11: Behavioural intention has an effect on using EMR in filling out the completeness of the EMR

4. RESULT AND DISCUSSION

The Characteristics of Specialist Medicine Academic Program for EMR Acceptance and Use

Table 1. EMR users of Characteristics of Specialist medicine academic program

Characteristic	Frequency	Percentage
Age		
≤ 25 year	4	
26-35 year	175	
36-46 year	16	
Gender		
Male	113	
Female	82	
Specialist Physician Education Program		
Physician of Children	57	
Physician of General Surgery	53	
Physician of Urology Surgery	41	
Physician of Obgyn	44	
Semester of Specialist Physician Education Program		
Semester 1 and 2	29	
Semester 3 and 4	22	
Semester 5 and 6	48	
Semester 7 and 8	36	
≥ Semester 9	60	
Experience of working using EMR in an outpatient setting		
< 2 week	22	
2 week – 1 month	12	
> 1 month – 6 month	21	
> 6 month – 1 year	140	
Total	195	

Acceptance and use of EMR is dominated by Specialist Medicine Academic Program between the ages of 26 and 35 by 89.7 %, with men outnumbering women by 57.9 %, and Specialist Medicine Academic Program pursuing education programs in study programs. Pediatric surgery, general surgery, urological surgery, and obstetrics were virtually equally represented at 29.2 %, and 79 % of pediatric surgeons had more than six to twelve months of experience utilizing EMR in outpatient settings. The age group is dominated by individuals aged 26 to 35. This is consistent

with [24]; [25]; [26]; [27]; [28] which demonstrates that the majority of hospital users of health information systems are of productive age.

Gender is dominated by men, which shows 58 % compared to women, according to study by [25]. Furthermore, 56 % of information technology users based on the UTAUT model are controlled by men, indicating that men have a duty to work and opportunity to attain higher degrees of education.

Child health sciences education programs dominate the specialist medicine academic

program. This is due to the fact that Dr. Soetomo General has the most specialist medicine academic program from the child health study program. 52 % of EMR users belong to the medical profession, as opposed to the nursing profession or other health professions, according to study [24]. In contrast, research [28] demonstrates that nurses are the primary users of EMR

The majority of Specialist Medicine Academic Program in the education semester are in semester 9, indicating that this semester is seen as having greater experience, knowledge, expertise, and abilities in the application of EMR. in treating patients than the semester below. This is consistent with [26]; [29] which indicate that those with the highest level of

education had a disproportionately high rate of information technology usage. However, this is not consistent with [27]; [30] which showed that those with the lowest level of education dominated the usage of patient electronic medical records.

Work experience in using outpatient EMR is dominated by Specialist Medicine Academic Program with > 6 months – 1 year of experience based on [24]; [28] showed that the work experience of health workers in hospitals was dominated by the 0-5 year range by 68%, in this study > 6 months-1 year was under the 5 year range so that it was consistent with the findings of previous studies.

Table 2. Variables Affecting Acceptance and Use of EMR

	Min	Max	Mean	SD	Information
Performance Expectancy					
Perceived usefulness	1	4	3,24	0,731	Good
Extrinsic motivation	1	4	3,20	0,720	
Job fit	1	4	3,22	0,720	
Relative advantages	1	4	3,17	0,752	
Outcome expectation	1	4	3,19	0,714	
Effort Expectancy					
Perceived ease of use	1	4	3,09	0,736	Good
Complexity	1	4	2,91	0,799	
Ease of use	1	4	3,21	0,693	
Social Influence					
Subjective norm	1	4	3,21	0,691	Good
Social factors	2	4	3,32	0,645	
Image	1	4	3,14	0,749	
Facilitating Condition					
Perceived behavioral control	2	4	3,24	0,578	Good
Facilitating condition	1	4	3,06	0,755	
Compatibility	1	4	3,17	0,708	
Behavioral Intention					
Enthusiasm	1	4	3,14	0,689	Good
Willingness	1	4	3,23	0,588	
Persuasiveness	2	4	3,26	0,589	
Work Engagement					
Vigor	1	4	3,12	0,673	Good
Dedicated	1	4	3,13	0,671	
Absorption	1	4	2,84	0,833	
Technology Use					
Subjective	2	4	3,28	0,639	Good
Objective	1	4	3,30	0,643	
Assessment	1	4	3,30	0,668	
Plan	1	4	3,28	0,509	

All of the dimensions in the acceptance and usage of EMR model, namely performance expectancy, effort expectancy, social influence, facilitation conditions, behavioral intentions, work engagement, and technology use, received high scores. In general, the proportion of

respondents at Dr. Soetomo General in Surabaya who concurred with the sentiments regarding the acceptability and utilization of EMR fell within the highest category.

Influence Pathway of the EMR Acceptance and Use Model

Table 3. Construct Validity and Reliability

	Behavioral intention	Effort expectancy	Facilitate condition	Performance expectancy	Social influence	Technology Use	Work engagement
Behavioral intention	0,904						
Effort expectancy	0,650	0,769					
Facilitate condition	0,749	0,608	0,833				
Performance expectancy	0,712	0,644	0,628	0,880			
Social influence	0,641	0,684	0,640	0,628	0,778		
Technology Use	0,770	0,670	0,667	0,877	0,637	0,863	
Work engagement	0,808	0,676	0,726	0,678	0,668	0,694	0,918

The outer loading on discriminant validity has the highest value of all the variants, indicating that the indicators in this study are valid.

Table 4. Distribusi Estimate for path coefficients

No	Correlation beetwen variables	Original Sample	T Statistics	P Values	Information
1	Performance Expectancy → Behavioral Intention	0,304	4,194	0,000	Significant
2	Performance Expectancy → Work Engagement	0,228	2,881	0,004	Significant
3	Effort Expectancy → Behavioral Intention	0,108	1,411	0,159	Not Significant
4	Effort Expectancy → Work Engagement	0,152	2,049	0,041	Significant
5	Social Influence → Behavioral Intention	0,071	0,908	0,364	Not Significant
6	Social Influence → Work Engagement	0,193	2,580	0,010	Significant

7	Facilitating Condition → Work Engagement	0,365	4,517	0,000	Significant
8	Facilitating Condition → Technology Use	0,207	2,817	0,005	Significant
9	Work Engagement → Behavioral Intention	0,602	8,711	0,000	Significant
10	Work Engagement → Technology Use	0,150	1,707	0,088	Not Significant
11	Behavioral Intention → Technology Use	0,615	9,012	0,000	Significant

The direct effect between variables is statistically significant with a T-Statistic more than 1.96 and a P-Value less than 0.05. The following is an explanation of hypothesis testing:

- H1 There was a positive influence between performance expectancy on behavioral intention in filling out the completeness of the EMR with a path coefficient value of 0.304 with a T-statistic value of 4.194 (> 1.96) or a P-value of 0.000.
- H2 There was a positive effect of performance expectancy on work engagement in completing the EMR with a path coefficient value of 0.228 with a T-statistic value of 2.881 (> 1.96) or a P-value of 0.004.
- H3 There was no effect of effort expectancy on behavioral intention in filling out the completeness of the EMR with a path coefficient value of 0.108 with a T-statistic value of 1.411 (<1.96) or a P-value of 0.159.
- H4 There was a positive effect of effort expectancy on work engagement in completing the EMR with a path coefficient value of 0.152 with a T-statistic value of 2.049 (> 1.96) or a P-value of 0.041.
- H5 There was no social influence on behavioral intention in filling out the EMR completeness with a path coefficient value of 0.071 with a T-statistic value of 0.908 (<1.96) or a P-value of 0.364.
- H6 There was a positive social influence on work engagement in filling out the EMR completeness with a path

coefficient value of 0.193 with a T-statistic value of 2.580 (> 1.96) or a P-value of 0.010.

- H7 There was a positive effect of facilitating conditions on work engagement in filling out the EMR completeness with a path coefficient value of 0.365 with a T-statistic value of 4.517 (> 1.96) or a P-value of 0.000.
- H8 There was an effect of facilitating conditions on technology use in filling out the EMR completeness with a path coefficient value of 0.207 with a T-statistic value of 2.817 (> 1.96) or a P-value of 0.005.
- H9 There was a positive effect of work engagement on behavioral intention in filling out the EMR completeness with a path coefficient value of 0.602 with a T-statistic value of 8.711 (> 1.96) or a P-value of 0.000.
- H10 There was no positive effect of work engagement on technology use in filling out the EMR completeness with a path coefficient value of 0.150 with a T-statistic value of 1.707 (<1.96) or a P-value of 0.088.
- H11 There was a positive effect of behavioral intention on technology use in filling out the EMR completeness with a path coefficient value of 0.615 with a T-statistic value of 9.012 (> 1.96) or a P-value of 0.000.

1. The Effect of Performance Expectancy on the Use of Technology through Behavioral Intention and Work Engagement

Performance expectancy had an indirect effect on the use of technology through behavioral intention and work engagement. T-statistics of $4,194 > 1,96$ and P-value of 0.000 indicate a statistically significant influence of the indirect effect of performance expectation on technology use through behavioral intentions. The structural model had a value of 1.147 (0.304 performance expectancy to behavioral intention and 0.228 performance expectancy to behavioral intention through work engagement and 0.615 behavioral intention to technology use). This demonstrated that the exogenous UTAUT pathway on the performance expectation variable is regarded as a relevant pathway.

Good performance expectancy with indicators of perceived usefulness, extrinsic motivation, job suitability, relative advantage, and expectations of the results of filling in patient health data into the EMR would cause the Specialist Medicine Academic Program to have the intention and commitment to carry out work that will ultimately fill the EMR. The results of this study also indicated that performance expectations have a direct, partial effect on behavioral intentions, such as enthusiasm, persuasion, and willingness [31]; [25]; [32]; [33]; [34]; [35]; [28]; [24]; [36]; [37]; [38]; [39]; and this is not line with the result of the stydu [40].

Fostering trust and optimism for the greater benefits of EMR compared to manually recording patient health conditions, such as saving time, increasing productivity, data accuracy, facilitating information transfer, individual performance appraisal, and better hospitals, as well as meeting the requirements of the specialist medicine academic program, are important steps hospital administration could take to increase the intention to use EMR. In agreement with theory [41]; [42]; [43], the success of increasing optimism and confidence in the scale of the benefits received from the Specialist Medicine Academic Program influences the intention to explore EMR and the benefits of providing quality services to patients. Work engagement was in part

influenced by performance expectations. In agreement with research [44], this can be understood to mean that the larger the trust or expectation in the usage of EMR, the greater the work engagement and dedication to using EMR technology can affect the specialist medicine academic program.

2. The Effects of Expected Effort on Technology Use through Behavioral Intention and Work Engagement

Through behavioral intentions, effort expectations have little effect on technology use, but they had an effect on work engagement. It was known that the T-statistic for the effort expectation of employing technology in the workplace exceeds 1.96. 0.754 is the value of the structural model (0.152 effort expectancy on technology use through work engagement and 0.602 work engagement on behavioral intention). This demonstrated that the path of effort expectancy through behavioral intention cannot explain acceptance and use of EMR if work engagement is not considered first.

The model of acceptance and use of EMR with the exogenous pathway that employed the variable effort expectancy was suitable for explaining the acceptance and usage of EMR by Specialist Medicine Academic Program in outpatient on general and teaching hospital of Dr. Soetomo Surabaya as a user. Based on the findings of prior research [45]; [46] Effort expectation for the Specialist Medicine Academic Program falls within the area of high value, and the majority of participants have found EMR to be straightforward to use. This cannot be applied to mandatory organizations such as general and teaching hospital of Dr. Soetomo because to the inclusion of perceptions of usability and complexity inside the effort expectation. This path represents the perceived ease and convenience associated with EMR use. The greater the level of convenience, the better the work engagement of specialist medicine academic program, which can indirectly increase EMR use via work engagement.

3. The Effects of Social Influence on Technology Acceptance through Behavioral Intention and Work Engagement

T-statistics of $2.580 > 1.96$ and P-value of 0.010 indicated that the indirect influence of social influence on the use of technology via work engagement and behavioral intention had a significant influence on the structural model value of 1.410. (0.193 social influence on work engagement and 0.602 work engagement on behavioral intention and then 0.615 on behavioral intention to use technology). This demonstrated that the exogenous UTAUT path on the social influence variable is deemed important when a new endogenous variable, namely the work engagement variable, is added as a mediator; this variable was absent from the prior UTAUT model. Therefore, this is a new finding from the study.

The model of acceptance and use of EMR with exogenous pathways on social influence variables is enough to describe specialist medicine academic program's acceptance and usage of EMR as a user. Referring to the findings of prior research, social influence has a partial impact on work engagement [47]; [48]; [49]; [50]; [51]. The general and teaching hospital of Dr. Soetomo in Surabaya must provide socialization about policies and procedures for using EMR, provide support by providing the best advice for using EMR, which can provide benefits to work more systematically, can keep a better track record, provide an image to treat patients, and reduce waiting times for services.

Social influence in the form of support from direct superiors or leaders and colleagues in hospitals in order to increase understanding of Specialist Medicine Academic Program to support performance, can provide an image of concern for patients and provide faster waiting times for patients [52]; [41]; [52]; [53]. Social influence is also influenced by hospital organizational support in the form of socialization policies and procedures for the use of EMR [42].

4. The Influence of Facilitation Conditions on Technology Use Through Work Engagement

Facilitating conditions affect the use of technology through work engagement by the Specialist Medicine Academic Program at Dr. Soetomo General Surabaya in both direct and indirect ways. The direct influence of facilitating conditions on technology use yielded T-statistics of $2.817 > 1.96$ with a P-value of 0.005, but the indirect influence of work engagement yielded T-statistics of 4.517 with a P-value of 0.000, indicating a substantial influence is significant. The value of the structural model is 1.582 (0.365 from facilitating conditions to work engagement and 0.602 from work engagement to behavioral intention and 0.615 from behavioral intention to technology use). This indicates that the exogenous UTAUT route is a prominent mechanism in enabling circumstances. In the original UTAUT model, this variable did not exist: work involvement as a mediator. Therefore, this was a new finding from the study.

The model of acceptance and use of EMR with exogenous pathways in the facilitation condition variable was appropriate for explaining the acceptance and use of EMR that must be carried out by the Specialist Medicine Academic Program at outpatient Dr. Soetomo General Surabaya as a user. According to the findings of prior research, facilitation conditions have a moderate effect on work engagement [51]; [54]; [55]. The results of this research hypothesis are also in line with the results of research [56] which stated that engagement is influenced by behavioral engagement, cognitive engagement, and emotional engagement, computer availability, collaboration between parties, and application systems, and networks.

Efforts can be made by the hospital administration to fulfill the facilities required by the Specialist Medicine Academic Program in carrying out EMR, namely providing adequate infrastructure such as computers with sufficient numbers of Specialist Medicine Academic

Program in treating patients, and network accessibility so that the transaction process can be carried out. Information between service units and other medical officers can be easily connected and processed quickly, experts are available to support the Specialist Medicine Academic Program if there are problems with the EMR system, and a training system related to routine operational procedures for using EMR can be used to increase knowledge and skills.

5. The Effect of Work Engagement on the Use of Technology Through Behavioral Intention

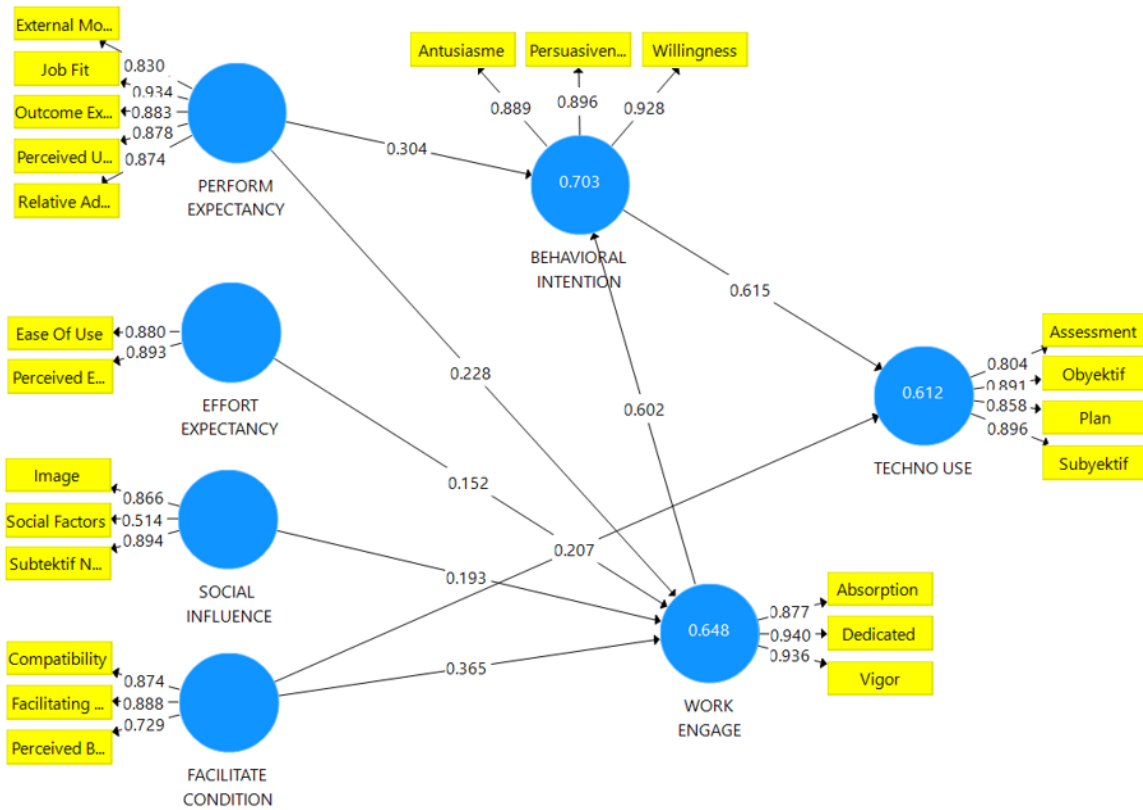
Work engagement has an indirect effect on the usage of technology through behavioral intention by the Specialist Medicine Academic Program at general and teaching hospital of Dr. Soetomo Surabaya. The value of the indirect effect of work engagement on technology use as measured by behavioral intention is $8.711 > 1.96$ with a P-value of 0.000, indicating a statistically significant effect. The value of the structural model was 1.217 (0.602 work engagement on behavioral intention and 0.615 behavioral intention on technology use). This demonstrates that the endogenous UTAUT pathway on the work engagement variable,

which was not included in the original UTAUT model, is a significant path in the acceptance and use of EMR at the General and Teaching Hospital Dr Soetome in Surabaya.

The model of acceptance and use of EMR with endogenous pathways on work engagement variables is enough to describe the acceptance and use of EMR by specialist medicine academic programin outpatient Dr. Soetomo General Surabaya as a user. Based on research findings [14]; [15]; [16]; [17]; [57], work engagement has a direct influence on behavioral intention. Hospitals can make efforts to Specialist Medicine Academic Program so that work engagements can survive for the better by paying attention, receiving input, ideas, complaints, providing facilities that support the use of EMR, creating a conducive working environment so that Specialist Medicine Academic Program can enjoy and be obligated to work, and ultimately influencing the actual use of EMR.

6. EMR Acceptance and Use Model (Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Work Engagement, Behavioral Intention to Technology Use)

Figure 2. Model of Acceptance and Use of Electronic Medical Records based on significant values at



the Dr. Soetomo General and Teaching Hospital Surabaya

On the basis of Figure 1, the outcomes of research into the development of acceptance and use models of electronic medical records through work engagement as a mediator with the UTAUT determinants can be interpreted as follows:

- 1) Technology use in the adoption and use of EMR at the Soetomo General and Teaching Hospital in Surabaya is directly influenced by facilitating conditions (0.207 path coefficient) and by behavioral intention (0.61 path coefficient).
- 2) Behavioral intention to utilize technology is directly driven by performance expectation and work engagement with a path coefficient of 0.304 and 0.602, respectively.
- 3) Work engagement with technology use is impacted by performance expectations with a path coefficient of 0.228, effort expectations with a path coefficient of 0.152, social influence with a path

coefficient of 0.193, and facilitating conditions with a path coefficient of 0.365.

It has been demonstrated that work engagement functions as a moderating variable in the path of indirect effect between performance expectation, effort expectation, social influence, and facilitating conditions on the use of technology through behaviour intention in the acceptance and usage of EMR. The only relationship between the influence of performance expectations, effort expectations, social influence, and facilitating factors on the usage of technology is work engagement.

Work engagement is a representation of responsibility and perseverance in completing duties. Officers' dedication and intention to behave are proportional to their level of responsibility. Multiple research on work engagement indicate that work engagement influences behavioral intention. [14]; [15]; [16]; [17].

The concept of work engagement is comprised of two concepts: organizational commitment and citizen conduct, or the

behavior of individual workers who are willing to perform tasks outside of their primary responsibilities and functions in order to increase work productivity [58]. Enjoying work and being able to concentrate will build high dedication so that work engagement and commitment can affect intentions, because individual productivity and performance can be influenced by attitudes and psychological well-being [59].

In this model, work engagement has the second largest influence after behavioral intention. The model with the determinant UTAUT obtained new findings, namely:

- a. Performance expectancy, effort expectancy, social influence, facilitating conditions, work engagement, behavioral intention, and technology use can be a unified model in filling out the EMR by specialist medicine academic program in outpatient Dr. Soetomo general and teaching hospital in Surabaya, by eliminating 1 complexity indicator in the exogenous effort expectancy variable in the UTAUT theory because it is less meaningful.
- b. Effort expectancy and social influence, facilitating conditions cannot have a direct effect on behavioral intention but must go through the work engagement path first. Meanwhile, Performance expectancy can directly or indirectly affect behavioral intention in influencing technology use.
- c. New indicators have been added to the technology use variable, including subjective, objective, assessment, and plan in the form of a fillable menu that must be completed by the specialist medicine academic program on the EMR system menu.

The reason this new model is called Work Engagement in Acceptance and Use Technology of Subjective, Objective, Assessment, Plan (WE AUTO SOAP) is because it was created expressly to explain the acceptance and use of Subjective, Objective, Assessment, Plan in EMR information system technology. by involvement at work.

5. CONCLUSION

Work engagement is significantly impacted by all external variables, including performance expectancy, effort expectancy, social influence, and facilitating conditions, by 64%, indicating a moderate effect. Work engagement significantly influences behavioral intention by 70%, indicating that it has a big impact on people's intentions to utilize technology. This demonstrates the significance of work engagement as a means of commitment, accountability, and emotional and intellectual investment in the work and structure of the specialist medicine academic program's use of EMR technology. Behavioral intention significantly influences technology use by 61%, indicating that it has a moderate impact on EMR's use of technology.

STUDY LIMITATIONS

The research subjects we use are specifically physician who use electronic medical records, so heterogeneous samples are not available to compare other healthcare professionals like general practitioners, consultant doctors, senior doctors, nurses, and hospital administration staff who are in other service units. Additionally, this study is intended for medical professionals who are researching specialists with required organizational qualities. In both mandated and voluntary organizations, it is hoped that this data would further encourage research on many facets of positive organizational behavior across a larger range of research topics.

ACKNOWLEDGEMENT

This research is part of the mandatory task in pursuing Physician education. The authors are grateful to supervisors and leaders who provided collaborative support at the Faculty of Public Health, Airlangga University, Surabaya. Major of Medical Record and Health Information, College of Health Sciences of Soetomo Hospital Foundation, Surabaya, Indonesia.

COMPETING INTERESTS

The Authors declare no competing interests.

FUNDING

This study was financially supported by scholarship holders from the Education Fund Management Institution (LPDP) of the Ministry of Finance of the Republic of Indonesia.

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