

DETERMINANTS OF BEHAVIORAL INTENTION TO USE GENERATIVE ARTIFICIAL INTELLIGENCE ON ECONOMICS TEACHERS IN SEMARANG**Sofyan Setiawan,^{1✉} Agus Wahyudin², Amir Mahmud³****DOI:** <https://doi.org/10.15294/jeec.v14i1.20952>¹SMA Muhammadiyah 1 Semarang, Central Java, Indonesia²Department of Accounting, Faculty of Economics and Business, Universitas Negeri Semarang, Indonesia³Department of Economics Education, Faculty of Economics and Business, Universitas Negeri Semarang, Indonesia**History Article**Received February, 4 2025
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Intention**Abstract**

This study aims to analyze the factors influencing economics teachers' behavioral intentions to use Generative Artificial Intelligence (GAI) in teaching, using the Unified Theory of Acceptance and Use of Technology (UTAUT) as the foundational framework. The respondents of the study were high school economics teachers in Semarang City, Central Java, Indonesia. Data were collected from 119 respondents using the accidental sampling technique. A questionnaire developed by previous researchers was used to gather research data. Structural Equation Modeling-Partial Least Squares (SEM-PLS) was employed as the data analysis method. The findings indicate that performance expectancy, effort expectancy, social influence, and facilitating conditions significantly determine the level of teachers' intention to use GAI in teaching. Furthermore, the Technological Pedagogical Content Knowledge (TPACK) variable serves as a moderating variable in the research model. The practical implications of this study suggest that educational institutions, teachers, and policymakers need to enhance understanding, provide training, and implement policies that support the integration of TPACK-based Generative AI. These efforts aim to encourage the effective use of this technology to improve the quality of teaching and learning.

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INTRODUCTION

The emergence of Artificial Intelligence (AI) has driven significant transformations across various sectors, symbolizing advancements in computing and a shift in human-machine interaction paradigms (Haenlein & Kaplan, 2019). Generative AI technologies, such as ChatGPT, Gemini, and Copilot, have become disruptive innovations with the ability to generate contextual content in multiple formats, including text, images, and programming code (Brown et al., 2020). The education sector is no exception, as AI is increasingly integrated into teaching and learning processes (Zhang et al., 2023; Holmes et al., 2022).

Generative AI is defined as artificial intelligence capable of producing new content such as text, images, audio, and videos that did not previously exist by analyzing patterns and leveraging existing data (Holmes & Miao, 2023). Cui et al. (2024) describe it as a form of AI that learns from existing data and generates new, human-like content. Meanwhile, Banh & Strobel (2023) emphasize that Generative AI focuses on creating realistic and original content, including text, images, or programming code, based on basic user prompts.

In the educational context, Generative AI is applied to enhance learning outcomes, personalize education, and streamline administrative processes (García-Peñalvo, 2024; Holmes et al., 2022). It has immense potential to foster students' critical thinking and problem-solving skills through interactive tools (Rajendran, 2023; Chiu, 2023). However, implementing Generative AI also presents challenges, including adapting teaching strategies, aligning with student learning goals, and addressing educational philosophies, all of which require comprehensive consideration (Yang, 2024). Additionally, a lack of teacher preparedness poses a significant barrier to AI integration in schools, even as AI-based education becomes increasingly important at the K-12 level (Park & Kwon, 2024). Despite its potential, AI technology and applications are still underutilized in teaching and learning practices (Zulkarnain & Yunus, 2023).

Preliminary observations conducted from August 12 to 16, 2024, involving 24 high school teachers both public and private in Semarang City revealed that 37.5% of economics teachers rated their understanding of Generative AI as "uncertain." This indicates that while some teachers have heard of Generative AI, they are unsure about its applications in teaching economics or how it could support their professional roles. This highlights a general awareness of Generative AI among economics teachers in Semarang, yet a lack of understanding regarding its functions and implementation. The limited knowledge and low intention to adopt Generative AI starkly contrast with its current rapid advancements.

The current behavioral intention to use Generative AI among economics teachers in Semarang City remains suboptimal. If left unaddressed, this could negatively impact the quality of education, which is expected to deliver modern learning aligned with the demands of the times. Most teachers, belonging to the digital immigrant generation, face the challenge of creating engaging and relevant learning environments for students who

are part of the digital native generation, characterized by their higher adaptability to technology. Therefore, it is essential for teachers to deepen their understanding and mastery of the digital world in delivering material to students. This situation creates a gap between the two generations. Bridging or narrowing this gap is crucial to enable digital immigrant teachers to effectively adapt and collaborate with digital native students.

Limited knowledge about utilizing technology is one of the factors that can hinder the integration of technology into learning (Khasanah et al., 2022). IT competency training and digital literacy are essential to help teachers alleviate concerns about the challenges of using AI (Fachrurrozie et al., 2024). According to Supriono (Kemendikbud, 2019), various efforts are needed, including government-led programs aimed at enhancing the qualifications, competencies, and skills of teachers to master the five core competencies of the 21st century: critical thinking, creativity, innovation, communication, collaboration, and teamwork. Transforming teachers is imperative to implement these five core competencies of the 21st century through appropriate learning design and strategies. 21st-century teacher competence places a stronger emphasis on mastering advancements in technology, information, and communication (Trilling & Fadel, 2009).

Exploring further how the integration of technology by teachers is closely related to the Unified Theory of Acceptance and Use of Technology (UTAUT). In this study, the use of UTAUT as a theoretical framework is highly relevant for understanding teachers' behavioral intentions to adopt Generative AI technology. The UTAUT model, developed by Venkatesh et al. (2003), synthesizes various previous theories on technology acceptance, emphasizing four key factors: performance expectancy, effort expectancy, social influence, and facilitating conditions.

Many previous studies have confirmed the effectiveness of UTAUT in various contexts, including education. Prior research by Rahmaningtyas et al. (2020) and Tusyanah et al. (2021) demonstrated that UTAUT is a valid and reliable model for predicting technology acceptance. Wu et al. (2022) analyzed factors influencing students' willingness to use AI by integrating UTAUT with perceived risk theory. Similarly, Kim and Lee (2022) proved that UTAUT can be used as a model to predict teachers' adoption of AI.

This study analyzes the behavioral intention to use Generative AI in economics education by developing the UTAUT model proposed by Venkatesh et al. (2003), with the addition of the Technological Pedagogical Content Knowledge (TPACK) variable as a moderating factor. The factors of performance expectancy, effort expectancy, social influence, and facilitating conditions are variables developed in UTAUT that determine whether an individual accepts and uses technology in their activities (Venkatesh et al., 2003). Performance expectancy can serve as an important indicator to predict the behavioral intention to use Generative AI in learning. Teachers who believe that this technology will improve their teaching quality are more likely to adopt Generative AI, whereas those who lack this belief are less inclined to adapt. Research by Wang et al. (2024) shows that performance expectancy positively influences the behavioral intention

to use Generative AI by 44.2%. Similarly, studies by Liu et al. (2024), Strzelecki & ElArabawy (2024), and Wu et al. (2022) show that performance expectancy positively impacts the behavioral intention to use Generative AI, with influence values of 73%, 50.4%, and 46.8%, respectively. Kim & Lee (2022) also state that performance expectancy positively influences the behavioral intention to use ICT, with an influence value of 46.3%.

Effort expectancy refers to the extent to which an individual believes that using a specific technology will be easy and not require excessive effort. Research indicates that a high level of ease of use not only boosts teachers' confidence in applying the technology but also strengthens their intention to use Generative AI regularly in the learning process. Studies by Durak (2019) on the intention to use social media, Islamoglu et al. (2021), Yildiz & Arpaci (2024), Tewari et al. (2023), Kim & Lee (2022), and Joo et al. (2018) show that effort expectancy has a significant positive impact on behavioral intention to use technology, including Generative AI.

Social influence refers to the impact of the social environment, including colleagues and superiors, which can provide additional motivation for individuals to try new technologies (Venkatesh et al., 2003). Research by Wiangkham & Vongvit (2024) highlights that social pressure can influence teachers' decisions to use Generative AI in the classroom, where expectations from the surrounding environment can serve as a strong driver for adopting Generative AI. Studies by Wang et al. (2024), Zhang & Wareewanich (2024), Wu et al. (2022), Yildiz & Arpaci (2024), and Durak (2019) show that social influence positively impacts behavioral intention to use technology, including Generative AI.

Facilitating conditions refer to individuals' perceptions regarding the availability of resources, infrastructure, and technical support necessary to support the adoption of technology (Venkatesh et al., 2003). Previous studies also support that the facilitating conditions variable has a positive and significant impact on the behavioral intention to use technology, including Generative AI. Research by Zhang & Wareewanich (2024) shows that facilitating conditions have a significant positive influence on teachers' intentions to use Generative AI. This study emphasizes the importance of infrastructure and technical support available to teachers, which influences their decision to adopt new technology in teaching. Meanwhile, Kim & Lee (2022) found the influence of facilitating conditions on the intention of teachers in the Philippines to adopt ICT-based teaching. This research highlights that factors such as technical support and the availability of teaching tools can facilitate the acceptance technology.

However, there are some differences in the findings of studies by Alotumi (2022), Islamoglu et al. (2021), and Yildiz & Arpaci (2024), which state that performance expectancy does not influence the behavioral intention to use technology. Studies by Wang et al. (2024), Kardoyo et al. (2022), Pramusinto et al. (2023), Zhang & Wareewanich (2024), and Alotumi (2022) show no influence of effort expectancy on the behavioral intention to use technology. Research by Utami & Irwansyah (2022) and Kabra et al. (2017) states that social influence can have a negative and significant effect

on the behavioral intention to use technology, particularly when individuals feel that their peers disapprove of or do not support the use of certain technologies. Additionally, the differing findings of Sichone et al. (2017) show that facilitating conditions negatively impact the intention to use e-filing in Tanzania.

Previous research on behavioral intention in the use of technology, including Generative AI, has often yielded inconsistent results. This variation suggests the possibility of other variables moderating the relationship between factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions on the intention of teachers to use technology. In this regard, Technological Pedagogical Content Knowledge (TPACK) is considered an important moderating variable to explain these discrepancies. Among teachers, the ability to integrate technology with relevant pedagogy and content is a key factor in the effectiveness of technology use in teaching. Therefore, the purpose of this study is to analyze the effect of performance expectancy, effort expectancy, social influence, and facilitating conditions on behavioral intention to use Generative AI, with TPACK as a moderating variable among economics teachers in Semarang.

Hypothesis

- H1:** Performance expectancy has a positive and significant effect on the behavioral intention to use Generative AI
- H2:** Effort expectancy has a positive and significant effect on the behavioral intention to use Generative AI
- H3:** Social influence has a positive and significant effect on the behavioral intention to use Generative AI
- H4:** Facilitating conditions have a positive and significant effect on the behavioral intention to use Generative AI
- H5:** TPACK moderates the effect of performance expectancy on the behavioral intention to use Generative AI
- H6:** TPACK moderates the effect of effort expectancy on the behavioral intention to use Generative AI
- H7:** TPACK moderates the effect of social influence on the behavioral intention to use Generative AI
- H8:** TPACK moderates the effect of facilitating conditions on the behavioral intention to use Generative AI

METHODS

This study employs a quantitative approach (SEM-PLS model) to analyze the factors influencing the behavioral intention of teachers to use Generative AI in teaching. The respondents of this study are high school economics teachers in Semarang. A total of 119 teachers filled out the research questionnaire, which was distributed via Google Forms. A description of the respondents is presented in Table 1.

The respondents were predominantly female, comprising 67.2%. Based on teaching experience, the majority of the respondents had been teaching for more than 20 years, accounting for 26.9%. In terms of educational level, 26.9% of the respondents had obtained a Master's degree. The dependent variable in this study is the behavioral intention to use Generative AI, which was measured using 8 statement items. Performance expectancy was measured using 10 statement items, while effort expectancy, social influence, and facilitating conditions were each measured with 6 statement items. The TPACK variable was measured with 14 statement items. The statement items were measured using a 5-point Likert scale. The research questionnaire was developed based on the opinions of previous researchers to gather data for the study. The validity and reliability of the questionnaire have been tested. The data analysis method used was SEM-PLS with a model as shown in Figure 1.

Table 1. Respondent Description

Description		Amount	Percentage
Gender	Male	39	32,8%
	Female	80	67,2%
	Total	119	100%
Age	21-30 years old	21	17,6%
	31-40 years old	27	22,7%
	41-50 years old	46	38,7%
	>50 years old	25	21,0%
	Total	119	100%
School	Public	78	65,5%
	Private	41	34,5%
	Total	119	100%
Teaching Experience	1-5 year	20	16,8%
	6-10 year	17	14,3%
	11-15 year	21	17,6%
	16-20 year	29	24,4%
	>20 year	32	26,9%
	Total	119	100%
Education	S1	87	73,1%
	S2	32	26,9%
	S3	0	0,0%
	Total	119	100%

Source: Primary data (2025)

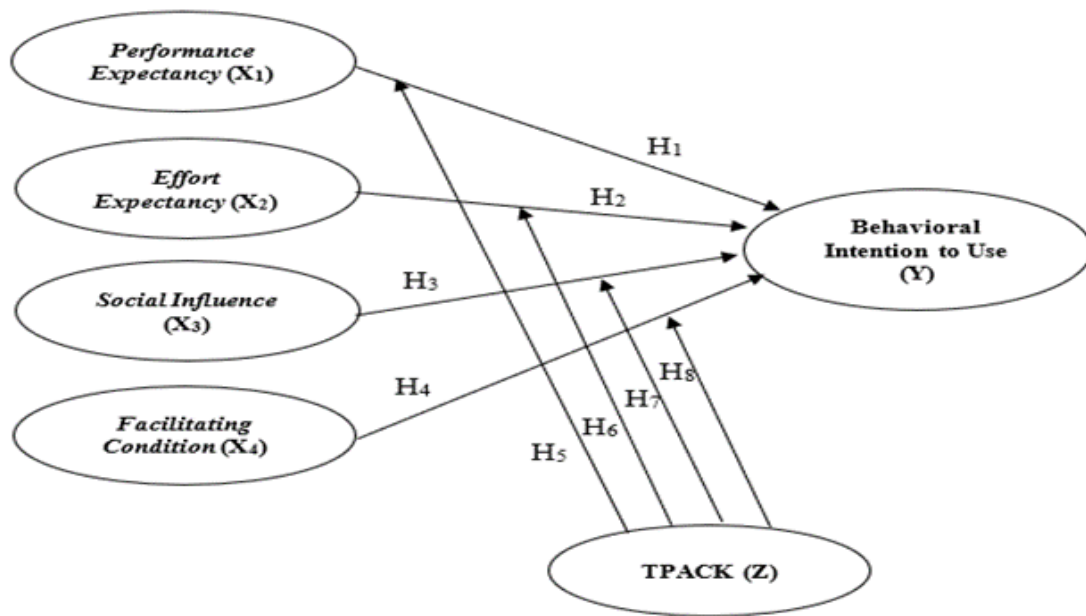


Figure 1. Research Model

RESULT AND DISCUSSION

Result

The results of this study are presented through descriptive statistics of the study variables, validity and reliability testing, model fit, and hypothesis testing results. Table 2 presents the descriptive statistics of the study variables and shows that the level of behavioral intention of teachers in using Generative AI for economic learning is categorized as high. The mean score is 29.82, with a maximum score of 40. The majority of teachers believe that the use of Generative AI has a significant impact on improving the efficiency and effectiveness of the learning process. Teachers also perceive that AI is still relatively easy to use. Additionally, the average score for facilitating conditions is categorized as high, reflecting that they feel sufficiently supported by existing resources and infrastructure, although there may be some aspects that still need improvement to support the optimal use of technology.

Table 2. Descriptive Statistics

Variabel	N	Minimum	Maximum	Mean	Std-Dev
Behavioral Intention to use GAI	119	10	39	29,82	7,52
Performance Expectancy	119	10	48	34,27	10,18
Effort Expectancy	119	8	30	20,39	5,96
Social Influence	119	6	30	20,18	6,28
Facilitating Conditions	119	7	30	20,92	5,81
TPACK	119	24	67	52,81	11,61

Source: SPSS output (2025)

The hypothesis testing in this study uses the SEM-PLS model with the WarpPLS application through the outer model and inner model stages. The outer model is evaluated based on three criteria: convergent validity, discriminant validity, and reliability testing. Meanwhile, the inner model (structural model evaluation) is assessed by examining model fit and quality indices, R-squared, and Q-squared values. After processing the data in WarpPLS, the model fit indices and p-values are obtained.

Table 3. Result of R-Square Analysis

Variable	R square	R Square Adjusted
Behavioral Intention to Use GAI (Y)	0,359	0,313

Source: SEM-PLS output (2025)

Table 4. Result of Q-Square Analysis

Variable	Q square
Behavioral Intention to Use GAI (Y)	0,359

Source: SEM-PLS output (2025)

Table 5. Path Analysis of the Research Model

No	Hipotesis	Path Coefficient	P Values	Criteria	Conclusion
1	PE → Y	0,346	<0,001	P<0,05	Accepted
2	EE → Y	0,271	<0,001	P<0,05	Accepted
3	SI → Y	0,322	<0,001	P<0,05	Accepted
4	FC → Y	0,128	0,038	P<0,05	Accepted
5	PE*Z → Y	0,403	<0,001	P<0,05	Accepted
6	EE*Z → Y	0,185	0,006	P<0,05	Accepted
7	SI*Z → Y	0,175	0,008	P<0,05	Accepted
8	FC*Z → Y	0,157	0,015	P<0,05	Accepted

Source: SEM-PLS output (2025)

DISCUSSION

The Influence of Performance Expectancy on Behavioral Intention to Use

Based on the hypothesis test H1, which states that "performance expectancy has a positive and significant effect on the behavioral intention to use Generative AI among economics teachers in Semarang," the hypothesis is accepted. This is supported by the SEM-PLS analysis results, which show a coefficient value of 0.346 and a significance level of <0.001, indicating that performance expectancy has a positive influence on the behavioral intention to use Generative AI.

The results of this study align with previous research by Wang et al. (2024), Kim & Lee (2022), Liu et al. (2024), Joo et al. (2018), Strzelecki & ElArabawy (2024), Wu et al. (2022), An et al. (2023), and Sun et al. (2024), which showed that performance

expectancy has a positive and significant effect on the behavioral intention to use Generative AI by teachers. These studies confirm that a positive perception of the performance of technology will encourage individuals, in this case, teachers, to be more inclined to adopt the technology. The findings of this study further strengthen the previous findings by demonstrating that the higher the performance expectancy of the benefits of Generative AI, the greater their intention to use it in teaching. Therefore, this study reinforces the important role of performance expectancy in influencing the intention to use Generative AI.

The Influence of Effort Expectancy on Behavioral Intention to Use

Based on the hypothesis testing H2, which states that "effort expectancy has a positive and significant effect on the behavioral intention to use Generative AI among economics teachers in Semarang," it is accepted. This is supported by the SEM-PLS analysis, which showed a coefficient value of 0.271 and a significance value of <0.001 , meaning that effort expectancy has a positive effect on the behavioral intention to use Generative AI.

Several previous studies support the notion that effort expectancy has a significant positive effect on the behavioral intention to use Generative AI. Research by Venkatesh et al. (2003) in the development of the Unified Theory of Acceptance and Use of Technology (UTAUT) identified effort expectancy as a key factor influencing users' intention to adopt new technology. Studies by Yildiz & Arpaci (2024), Islamoglu et al. (2021), Durak (2019), Tewari et al. (2023), Strzelecki & ElArabawy (2024), Wu et al. (2022), and Sun et al. (2024) show that effort expectancy has a positive and significant effect on the behavioral intention to use Generative AI by teachers. These findings are consistent with the theory used in this research, the UTAUT, which posits that effort expectancy has a positive and significant effect on the behavioral intention to use Generative AI. The higher the effort expectancy, the greater the intention of a teacher to use Generative AI, and vice versa. Therefore, it can be concluded that the role of effort expectancy has a positive and significant effect on the behavioral intention to use Generative AI among teachers.

The Influence of Social Influence on Behavioral Intention to Use

Based on hypothesis testing H3, which states that "social influence has a positive and significant effect on the behavioral intention to use Generative AI among economics teachers in Semarang," it is accepted. This is supported by the SEM-PLS analysis, which showed a coefficient value of 0.322 and a significance value of <0.001 , meaning that social influence has a positive effect on the behavioral intention to use Generative AI.

Various previous studies indicate that social influence has a significant positive effect on the behavioral intention to use Generative AI among teachers. Research by Venkatesh et al. (2003) shows that social influence is an important predictor of technology adoption intentions, especially during the early stages of adoption. Studies by Wang et al. (2024), Zhang & Wareewanich (2024), Strzelecki & ElArabawy (2024), Wu

et al. (2022), and Islamoglu et al. (2021) show that social influence has a positive and significant effect on the behavioral intention to use Generative AI by teachers. These findings are consistent with the theory used in this study, UTAUT, which posits that social influence has a positive and significant effect on the behavioral intention to use Generative AI. The higher the social influence, the greater the intention of a teacher to use Generative AI, and vice versa.

The Influence of Facilitating Conditions on Behavioral Intention to Use

Based on hypothesis testing H4, which states that "facilitating conditions have a positive and significant effect on the behavioral intention to use Generative AI among economics teachers in Semarang," it is accepted. This is supported by the SEM-PLS analysis, which showed a coefficient value of 0.128 and a significance value of 0.038, meaning that facilitating conditions have a positive effect on the behavioral intention to use Generative AI.

The results of this study are also consistent with previous research that has shown that facilitating conditions have a significant positive effect on the behavioral intention to use technology. Research by Venkatesh et al. (2003) in the development of UTAUT found that facilitating conditions are an important factor in determining technology adoption intentions. Studies by Zhang & Wareewanich (2024), Kim & Lee (2022), Teo et al. (2018), Tewari et al. (2023), and Strzelecki & ElArabawy (2024) show that facilitating conditions have a significant positive effect on the behavioral intention to use Generative AI by teachers. These findings are in line with the theory used in this study, UTAUT, which posits that facilitating conditions have a positive and significant effect on the behavioral intention to use Generative AI. The higher the facilitating conditions, the greater the intention of a teacher to use Generative AI.

TPACK in Moderating the Influence of Performance Expectancy on Behavioral Intention to Use

Based on hypothesis testing H5, which states that "TPACK moderates the effect of performance expectancy on the behavioral intention to use Generative AI among economics teachers in Semarang," it is accepted. This is supported by the SEM-PLS analysis, which shows a coefficient value of 0.403 and a significance value of <0.001 .

Teachers with high TPACK possess the skills to address potential technical challenges that may arise, as well as the ability to align technology with relevant pedagogical needs and learning content. On the other hand, for teachers with low TPACK, despite having a strong belief in the benefits of Generative AI, they may feel uncertain or struggle to implement it effectively due to a lack of knowledge on how to integrate this technology into appropriate teaching methods.

TPACK in Moderating the Influence of Effort Expectancy on Behavioral Intention to Use

Based on hypothesis testing H6, which states that "TPACK moderates the effect of effort expectancy on the behavioral intention to use Generative AI among economics teachers in Semarang," the hypothesis is accepted. This is supported by the SEM-PLS analysis, which shows a coefficient of 0.185 and a significance value of 0.006. The positive coefficient indicates that the TPACK variable has a positive influence, and the significance value less than 0.05 suggests that TPACK moderates the effect of effort expectancy on the behavioral intention to use Generative AI.

When teachers possess strong knowledge in technology (Technology Knowledge), pedagogy (Pedagogical Knowledge), and content (Content Knowledge), they are more likely to perceive the use of new technologies, including Generative AI, as easier and less complex in the learning process. This comprehensive knowledge enables teachers to better evaluate how Generative AI can be integrated into existing teaching practices, providing confidence that the technology can be used efficiently and is easy to understand.

TPACK in Moderating the Influence of Social Influence on Behavioral Intention to Use

Based on hypothesis testing H7, which states that "TPACK moderates the effect of social influence on the behavioral intention to use Generative AI among economics teachers in Semarang," the hypothesis is accepted. This is supported by the SEM-PLS analysis, which shows a coefficient of 0.175 and a significance value of 0.008. The positive coefficient indicates that the TPACK variable has a positive influence, and the significance value less than 0.05 suggests that TPACK moderates the effect of social influence on the behavioral intention to use Generative AI.

When a teacher hears from their colleagues who are experienced in integrating Generative AI into economics teaching, especially if those colleagues possess high TPACK knowledge, the teacher will feel more motivated and stimulated to follow the best practices shared by their peers. By having in-depth knowledge of technology, pedagogy, and content, teachers who hear positive experiences from their colleagues will become more confident that Generative AI can be effectively used in their own teaching.

TPACK in Moderating the Influence of Facilitating Condition on Behavioral Intention to Use

Based on hypothesis testing H8, which states that "TPACK moderates the influence of facilitating conditions on the behavioral intention to use Generative AI among economics teachers in Semarang," it is accepted. This is supported by the SEM-PLS analysis results, which show a coefficient of 0.157 and a significance value of 0.015. The positive coefficient indicates that the TPACK variable has a positive influence, and the significance value of less than 0.05 suggests that TPACK moderates the influence of facilitating conditions on the behavioral intention to use Generative AI.

The role of TPACK in strengthening the influence of facilitating conditions on the behavioral intention to use Generative AI is closely related to teachers' knowledge in three main domains: technology knowledge, pedagogy knowledge, and content knowledge. Teachers with in-depth knowledge of technology will find it easier to identify and utilize available supporting conditions, such as adequate devices and resources for implementing Generative AI in teaching. They will also be more confident in assessing the compatibility of this technology with the facilities available in their educational environment. Strong pedagogical knowledge enables teachers to understand how to adapt Generative AI in the teaching context, making it easier for them to take advantage of various supporting facilities in schools. Furthermore, in-depth content knowledge gives teachers the ability to assess the relevance and appropriateness of Generative AI with the instructional materials they are handling, which, in turn, influences the optimal use of supporting facilities in teaching. With high TPACK knowledge, teachers are better equipped to utilize existing resources, such as hardware and software, which makes them feel more supported in using Generative AI to enhance teaching quality. This shows that economics teachers in Semarang with high TPACK knowledge will strengthen the influence of facilitating conditions on the behavioral intention to use Generative AI. Therefore, it can be concluded that the influence of facilitating conditions on the behavioral intention to use Generative AI will be stronger when supported by a high level of TPACK knowledge.

CONCLUSION

Based on the data analysis, it can be concluded that the variables of performance expectancy, effort expectancy, social influence, and facilitating conditions are factors that influence the behavioral intention to use Generative Artificial Intelligence. Furthermore, TPACK knowledge plays a role as a moderating variable with a positive coefficient, which strengthens the influence of performance expectancy, effort expectancy, social influence, and facilitating conditions on the behavioral intention to use Generative Artificial Intelligence. This study has limitations in terms of its geographical scope, which is limited to economics teachers in Semarang. Therefore, future research is recommended to expand the respondent coverage and further explore the interaction between personal factors, professional experience, and technology acceptance in the influence of TPACK on the use of Generative AI. The government and educational institutions are encouraged to introduce initiatives to integrate Generative AI into the curriculum and provide TPACK-based training for teachers. Teachers are also encouraged to enhance their understanding of educational technology, particularly Generative AI, leverage TPACK in teaching, and collaborate with colleagues to share experiences and knowledge related to technology.

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