AG EDITOR

Development of a UTAUT model in the Gayatri application in improving employee performance in health service facilities of the Mojokerto city health, population control and family planning department

Desarrollo de un modelo UTAUT en la aplicación Gayatri para mejorar el desempeño laboral de los empleados en los servicios de salud del departamento de salud, control de la población y planificación familiar de la ciudad de Mojokerto

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ABSTRACT

Introduction: implementation technology aims to optimize communication to increase benefits such as high productivity, employee welfare, and consumer satisfaction. Goal development theory reception technology is integrated with integrated construction-predictive key intent and uses subsequent behavior known as The Unified Theory of Acceptance and Use of Technology (UTAUT). The UTAUT model has been used to test reception technology in several sectors, such as maintenance health, e-government, mobile Internet, systems companies, mobile banking, and applications.
Method: in this cross-sectional study, a quantitative study was conducted using survey methods and research data collection, whereas a design study used an analytic correlation. Ethical approval for this study was obtained from Strada University Indonesia.
Results: the analysis results show that Performance Expectancy (PE) has a significant influence on Behavioral Intention (BI) and BI has a significant effect to Use Behavior (UB). In addition, UB had a significant influence on Employee Performance. Effort Expectancy (EE) has a significant effect on BI and no direct influence on UB and performance through two-stage mediation.
Conclusion: the results show that performance expectancy influences employee performance through behavioral intention and use behavior; facilitating conditions have no influence on employee performance through behavioral intention and use behavior; social influence influences employee performance through behavioral intention and use behavior; facilitating conditions have no influence on employee performance through use behavior; use behavior has no influence on employee performance through use behavior; and use behavior has no influence on employee performance with age as a moderating variable.

Keywords: UTAUT; Knowledge; Performance; Age.

RESUMEN

Introducción: la tecnología de implementación tiene como objetivo optimizar la comunicación para aumentar beneficios como la alta productividad, el bienestar de los empleados y la satisfacción del consumidor. La teoría del desarrollo de objetivos en la recepción de tecnología se integra con la predicción de intenciones clave en la construcción y utiliza el comportamiento subsecuente conocido como la Teoría Unificada de

la Aceptación y Uso de la Tecnología (UTAUT). El modelo UTAUT se ha utilizado para evaluar la recepción de tecnologías en varios sectores, como mantenimiento de la salud, gobierno electrónico, Internet móvil, empresas de sistemas, banca móvil y aplicaciones.

Método: en este estudio transversal, se realizó un estudio cuantitativo utilizando métodos de encuesta y recolección de datos de investigación, mientras que el diseño del estudio utilizó una correlación analítica. La aprobación ética para este estudio fue otorgada por la Universidad Strada de Indonesia.

Resultados: los resultados del análisis muestran que la Expectativa de Desempeño (PE) tiene una influencia significativa en la Intención de Comportamiento (BI) y que la BI tiene un efecto significativo en el Comportamiento de Uso (UB). Además, el UB tuvo una influencia significativa en el Desempeño del Empleado. La Expectativa de Esfuerzo (EE) tiene un efecto significativo en la BI y no tiene influencia directa en el UB ni en el desempeño, salvo a través de una mediación en dos etapas.

Conclusión: los resultados muestran que la expectativa de desempeño influye en el desempeño del empleado a través de la intención de comportamiento y el comportamiento de uso; las condiciones facilitadoras no influyen en el desempeño del empleado a través de la intención de comportamiento ni del comportamiento de uso; la influencia social influye en el desempeño del empleado a través de la intención de comportamiento y el comportamiento de uso; las condiciones facilitadoras no influyen en el desempeño del empleado a través del comportamiento de uso; el comportamiento de uso no influye en el desempeño del empleado a través del comportamiento de uso; y el comportamiento de uso no influye en el desempeño del empleado con la edad como variable moderadora.

Palabras clave: UTAUT; Conocimiento; Desempeño; Edad.

INTRODUCTION

Development technology information and communication is increasingly rapidly influencing various fields, including governance and services, with the term Digital Government. Governance transformation government experience a number of change paradigm, starting from analogy government that is closed and only focus procedure in internal realm. Digital Government has become an interesting field, which is the reason for the major technical transformation of the government.[1] In the present service, effective and efficient health through digital transformation, the Indonesian Ministry of Health (Kemenkes) has stipulated the Decree of the Minister of Health (KMK) Number HK.01.07/MENKES/1559/2022 concerning Implementation System Government Based Electronic Health Sector and Digital Transformation Strategy for Health. System Government Based Electronics (SPBE) or e-government is the Ministry of Health's effort to utilize information and communication technology to increase service and governance. According to the World Health Organization, Digital Health uses digital, mobile, and wireless technologies to support the achievement of objective health. Before entering the digital world, humans found it difficult to obtain health services, especially for those who live in areas with minimal health facilities. In this situation Now Currently, digital health is one of the programs promoted by stakeholders. interest, including the government, to reach the public in a wide field of health. Digital health will make it easier and provide solutions for patients, doctors, and medical staff in facing health problems. The aim of implementation technology is to optimize communication to increase benefits, such as greater productivity, employee welfare, and consumer satisfaction. Goal development theory reception technology is integrated with the integrated construction predictive key intent and uses subsequent behavior known as The Unified Theory of Acceptance and Use of Technology (UTAUT).[2] The UTAUT model has been used for test reception technology in a number of different sectors, such as maintenance health, e-government, mobile internet, systems companies, mobile banking, and applications.[3] The Mojokerto City Government experienced problems related to social, economic, and health data community, as well as source data Power human resources (HR) that are not yet valid and not yet inventoried with good. However, after adapting to information technology (IT), the Mojokerto City Government found it easier to set policies in a comprehensive way. The breakthrough is called Gayatri innovation, which unites all aspects of health field and can be fulfilled in one service application. Before the presence of Gayatri, the reporting of health data at the Health Control Service Residents and Families Mojokerto City was still planned using the Microsoft Excel report method, and each field gathered the data individually. Each program was manually operated, and no effective time and energy were needed for data analysis and evaluation because it was not integrated. The integration of the Gayatri app is very helpful in health management. Integration facilitates the evaluation, analysis, and intervention in real time and precise targets. In this way, data management analysis and evaluation can be used as planning and budgeting data so that the development of the field of health is more effective and efficient.

METHOD

In this study, the researcher used a quantitative study with a survey method. Based on time research data

collection, this use type cross-sectional research emphasizes time measurement or variable data observation independent and dependent only one time at a time when. This research used an analytic correlation design.

Population and Sample/Informants

The population of this study was the staff at the Facility Health Services Department of Health, Control Population, and Family Planning of Mojokerto City who used the Gayatri application, namely, 344 people covering power health, administration, and cadres. (The sample in this study consisted of 192 people with the inclusion criterion that all employees use the Gayatri application).

Research Location

This study was conducted at the Health Service, Control Population, and Family Planning of Mojokerto City, which is the coordinator of facility health, such as health centers, clinics, and independent practice doctors.

Instrumentation or Tools

Data collection techniques in research This that is with questionnaire with make questionnaire through google form to make it more easy , effective and efficient in its distribution to candidate respondents.

Data Collection Procedures

Quantitative data were collected through an online survey platform over a one-month period in March 2025. Respondents were provided with a consent form and instructions for completing the questionnaire.

Data Analysis

Data analysis was performed using the Partial Least Square (PLS) method with SmartPLS software version 4. PLS.

Ethical Approval

This study was approved by the Health Research Ethics Committee of Strada University (Approval Number: 0023462/EC/KEPK/I/01/2025). All participants provided informed consent prior to participating in the study.

RESULTS

The research respondents were employees at the Health Service Facilities of the Health Service, Health Control Population, and Family Planning (P2KB) of Mojokerto City. The distribution of respondent characteristics is shown in table 1.

Table 1. Characteristics Sample Respondents			
Characteristics	**Category**	**Frequency (F)**	**Percentage (%)**
Gender	Man	34	17,7
	Woman	158	82,3
Age	<20 years	0	0,0
	21-25 years old	4	2,1
	26-30 years old	29	15,1
	31-40 years	71	37,0
	>41 years	88	45,8
Level of education	Elementary Education (Elementary/Middle School)	13	6,8
	Secondary Education (High School/ Equivalent)	49	25,5
	Higher Education (Diploma, Bachelor's, Master's, Doctoral)	130	67,7
Years of service	<6 years	100	52,0
	6-10 years	28	15,0
	>10 years	64	33,0
Work unit	Community Health Center	165	86,0
	Health/Beauty Clinic	11	5,7
	Independent Practice of Doctors/ Dentists	3	1,6
	Polyclinic	6	3,1
	P2KB Health Service	7	3,6

Section/Professional Staff	Admin/Registration	15	7,8
	Doctor	29	15,1
	Nurse	39	20,3
	Midwife	14	7,3
	Pharmacy	22	11,5
	Laboratory	9	4,7
	Others (Health Cadres)	64	33,3

Following is results appropriate research with objective special research and hypothesis study as in table 2.

Table 2. Test Results Hypothesis Study					
Hypothesis	**ß**	**Std**	**t-value**	***p*-value**	**Results**
H1: There is an influence *of performance expectancy* on employee performance through *behavioral intention* and *use behavior*	0,179	0,042	4,235	0,000	Accepted
H2: There is an influence of *effort expectancy* on employee performance through *behavioral intention* and *use behavior*	0,078	0,027	2,886	0,004	Accepted
H3: There is an influence *of social influence* on employee performance through *behavioral intention* and *use behavior*	0,052	0,025	2,043	0,041	Accepted
H4: There is an influence *of facilitating conditions* on employee performance through *use behavior*.	-0,017	0,042	0,395	0,693	Rejected
H5 : Yes influence of knowledge on employee performance through *use behavior*	0,055	0,032	1,727	0,084	Rejected
H6: Age moderates the influence of *use behavior* on employee performance.	0,002	0,063	0,024	0,981	Rejected

Hypothesis 1 tests whether *performance expectancy* affects employee performance through *behavioral intention* and *use behavior*. The analysis results show that *Performance Expectancy (PE)* influential to *Behavioral Intention (BI)* (ß = 0.529; p = 0,000), and BI has a significant effect to *Use Behavior (UB)* (ß = 0,669; p = 0,000). In addition, UB has a significant influence on Employee Performance (ß = 0,506; p = 0,000). The path does not direct from PE → BI → UB → Performance has the value of ß is 0,179 (p = 0,000), which indicates significant influence and strong mediation. This indicates that *Performance Expectancy* plays an important role in forming intention, driving behavior, and finally impacting employee performance. These findings strengthen PE's role of PE as a main construct in the UTAUT model.

Hypothesis 2 tests whether *effort expectancy* affects employee performance through *behavioral intention* and *use behavior*. The analysis results show that *Effort Expectancy* (EE) has a significant effect on BI (ß = 0,231; p = 0,000) and no direct influence on UB and Performance through two-stage mediation. The EE → BI → UB path has ß = 0,154 (p = 0,000), and the path EE → BI → UB → performance has ß = 0,078 (p = 0,004), indicating no significant direct impact. This means that perception convenience in the use application will increase intention usage, which then pushes use actual and impactful positive on performance. These results are consistent with the theory that expectation convenience is an important early motivator of technology adoption.

Hypothesis 3 test Does *social influence* have an effect? to perform employees through *behavioral intention* and *use behavior*. The analysis results show that *Social Influence* (SI) has a significant influence on BI (ß = 0,153; p = 0,026) and no direct influence on performance through BI and UB. The path value for SI → BI → UB → Performance was 0,052 (p = 0,041), and that for SI → BI → UB was 0,102 (p = 0,026). This result shows that social support from colleagues work or leadership can increase the intention to use the application, which then pushes behavior usage and impacts performance. This shows that the social factor is still relevant, although it is not as strong as the cognitive factor.

Hypothesis 4 tests the influence of *facilitating conditions* on employee performance through *use behavior*. The analysis results show that the influence of *(FC on) was not* significant (ß = -0,033; p = 0,694), and the path No Direct FC → UB → Performance was also not significant (ß = -0,017; p = 0,693). This shows that the availability of facilities or technical support is not yet capable of pushing the use of applications in a real way, so that there is no impact on employee performance. This can be interpreted as meaning that although there is internal motivation, such as intention and perception, the benefit is more dominant in push behavior use.

Hypothesis 5 tests whether knowledge influences employee performance through *use behavior*. The analysis results show that knowledge No influential significant to *Use Behavior* (ß = 0,109; p = 0,085), and the path No direct Knowledge → UB → Performance also not significant in a way statistics (ß = 0,055; p = 0,084). Although the direction of its influence is positive, the results show that knowledge alone is not enough to increase performance If No accompanied by actual use. Other factors, such as intention, support organization, and incentives, can determine the bridge of knowledge and real action.

Hypothesis 6 tests whether age moderates influence *use behavior* on employee performance. Moderation

test results show that the influence of interaction between Age and *Use Behavior* on Employee Performance No significant (ß = 0,002; p = 0,981). This means that age has no moderate connection between behavior use applications and employee performance, or in other words, influence *Use Behavior* to performance is relatively consistent in all age groups. Findings: This study shows that the use of the system positively impacts performance and is good for more employees, regardless of age. Therefore, intervention training and technology can be equalized without the need for age-based adjustments.

DISCUSSION

The results show that (1) *performance expectancy* influences employee performance through *behavioral intention* and *use behavior,* showing a significant and strong mediation. This finding strengthens the postulate from the *Unified Theory of Acceptance and Use of Technology (UTAUT)* by Venkatesh,[4] who placed *performance expectancy* as the main determinant of intention to use technology systems. In the context of using the Gayatri application, *performance expectancy* refers to the extent to which employees trust the system, which will help them in operating task administration and reporting in a more efficient, accurate, and fast manner. In practice, many employees state that the Gayatri app helps speed up the process of recapitulating activity data, sending reports weekly and monthly, as well as making it easier to validate cross-units under the Mojokerto City P2KB Health Service. This become relevant Because reporting health public often nature complex, repetitive, and vulnerable against human error. Therefore, perception of the utility system in support effectiveness work becomes the main reason for the emergence intention to continue using the application in a sustainable way.

(2-3) There is a significant and positive influence of *effort expectancy* on employee performance, which is sequentially mediated by *behavioral intention* and *use behavior*. This is consistent with the study by Venkatesh et al. The *Technology Acceptance Model (TAM)* emphasizes that *perceived ease of use* is an important predictor of the intention to use a technology system.[5] In the context of public system services, as studied stated that Users with limitations on time and load work highly appreciate systems that reduce cognitive burden.[6] There is a significant positive influence of *social influence* on employee performance, which is sequentially mediated by *behavioral intention* and *use behavior*. This is in line with [7] study, which found that *innovation* and *social influence* are positively and significantly influential on *commitment* and *behavioral intention*.

(4) Facilitating conditions had no significant influence on employee performance through the mediation *of usage behavior*. According to the UTAUT theory, *facilitating conditions* should become a determinant direct from *use behavior*, especially in the context of use system-based tasks. However, in this context, a large facility is available, but the perception of utility and social encouragement is stronger in motivating employees. This also indicates that existence means No; it will be optimal if No is accompanied by a perception of high benefits and strong use intentions.[8,9,10]

(5) Influence of knowledge on employee performance through *behavior* This contradicts the assumptions of the *Theory of Planned Behavior*, where knowledge is considered the initial capital in the formation of attitudes and behavior.[11] This finding is also different from that of Neves[12] state that digital literacy is an important factor in push effectiveness implementation systems.[11] This means that although employees know how to use the application, they may not ensure that they will use it actively, or it may not directly impact their performance.

(6) Interaction between age and *use behavior* No significant influence on employee performance was found, confirming that there is no meaningful effect. This means that the influence of behavior on application to performance is consistent across all age groups. This finding contradicts a number of studies stating that age can moderate technology adoption, where younger users tend to be more adaptive than older users.[13,14,15]

Comparison with Previous Studies

(1) The results of research [16] also show that the framework of work reception technology provides strong information that is clear, proving the driving factors of online users to routinely interact with technology. However, there is room for improvement in the quality of the response (in terms of accuracy and precision time) to reduce misinformation, social bias, hallucinations, and adversarial solicitations. Researchers have also examined that perception benefits (*performance expectancy*) that are formed not only originate from experienced individuals, but also from results of internal socialization, structural support, and narrative management that emphasizes that an application (Gayatri) is a tool help, not a burden Work addition.[16,17]

(2) Research this is also in line with research that proves *effort expectancy* influential positive and significant performance employee through variables *behavioral intention* in implementation SIMPG application of PT. Perkebunan Nusantara XI Surabaya. *Effort expectancy* influences *behavioral intention*. The results of the research conducted by Afonso also showed that the effect of gender moderation on the connection between expectation performance and intention behavior shows that this connection is stronger in men than in women.[18,19]

(3) The results of research conducted also show that efficacy self own effect positive to expectation

performance, influence social, and expectations efforts. It also mentioned *that social influence* is positive and significant for interest utilization application *e-clinic* in Bandung city.[20]

(4) Based on the results of research conducted by Mansour et al, intention behavior mediates the connection between condition facilitation and behavior use, and importance condition related facilities with output behavior usage. This is in line with research which showed that *facilitating conditions* do not influence employee performance through *behavior use*.

(5) This is also in line with the study that the results of analyzing *knowledge-sharing behavior* in companies through management knowledge have a positive and significant impact on improving individual innovation ability.K*knowledge is positively and significantly influential* to the performance of employees of the Regional Secretariat of Wonosobo Regency. The results of another study conducted by Gates were that prioritize management knowledge can change dynamics organization and create superiority competitive.

(6) In line with the study, age and sex type have no influence on the acceptance and use of the information management finance area (SIPKD) in the UTAUT perspective in Semarang district. This is also in line with the study which showed that age was a significant moderator in the relationship *between use behavior* and employee performance.

The discussion contains an interpretation of the research results, linking the research results with relevant theories, literature, and previous findings. The discussion does not repeat the results. Aspirations of insight are universal, preferably sources on an international scale compared to a national scale, and do not come from the related university environment because they are considered to have very local aspirations. Writing on the results and discussion ± 55 % of the total pages.

CONCLUSION

An indirect effect of performance expectancy on employee performance was found through behavioral intention and usage behavior.An indirect effect of effort expectancy on employee performance was found through behavioral intention and usage behavior. An indirect effect of social influence on employee performance was found through behavioral intention and usage behavior. No effect of facilitating conditions on employee performance through the use behavior was found. No effect of knowledge on employee performance through the use behavior was found. No effect of use behavior on employee performance was found, with age as a moderating variable.

 Recommendations for further research include the following:

Increasing the diversity of technology use and including facility conditions, which were not included in this study, are recommended.Analyzing other factors influencing performance, besides knowledge, in healthcare and administrative staff populations.Providing more intensive measurement to respondents to capture subtle differences that may exist between age groups. Providing a more varied age range to detect significant moderating effects.

REFERENCES

1. Saxena S, RT, et al. Comparison of conventional and real-time PCR for monitoring of respiratory syncytial virus among pediatric patients in Northern India 2011–2014. IJPSR. 2019;10(5):2294–300. doi:10.13040/IJPSR.0975-8232.10(5).2294-00.

2. Momani AM. The unified theory of acceptance and use of technology. Int J Sociotechnol Knowl Dev. 2020;12(3):79–98. doi:10.4018/IJSKD.2020070105.

3. Ayaz A, Yanartaş M. An analysis on the UTAUT: acceptance of EDMS. Comput Hum Behav Rep. 2020;2:100032. doi:10.1016/j.chbr.2020.100032.

4. Venkatesh V, Morris MG, Davis GB, Davis FD. User acceptance of IT: toward a unified view. MIS Q. 2003;27(3):425–78. doi:10.2307/30036540.

5. Venkatesh V, Thong JYL, Xu X. Unified theory of acceptance and use of technology. J Assoc Inf Syst. 2016;17:328–76.

6. Nurhayati S, Anandari D, Ekowati W. UTAUT model to predict health information system adoption. Kemas. 2019;15(1):89–97. doi:10.15294/kemas.v15i1.12376.

7. Trivedi SK, Patra P, Srivastava PR, Kumar A, Ye F. Factors affecting intention to adopt digital technology. IEEE Trans Eng Manag. 2022;71:13814–26.

8.   Blut M, Yee A, Chong L, Tsiga Z, Venkatesh V. Meta-analysis of UTAUT. SSRN. 2022.

9.   Neves C, Oliveira T, Cruz-Jesus F, Venkatesh V. Extending UTAUT for sustainable technologies. Int J Inf Manag. 2025;80:102838.

10. Nurmala I, et al. Promosi Kesehatan. Surabaya: Airlangga University Press; 2018.

11. Amnas MB, et al. Determinants of FinTech adoption. J Risk Financ Manag. 2023;16(12):1–15.

12. Wibowo AH, et al. Pengaruh performance expectancy... JPTIIK. 2019;3(9):9047–53.

13. Afonso CM, et al. Gender in UTAUT. In: Proceedings of the 7th International Conference on Partial Least Squares. 2012.

14. Putri VS, Mahadian AB. Pengaruh ekspektasi kinerja... eProceedings Manag. 2021;8(3):1–10.

15. Rofiah C, Suhermin S. Performance expectancy in e-health. Int J Res Anal Rev. 2022;9(3):1–8.

16. Mansour AT, et al. Behavioral intention in e-government SMEs. Turk J Comput Math Educ. 2021;12(1):1520–8.

17. Li F, et al. Aging, self-efficacy, and time pressure. Psychol Res Behav Manag. 2022;15:1043–54.

18. Gates A. Knowledge management impact. Eur J Inf Manag. 2024;3(3):1–13.

19. Kusumawardani N. SIPKD usage factors. In: Digital era 4.0. London: Routledge; 2020.

20. Khairunnisa P, Setyowati MS. SIPD–SIKD satisfaction factors. Asian J Soc Humanit. 2024;3(1):98–116.

CONFLICT OF INTEREST
The authors declare that there is no conflict of interest.

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