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Technology Readiness and Perceived Usefulness Mediate Digital Competencies and Artificial Intelligence Technologies

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ABSTRACT

The development of technology is getting more sophisticated along with the increasing number of fields that adopt technology, such as artificial intelligence. Universities are now adding AI curriculum in accounting as a provision before entering the workforce. There are factors that can influence users in accepting technology so this study aims to examine the influence of variables on AI acceptance. This research is a quantitative study with a primary data collection method through a questionnaire distributed to 98 respondents with a population of 4,074 students with research objects at 4 state universities in Surabaya. The results of the research conducted are that digital competence affects technology adoption of AI, technology readiness and perceived usefulness, technology readiness affects technology adoption of AI and perceived usefulness affects technology adoption of AI. Technology readiness and perceived usefulness cannot mediate the effect of digital competence and technology adoption of AI.

Keywords: *Accounting; Artificial Intelligence*; *Digital Competence*; *Technology Adoption of Artificial Inteligence*

ABSTRAK

Pengembangan teknologi semakin canggih beriringan dengan semakin banyaknya bidang yang mengadopsi teknologi, seperti *artificial intelligence*. Perguruan tinggi kini menambahkan kurikulum AI dalam bidang akuntansi sebagai bekal sebelum terjun ke dunia kerja. Terdapat faktor yang mampu mempengaruhi pengguna dalam penerimaan teknologi sehingga penelitian ini bertujuan menguji pengaruh variabel terhadap penerimaan AI. Penelitian ini merupakan penelitian kuantitatif dengan metode pengumpulan data primer melalui kuesioner yang disebarkan kepada 98 responden dengan populasi sebesar 4.074 mahasiswa dengan objek penelitian di 4 PTN Surabaya. Hasil penelitian yang dilakukan yaitu bahwa *digital competence* berpengaruh terhadap *technology adoption of AI*, *technology readiness* dan *perceived usefulness*, technology readiness berpengaruh terhadap technology adoption of AI dan perceived usefulness berpengaruh terhadap technology adoption of AI. *Technology readiness* dan *perceived usefulness* tidak dapat memediasi pengaruh *digital competence* dan *technology adoption of AI*.

Kata kunci: Akuntansi; *Artificial Intelligence*; *Digital Competence*; *Technology Adoption of Artificial Inteligence*

INTRODUCTION

The number of internet users is increasing until the 2022-2023 period reaches 215.63 million. This is in accordance with the results of a survey conducted by the Indonesian Internet Service Providers Association (2023) regarding Indonesia's Internet Penetration. Various fields are now shifting to digitalization systems in education, social, cultural, and others. Accounting is one of the fields that implements technology in its operational activities in producing financial reports and other activities. Various types of software were launched to facilitate accounting activities such as Odoo, Zahir, Myob, Accurate and others. This transformation to the digital world certainly requires a fairly long adaptation so that the forerunners must be prepared with learning about technology so that when in the world of work they are able to adapt and operate technology in the accounting field. Various types of technology can be adopted in the field of accounting such as big data, cloud computing to technology that is currently very popular, namely artificial intelligence.

Artificial Intelligence is a technology designed to have similarities with human intelligence, so many AI technologies are utilized to facilitate activities. AI systems can also be applied in the accounting field, including journal creation, invoice checking, bank reconciliation, payroll management and so on. AI is widely adopted and applied in certain accounting software to simplify accounting activities. The transformation to the current digital world must be balanced with technology learning in higher education. Through the technology that has been learned, students have digital competence which will affect their readiness to face technology or what is called technology readiness. Students who are able to operate certainly have a level of confidence that using this technology can improve performance and productivity, this is called perceived usefulness so that users will continue to explore and adopt technology to increase their productivity. Students in higher education must be provided with learning about the implementation of AI. This has been implemented considering that 98% of Indonesian universities have conducted learning about technology, especially Artificial Intelligence.

Surabaya universities are universities that are the target of many students from various regions in Indonesia because they have their own charms, both adequate transportation, complete learning facilities and others. This is an attraction in itself to get higher education in the city of Surabaya. Thus, Surabaya State University became the location of research on Artificial Intelligence. The universities are UPN “Veteran” East Java (UPNVJT), Airlangga University (UNAIR), Surabaya State University (UNESA), and Sunan Ampel Surabaya State Islamic University (UINSA) with various backgrounds stated above and the 4 state universities in Surabaya also have Accounting study programs. The preliminary survey that has been conducted states that most of the students at the public universities in Surabaya have adopted artificial intelligence. Through the artificial intelligence technology used, they argue that this AI technology is able to facilitate accounting activities carried out in universities.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Technology Acceptance Model (TAM)

The technology acceptance model is a theory that describes the technology acceptance model. This theory was first proposed by Davis (1989) which was adapted from the theory of reasoned action (TRA) which describes the modeling of user acceptance.

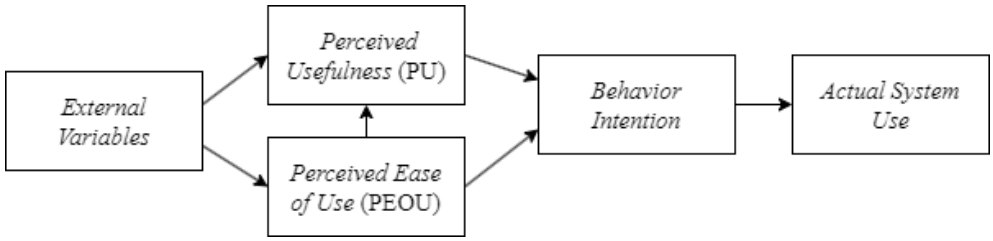

Figure 1. Original Technology Acceptance Model (TAM) Concept

This theory was contains how users are able to understand the use of a new technology, namely artificial intelligence (Davis, 1989). Venkatesh & Davis (2000) explains that there are 3 factors that can influence the use of technology, namely perceived usefulness, Perceived Ease of Use and Intention to Use, while the factors that can encourage the use of technology are behavior beliefs and normative beliefs. This factor is able to encourage users to have an outcome evaluation and motivation to comply. Both are able to encourage users to attitude and subjective norms.

Diffusion of Innovation Theory

The theory of innovation diffusion was first proposed by Lazarsfeld et al. (1944). This theory explains that when an innovation or new discovery is then communicated to media channels within a certain period of time with the aim of spreading or channeling the discovery (Rogers, 1995). This theory believes that technological innovation is able to spread information quickly to various regions and layers of society and is able to introduce new ideas or new, more diverse innovations into the social system. The purpose of innovation diffusion theory is to determine the factors that influence the acceptance of an innovation by individuals or social groups.

Theory of Reasoned Action

The theory of reasoned action was developed by Fishbein & Ajzen (1975), aiming to determine the underlying factors related to a person's motive for performing a behavior. This theory was originally called the theory of reasoned action in 1967. In the 1980s this theory was used to study human behavior. In 1988, there was an addition to the reasoned action model which was renamed Theory of Planned Behavior (TPB). This theory aims to complement and minimize the shortcomings that exist in the TRA theory. This theory states that the rationality of making decisions to behave is made from uncertainty (Fishbein & Ajzen, 1975). Rational decision making means that an optimal result is expected and aware of the consequences and risks obtained.

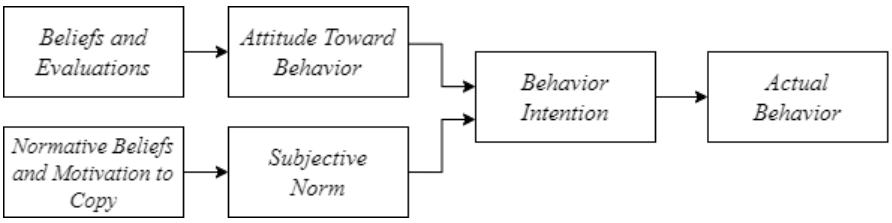

Figure 2. Theory of Reasoned Action Model

Technology Readiness

Sudaryanto et al. (2023) define technology readiness as the user's perception of the possibility of the user accepting a new technology. Meanwhile, according to Damerji (2019) technology readiness is the user's tendency to accept or use new technology. It can be concluded that technology readiness is a possibility for people to use technology to be implemented in life. Parasuraman (2000) provides several indicators, as follows: 1) Optimism as a belief that technology can increase flexibility 2) Innovativeness is the desire to create new things compared to before. 3) Discomfort, which is a negative feeling due to concern or displeasure with the use of technology. 4) Insecurity, namely the lack of trust that arises because of the security of technology against privacy.

Digital Competence

Perifanou & Economides (2019) define that digital competence is the knowledge or skills in using technology both to interact, collaborate and others. Zhao et al. (2021) also expressed their opinion that digital competence is the competence in using technology to streamline work. Through this definition, it can be concluded that digital competence is all the knowledge, skills or competence of a person to use technology as well as possible to facilitate work and increase productivity. There are two indicators according to Sudaryanto et al. (2023), namely: 1) Digital literacy is the skill to use technology and 2) information literacy is the skill to use information technology both to obtain, filter and evaluate information sourced from technology.

Perceived Usefulness

Perceived usefulness is a user belief regarding the use of a system that can improve performance (Fahmy & Azhari, 2020). Arta & Azizah, (2020) suggest that perceived usefulness is a user's belief that the system is able to increase time efficiency, increase productivity and speed up activities. Based on this definition, it can be concluded that perceived usefulness is a user's perception that a technology system is able to facilitate activities and increase productivity. Venkatesh & Davis (2000) mention several indicators in perceived usefulness, namely: 1. Use of a system that can improve performance, 2. Use of a system that can increase productivity, 3. Use of a system that can increase performance effectiveness, and 4. Use of a system that can be useful.

Technology Adoption of Artificial Intelligence

According to Sudaryanto et al. (2023) technology adoption of artificial intelligence is the process of accepting a technological innovation, while according to Sani et al. (2020), technology adoption of AI is a process when users accept new technology. So it can be concluded that technology adoption of AI is a process of accepting new technologies related to artificial intelligence in their daily lives.

Hypothesis Development

Digital competence is an individual's skill in using digitalization to achieve goals and productivity (Perifanou & Economides, 2019). According to Fahmy & Azhari (2020), perceived usefulness is a probability of user perception when using an application system that can improve performance. The theory that supports between the two variables is the RAT theory, which is related to the reasons that underlie users to apply this technology. The digital capabilities possessed by users can be one of the factors that make users confident and confident in using technology in their daily lives. This is in accordance with research conducted by Damerji & Salimi (2021) that digital competence affects perceived usefulness. This is because the benefits of digital competence felt by accounting students in higher education are able to provide perceived usefulness benefits. In addition, research conducted by Damerji

(2019) revealed that digital competence affects perceived usefulness because when users have sufficient digital competence, this will increase their confidence and trust that the technology to be used can improve performance and productivity. Conversely, if the user lacks digital competence, the user is hesitant in applying technology in his life (Damerji, 2019). However, research conducted by Sudaryanto et al. (2023) which states that digital competence has no effect on perceived usefulness because the digital skills possessed by users do not guarantee that users feel the benefits of using it because not all fields engaged in by users use AI technology. Users only need to adapt and use the knowledge base in technology according to their field (Sudaryanto et al., 2023).

H_1: Digital Competence has a Significant Effect on Perceived Usefulness

Digital competence is the knowledge or skills possessed by a person in operating technology, while technology readiness is a sense of readiness in applying artificial intelligence technology in their lives. This is in accordance with the TAM concept. The TAM model contains the conveniences obtained when users have digital competencies and factors related to readiness to use technology. When someone has all the digital competencies in running a technology, the more he is ready to use and apply the technology. Research conducted by Martzoukou et al. (2020) states that digital competence has an influence on technology readiness. The results of the study are in accordance with the concept of the TAM model because when users feel they have the ability of digital competence, users tend to be more ready to use the artificial intelligence technology.

Sudaryanto et al. (2023) actually provides research results that are inversely proportional. This is because digital competence has no effect on technology readiness. This is because digital competence owned by users is not the only factor that causes users to feel ready to operate AI technology. There are other factors that cause a person to feel ready to use technology, such as the existence of ready-to-use technology components or equipment or the demands in using AI technology.

H_2: Digital Competence has a Significant Effect on Technology Readiness

Digital competence is a person's overall competence in using technology to increase productivity, optimize performance and improve efficiency while technology adoption of artificial intelligence is defined as a condition where users are ready to accept and use artificial intelligence technology in their daily lives. This model is in accordance with the acceptance theory, namely the Theory acceptance model (TAM), in which digital capabilities are able to encourage users to make decisions either to accept or reject technology in their daily lives (Davis, 1989). Research conducted by Damerji (2019) states that when users have high digital competence, the more encouraged users are to adopt technology and when users do not have or lack digital competence, they tend to be reluctant to accept and apply technology in their daily lives. Sudaryanto et al. (2023) and Martzoukou et al. (2020) also state that digital competence has an influence on technology adoption of AI. When users feel that they have the ability of digital competence and understand the convenience they will feel, of course, the higher the desire to try and use the artificial intelligence technology. Research conducted by Sudaryanto et al. (2023) actually provides research results that are inversely proportional because the research conducted by him actually has the result that digital competence has no effect on technology adoption of AI. This is because the digital competence possessed by users does not guarantee that they will adopt technology in their lives but users will adapt well to the use of AI technology.

H_3: Digital Competence has a Significant Effect on Technology Adoption of AI

Technology Readiness is the user's perception regarding the possibility of the community accepting new technology that can be applied in life (Sudaryanto et al., 2023). Meanwhile, perceived usefulness is defined as the user's perception of using an application system to improve performance (Fahmy & Azhari, 2020). The theoretical model of TR refers to the Technology Readiness Index (TRI) which is an indicator of technological readiness initiated by Parasuraman (2000). Research conducted by Damerji (2019) and Sudaryanto et al. (2023) state that technology readiness affects perceived usefulness. In addition, research conducted by Sharma et al. (2021) also produced the same research results that when people can meet the indicators in using technology, the higher the confidence to use technology. This is because when they believe that when people are able to apply technology, the more users will begin to adopt and believe that technology can improve performance and increase productivity (Damerji, 2019).

Research conducted by Sharma et al. (2021) states that Artificial intelligence technology which is currently developing has provided a real picture of its implementation in life. All developing technologies are able to provide meaningful usability benefits to users in each field Amdanata et al. (2023) state that technology readiness has no influence on perceived usefulness. This is because when users know AI technology which is currently developing rapidly, but if they do not know the benefits of using technology, the technology will not be implemented while students will not benefit from using technology.

H_4: Technology Readiness has a Significant Effect on Perceived Usefulness

Technology readiness (TR) is the level of possibility that people are able to operate and use technology to be implemented in their daily lives. Meanwhile, technology adoption of AI is a process of accepting technological innovations in everyday life (Sudaryanto et al., 2023). This model is in accordance with the technology acceptance theory model (TAM) which is based on the technology readiness index (TRI). The TRI model will refer to the diffusion of innovation theory which discusses how users or individuals decide to accept or reject a technology application. Acceptance or rejection of the use of technology is influenced by one of them, namely the readiness of the community to use it (Parasuraman, 2000). The readiness of the community to operate a new technology will affect the attitude to accept or reject the use of technology. This theory is in accordance with research conducted by Damerji & Salimi (2021), one of the results of which is that technology readiness affects the technology adoption of artificial intelligence.

The results of this study state that when people are able to operate the technology, they will tend to accept and apply the use of technology in their lives. However, when people feel lacking in operating technology, they tend to hesitate and refuse to apply technology in life (Damerji & Salimi, 2021). Research conducted by Damerji (2019) also states a similar thing that there is an influence between technology readiness and technology adoption of AI. This is because the knowledge and skills possessed by users on the operation of AI technology affect the level of willingness in the adoption of artificial intelligence technology. Knowledge and skills will show readiness which leads to acceptance or rejection in the adoption of AI technology acceptance.

Research conducted by Sudaryanto et al. (2023) and Amdanata et al. (2023) actually revealed that TR does not affect the technology adoption of AI. This is because the students sampled in their survey are generally optimistic in the innovation of AI, but most of them also have a high level of discomfort and insecurity. A suitable explanation for this is that most Indonesian companies except for a few companies that have just integrated artificial intelligence into their

business but in most companies do not want to adopt artificial intelligence because there are no mandatory rules yet, so there is insecurity and discomfort.

H_5: Technology Readiness has a Significant Effect on Technology Adoption of AI

Perceived usefulness is the user's perception of the ease of use of artificial intelligence technology, while technology adoption of artificial intelligence is a condition when users accept or reject the use of artificial intelligence technology. This variable is in line with the concept of Technology Readiness Index (TRI) regarding indicators that are factors in the acceptance or rejection of artificial intelligence technology initiated by Parasuraman (2000). Research conducted by Sudaryanto et al. (2023) states that the perceived ease of use of technology has a positive impact on the user's tendency to accept or reject the use of artificial intelligence technology. This research is also in line with that conducted by Sharma et al. (2021), where perceived usefulness affects the technology adoption of AI. This result means that when users have high confidence in the ease of use of artificial intelligence technology, the higher the desire to adopt or apply artificial intelligence technology in their lives.

H_6: Perceived Usefulness has a Significant Effect on Technology Adoption of Artificial Intelligence

Perceived usefulness is a perception related to the ease of use of new technology while technology adoption of artificial intelligence is defined as a sense of users to accept and use artificial intelligence technology in everyday life. In this case, digital competence becomes a mediating variable that aims to determine the extent to which digital competence is able to strengthen or weaken the influence between perceived usefulness on technology adoption of AI. This model is in accordance with the acceptance theory, namely the Theory acceptance model (TAM) initiated by Davis (1989). Research conducted by Sudaryanto et al. (2023) and Sharma et al. (2021) states that perceived usefulness affects the technology adoption of AI. This indicates that when users feel the ease of use of AI technology in their lives, the higher the confidence to accept and adopt this technology in their lives.

H_7: Digital Competence Mediates the Effect of Perceived Usefulness on Technology Adoption of Artificial Intelligence

Technology readiness (TR) is the level of community readiness in the use of AI technology in everyday life. Meanwhile, technology adoption of artificial intelligence is a process when users accept and apply technological innovations in their daily lives (Sudaryanto et al, 2023). In this model, digital competence becomes a mediating variable used to determine how much digital competence can strengthen or weaken the relationship between technology readiness and technology adoption of AI. This model is in accordance with the technology acceptance theory model (TAM) which is based on the technology readiness index (TRI). The TRI model will refer to the diffusion of innovation theory which discusses the factors that cause users to accept or reject a technological innovation. The results of research conducted by Damerji & Salimi (2021), namely technology readiness affects the technology adoption of artificial intelligence. When people can and are ready to operate technology, the higher the desire to apply AI technology in their lives. Conversely, if users feel less ready to operate AI technology, the more hesitant users are to accept and apply artificial intelligence technology in life.

H_8: Digital Competence Mediates the Effect of Technology Readiness on Technology Adoption of Artificial Intelligence

Digital competence is a digital competence that users must have in order to be able to operate technology. Technology adoption of artificial intelligence occurs when users have the desire to accept or reject the use of AI technology in their lives. When someone has digital competence,

the higher the desire to adopt and use artificial intelligence technology in their lives. Conversely, when the user lacks digital competence, the more he hesitates to use artificial intelligence technology in his life (Damerji, 2019). Technology readiness is the user's sense of readiness in adopting technology, while perceived usefulness is a perception related to the ease of use that users feel when using technology. Technology readiness and perceived usefulness are able to strengthen the relationship between digital competence and technology adoption of AI because when someone has digital skills and is supported by a sense of readiness and a high perception of the ease of use of artificial intelligence technology, the higher the desire to apply AI systems (Sudaryanto et al, 2023).

H_9: Technology Readiness and Perceived Usefulness Mediate Digital Competence and Technology Adoption of Artificial Intelligence

RESEARCH METHODS

This research was conducted using quantitative approach and used primary data obtained through the method of collecting questionnaires distributed from February 05, 2024 to March 05, 2024 through google form and secondary data obtained through information that is indirectly sourced from the first party such as literature, scientific articles, and scientific papers. The object of this research is undergraduate accounting students at state universities in Surabaya, where the population totals 4,074 consisting of four universities, namely UPN "Veteran East Java", Airlangga University, Surabaya State University, and Sunan Ampel Surabaya State Islamic University.

The variables used in this study are Digital Competence, Technology Readiness, Perceived Usefulness and Technology Adoption of AI. The analysis technique used is Partial Least Square (PLS) using the SmartPLS version 3 test tool, where the test consists of an outer model that tests related to convergent validity, loading factors value, AVE (Average Variance Extracted) value, cross loading and fornell-larcker criterion (root of average variance extracted) and there is a reliability test regarding the value of composite reliability and Cronbach's Alpha. The next test is the inner model which is used to test the coefficient of determination (R^2) and predictive relevance (Q2) and hypothesis testing using the bootstrapping procedure.

RESULT AND DISCUSSION

Validity Test

Convergent Validity Test

Convergent validity test is defined as a type of validity that aims to determine the level of alignment of construct measures with others (Ghozali & Latan, 2020:77). The convergent validity value is obtained from the loading factors value, which is the level of correlation between the constructs. The loading factors value is considered reliable if it is above 0.6 and if it is below 0.6, it is said that the loading factors value is less reliable (Ghozali & Latan, 2020:77).

Table 1. Variable Loading Factor Value

Indicators	Loading Value
DC1	0.816
DC2	0.725
DC3	0.792
DC4	0.850
DC5	0.866
DC6	0.844

DC7	0.832
DC8	0.844
DC9	0.819
DC10	0.882
DC11	0.907
DC12	0.877
DC13	0.903
DC14	0.918
PU1	0.882
PU2	0.908
PU3	0.800
PU4	0.883
PU5	0.926
PU6	0.870
TR5	0.796
TR6	0.743
TR8	0.874
TA1	0.882
TA2	0.908

Source: Data processed (2024)

Testing the loading value is carried out in two stages. the first stage is carried out to eliminate indicators that have a loading value < 0.6 while the second test is a test that obtains a loading value > 0.6. The loading factors value in table 1 is declared valid because all indicators have a value > 0.6 (Ghozali & Latan. 2020:78).

AVE Value

Table 2. AVE Value

	AVE Value
Digital Competence (X1)	0.722
Technology Adoption of AI (Y)	0.768
Technology Readiness (Z1)	0.650
Perceived Usefulness (Z2)	0.773

Source: Data processed (2024)

AVE (Average Variance Extracted) testing is carried out to evaluate the value of discriminant validity which has a recommended value of > 0.5 to declare that the construct has good convergent validity. while constructs that have an AVE value < 0.5 are declared that the construct does not have good convergent validity (Ghozali & Latan. 2020:78). The AVE value in the construct above shows the AVE value which has exceeded the provisions. namely > 0.5 in each indicator of the research variable. This indicates that this construct has good convergent validity. This means that each variable has been able to explain some of its indicators.

Discriminant Validity Test Cross Loading

Table 3. Cross Loading Value

	Digital Competence (X1)	Technology Adoption of AI (Y)	Technology Readiness (Z1)	Perceived Usefulness (Z2)	Results
DC1	0.817	0.422	0.424	0.297	Valid
DC2	0.725	0.251	0.301	0.162	Valid
DC3	0.793	0.238	0.418	0.219	Valid
DC4	0.851	0.343	0.320	0.279	Valid
DC5	0.866	0.338	0.286	0.376	Valid
DC6	0.843	0.311	0.329	0.267	Valid

DC7	0.831	0.319	0.336	0.304	Valid
DC8	0.844	0.365	0.277	0.417	Valid
DC9	0.818	0.375	0.278	0.460	Valid
DC10	0.882	0.310	0.344	0.413	Valid
DC11	0.907	0.350	0.363	0.427	Valid
DC12	0.876	0.317	0.291	0.441	Valid
DC13	0.904	0.371	0.349	0.494	Valid
DC14	0.918	0.392	0.294	0.463	Valid
TA1	0.401	0.898	0.422	0.441	Valid
TA2	0.292	0.854	0.304	0.431	Valid
TR5	0.216	0.330	0.796	0.180	Valid
TR6	0.309	0.243	0.743	0.134	Valid
TR8	0.384	0.411	0.874	0.326	Valid
PU1	0.326	0.377	0.230	0.883	Valid
PU2	0.459	0.482	0.291	0.909	Valid
PU3	0.375	0.403	0.254	0.797	Valid
PU4	0.378	0.408	0.172	0.882	Valid
PU5	0.415	0.448	0.301	0.926	Valid
PU6	0.315	0.486	0.232	0.870	Valid

Source: Data processed (2024)

Discriminant validity is a test conducted to determine how much a latent variable is not related or has no correlation with other latent variables. Discriminant validity can be seen through the cross loading value and through the Fornell-Larcker criterion approach (root average variance extracted) which must have a value greater than other constructs (Ghozali & Latan. 2020:77). The cross loading value for each construct indicated on the variable has met the requirements. namely each indicator per variable has a cross loading value greater than the variable cross loading value. Thus, each of these indicators has a greater value than other variables and it can be stated that this construct model is valid.

Fornell Larcker Criterion Approach

Table 4. Fornell-Larcker Criterion Approach

	Digital Competence (X1)	Technology Adoption of AI (Y)	Technology Readiness (Z1)	Perceived Usefulness (Z2)	Results
Digital Competence (X1)	0.850	0.400	0.386	0.434	Valid
Technology Adoption of AI (Y)	0.400	0.877	0.419	0.497	Valid
Technology Readiness (Z1)	0.386	0.419	0.806	0.284	Valid
Perceived Usefulness (Z2)	0.434	0.497	0.284	0.879	Valid

Source: Data processed (2024)

The discriminant validity test value can be measured through the Fornell-Larcker Criterion approach with the root value of the average variance extracted must be greater than the correlation between constructs in one column both above and below (Ghozali & Latan. 2020:78). The AVE root value of digital competence is 0.850. TA is 0.877. TR is 0.806 and PU is 0.879. This means that in this study each variable has an AVE root value that is good than other constructs so that it is declared valid.

Reliability Test Composite Reliability and Cronbbach's Alpha

Table 5. Composite Reliability and Cronbbach's Alpha Value

	Cronbach's Alpha	Composite Reliability
Digital Competence (X1)	0.970	0.973
Technology Adoption of AI (Y)	0.700	0.869
Technology Readiness (Z1)	0.736	0.847
Perceived Usefulness (Z2)	0.941	0.953

Source: Data processed (2024)

The reliability test has two approaches. namely through composite reliability and Cronbach's alpha value. The recommended value to achieve a high level of reliability is that the composite reliability and Cronbach's alpha value must be > 0.7 and if the value is < 0.7. it is stated that the variable has a low level of reliability. The test shows the value of composite reliability and Cronbach's alpha which has a value > 0.7 so that it can be said that each variable has a high level of reliability.

R-Square Value

Table 6. Coefficient of Determination (R^2)

	R Square	R Square Adjusted
Technology Adoption of AI (Y)	0.346	0.325
Technology Readiness (Z1)	0.149	0.140
Perceived Usefulness (Z2)	0.204	0.187

Source: Data processed (2024)

The coefficient of determination R2 aims to determine how much the latent variable has been explained by the variable under study. The coefficient of determination R2 on technology adoption of AI is 0.325. This means that digital competence is able to influence the technology adoption of AI by 32.5%. while the remaining 67.5% is influenced by other variables not examined in this study. The R2 value on technology readiness is 0.140 which indicates that 14% of digital competence variables are able to influence the technology readiness variable while the remaining 86% is influenced by other variables not examined in this study. while the R2 value on perceived usefulness is 0.187 which indicates that 18.7% of digital competence variables are able to influence the perceived usefulness variable while the remaining 81.3% is influenced by other variables not examined in this study.

Q-Square Value

Table 7. Predictive Relevance (Q^2)

	Q^2 Square
Technology Adoption of AI (Y)	0.223
Technology Readiness (Z1)	0.085
Perceived Usefulness (Z2)	0.150

Source: Data processed (2024)

The Q Square value aims to determine how good the observation is on the Q2 value through the blindfolding procedure. This test is said to be good if the Q Square value has a value > 0. while if the value is < 0. it is stated that the observation value is not good. Table 6 shows the Q Square value of the three variables. namely technology adoption of AI. technology readiness and perceived usefulness. each of which has a value of 0.223; 0.085 and 0.150. This shows that the observation value of the variable is > 0 so that it is declared to have a good observation value.

Path Coefficient Test

Hypothesis testing is carried out using a bootsrapping procedure which aims to determine the path coefficient value and p-value. The path coefficient value has a standard value between -1 to +1. while the p-values adjust to the alpha value. This study uses an alpha level of 5% so that it has a recommended value of <0.05 to be accepted and if it has a value > 0.05 then the hypothesis is rejected (Hair et al.. 2021). The following figure and analysis of the hypothesis test results.

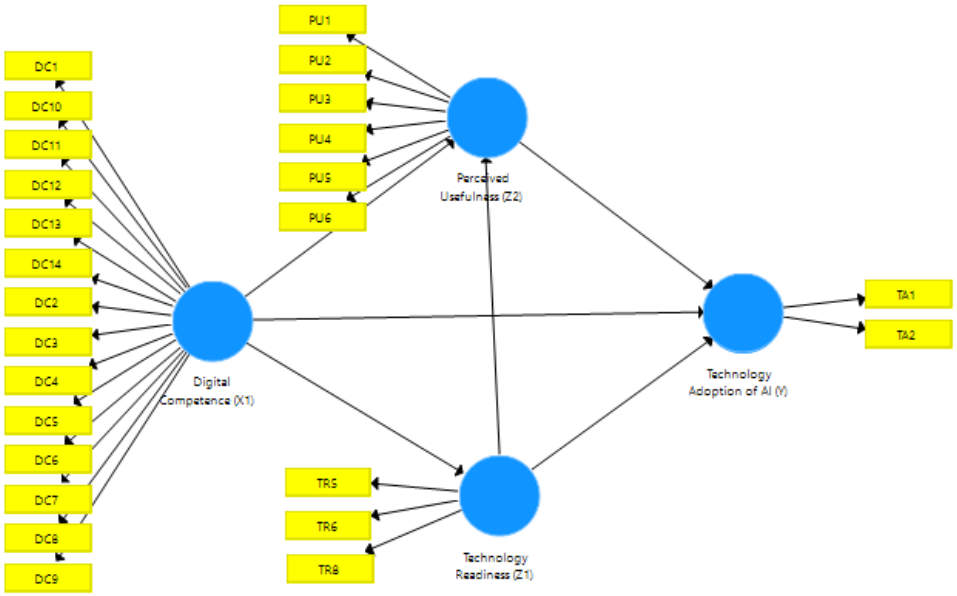

Figure 3. Research Model

Table 8. Hypothesis Test Path Coefficient

	T Statistics	P Values	Description
X1 -> Z2	3.332	0.001	Accepted
X1 -> Z1	3.541	0.000	Accepted
X1 -> Y	1.529	0.127	Rejected
Z1 -> Z2	1.098	0.273	Rejected
Z1 -> Y	2.736	0.006	Accepted
Z2 -> Y	2.959	0.003	Accepted

Source: Data processed (2024)

Digital competence on perceived usefulness has a p-value of 0.001. this proves that digital competence affects perceived usefulness. The second test. namely digital competence on technology readiness has a p-value of 0.000 so that digital competence can affect technology readiness. The third result is that digital competence does not affect the technology adoption of AI. this is evidenced by the p-values of 0.127. The fourth test. namely the effect of technology readiness on perceived usefulness. has a p-value of 0.273 so that technology readiness has no effect on perceived usefulness. The fifth test. namely technology readiness. has an effect on technology adoption of AI as well as the fifth result. while the sixth hypothesis. namely the effect of perceived usefulness on technology adoption of artificial intelligence. has a p-value of 0.003 so that it is stated that perceived usefulness is able to influence the technology adoption of artificial intelligence.

Indirect Effect Test

Table 9. Indirect Effect Test

	T Statistics	P Values	Description	Mediation Status
X1 -> Z2 -> Y	2.107	0.036	Accepted	Full Mediation
X1 -> Z1 -> Y	2.049	0.041	Accepted	Full Mediation
X1 -> Z1 -> Z2 -> Y	0.913	0.362	Rejected	No Mediation

Source: Data processed (2024)

The test shows that digital competence affects technology adoption of AI through perceived usefulness as a mediating variable because it has a p-value of 0.036 so that perceived usefulness is able to mediate between digital competence and technology adoption of AI. The second test provides results that digital competence affects technology adoption of AI through technology readiness because it has a p-value of 0.041. So, technology readiness is able to mediate between digital competence and technology adoption of AI. The third result is that digital competence has no effect on technology adoption of artificial intelligence and perceived usefulness and technology readiness are not able to mediate between the relationship between digital competence and technology adoption of AI because it has a p-value of 0.362.

Discussion

Digital competence affects perceived usefulness. This is reflected in the p-values of 0.001. so this proves that digital competence affects perceived usefulness. When users are digitally competent. users will recognize the ease of using AI technology in their lives. The results of this test are in line with research conducted by Damerji & Salimi (2021). Martzoukou et al. (2020) and Damerji (2019). that digital competence affects perceived usefulness. This happens because when someone has the ability in digital competence. the user will feel the benefits in the perceived usefulness. Digital competence testing on technology readiness has a p-value of 0.000 so that digital competence affects technology readiness. Digital competence possessed by users makes users more prepared to operate AI systems. Conversely. when users lack digital knowledge and abilities. there are certainly doubts that exist in users to implement AI systems. both anxiety if there is a broken AI system. concern if there is an accidental error or human error. and fear of the loss of a broken system.

Digital competence is stated to have no effect on technology adoption of artificial intelligence. this is evidenced by the p-values of 0.127. Digital competence is not one of the factors behind acceptance or rejection in using AI systems. This is in accordance with research conducted by Sudaryanto et al. (2023). that digital competence has no effect on technology adoption of artificial intelligence. This happens because digital competence is not the only factor considered in accepting or rejecting artificial intelligence technology and digital competence does not guarantee someone to adopt AI technology. Technology readiness has no effect on perceived usefulness. This is reflected in the p-values of 0.273. so technology readiness has no effect on perceived usefulness. This is because the level of user readiness does not guarantee that someone correctly knows the perceived ease of use. The results of this study are in accordance with research conducted by Amdanata et al. (2023). that technology readiness has no effect on perceived usefulness. This is because when users do not know the benefits of using AI technology. these users will not have the desire to implement it.

Technology readiness affects the technology adoption of AI. This is consistent with the p-value of 0.006. This is because the higher a person's confidence in having the indicators that must be met in operationalizing AI technology. the higher the desire to accept and apply AI technology in his life. The results of this study are in accordance with research conducted by Damerji (2019) and Damerji & Salimi (2021) that Technology readiness has an influence on technology adoption of AI. This is because the knowledge. skills and desires of users who make them feel

ready to operate technology will increase the desire and willingness to accept and implement AI technology systems in their lives. Perceived usefulness affects the technology adoption of AI. This is because it has a p-value of 0.003 so that it is stated that perceived usefulness is able to influence the technology adoption of artificial intelligence. This test is accepted because when the higher the sense of ease of use achieved by users. the higher the desire to accept or adopt AI technology in their lives.

Digital competence affects technology adoption of artificial intelligence through perceived usefulness as a mediating variable because it has a p-value of 0.036 so that perceived usefulness can mediate between digital competence and technology adoption of artificial intelligence. Digital competence makes users ready to use technology because users will know the convenience when using artificial intelligence technology. This encourages users to accept and apply AI technology in their lives. Digital competence affects technology adoption of AI through technology readiness because it has a p-value of 0.041. so technology readiness is able to mediate between digital competence and technology adoption of AI. The digital skills possessed by someone will be useless if they are not supported by the level of technological readiness of the user. When users feel ready to apply artificial intelligence technology in their lives with various knowledge and skills they have. users tend to have a strong desire to accept the use of artificial intelligence technology in the accounting field. Digital competence has no effect on technology adoption of artificial intelligence and perceived usefulness and technology readiness are not able to mediate between the relationship between digital competence and technology adoption of artificial intelligence. This is reflected in the p-value of 0.362. The ease of use perceived by users when implementing artificial intelligence systems and user readiness in applying technology are not factors that cause high user desire to implement AI systems. There are other factors that support users to accept or reject the use of AI such as adequate AI systems or computers. the cost of improvements in AI systems or the field they are in still does not apply AI systems so that users are not encouraged to apply artificial intelligence systems.

CONCLUSION

Digital competence is reflected in the knowledge or skills possessed by users in running artificial intelligence technology systems. Technology adoption of AI occurs when users accept AI technology systems in carrying out activities to support productivity and efficiency. Technology readiness is one of the factors that cause users to accept or reject the use of AI systems and perceived usefulness occurs when users find it easy to use AI systems in their lives whether it can increase time efficiency. speed up work. and increase productivity. There are several other factors that cause users to accept or reject the use of *AI* systems besides technology readiness and perceived usefulness. such as budgeting. perceived convenience. and satisfaction.

The limitations of this research relate to data collection. There are difficulties in collecting data through questionnaires because not all respondents are willing and quick to respond in filling out the questionnaires distributed so that it takes time to collect data through questionnaires that have been distributed. Suggestions for further research are to use interview methods or other methods such as observation that allow for research data collection.

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