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BUSINESS ADMINISTRATION MODEL INNOVATION AND "TAM" THEORY DEVELOPMENT IN IMPROVING STUDENT ONLINE BUSINESS PERFORMANCE

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ABSTRACT

Phenomenon/Issue: *This study examines the phenomenon of online business readiness among students, which is increasingly important in today's digital age. With the rapid development of technology and the internet, it is important for students to have adequate skills in running an online business.*
Purpose: *The purpose of this study is to explore the factors that influence students' readiness to engage in online entrepreneurship, as well as to provide insights into how education can support the development of these skills.*
Novelty: *This study offers a new framework that combines TAM Theory and business learning innovation as determinants of student online business performance. In addition, the mediating variable Attitude Toward Using provides a new perspective in understanding how attitudes toward technology can strengthen the relationship between these factors and online business readiness.*
Research Methods: *This study uses explanatory research with a quantitative approach. The research population consists of students from public and private universities in East Java.*
Results: *The results show that students are well prepared to engage in online business, with high scores in technological capabilities and network support. However, challenges remain, particularly in terms of business experience and access to capital.*
Research Contributions: *This research contributes to a better understanding of students' readiness for online business and suggests steps that educational institutions can take to improve entrepreneurial skills among students.*

INTRODUCTION

Advances in digital technology have been the main catalyst for global economic transformation over the past two decades. Digital technology has not only changed people's consumption patterns, but also opened up enormous opportunities for online businesses to grow exponentially (Bachmann et al., 2024; Wicaksono Ardiansyah et al., 2023). Technology enables businesses to access global markets without geographical boundaries, improve operational efficiency, and create personalized customer experiences (Maula et al., 2019, 2023; Wardana et al., 2023). Platforms such as marketplaces, social media, and digital payments are now the main pillars of the technology-based economy, offering great opportunities for the younger generation to innovate and start digital-based businesses (Maula et al., 2025; Setyawati et al., 2023). Meanwhile, Indonesia, as one of the countries with the highest internet penetration in Southeast Asia, has great potential for online business development. Ideally, Indonesian

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students, as part of the younger generation, should be able to transform their role from being consumptive technology users to becoming innovative and sustainable productive entrepreneurs. Students are expected to create new job opportunities that contribute to reducing unemployment.

Although Indonesian students have generally mastered digital technology, its use is still predominantly consumptive, such as social media and entertainment. Productive skills in utilizing technology to create significant and sustainable digital businesses are still low. Students are not yet able to generate sufficient income to support the creation of new jobs or have a broader economic impact. The lack of innovation in business education in higher education institutions is one of the main causes of this gap. If this condition is not addressed immediately, Indonesia's young generation could potentially lose a great opportunity to contribute to the achievement of Indonesia Emas 2045 and the Sustainable Development Goals (SDGs).

The problem can be approached through the Technology Acceptance Model (TAM) as the main theoretical basis for explaining students' acceptance of technology in their readiness to start an online business (Gu et al., 2021; Lock et al., 2021; Shachak et al., 2019). TAM, developed by (Viswanath Venkatesh, 2022), highlights two key dimensions, namely Perceived Usefulness (X1) and Perceived Ease of Use (X2), as the main predictors of attitudes toward technology use (Attitude Toward Using). In this study, Perceived Usefulness refers to the extent to which students believe that technology can increase productivity in running an online business, while Perceived Ease of Use describes the level of ease with which students utilize technology for business needs. The correlation between TAM and students' online business readiness is highly relevant because digital technology plays a central role in modern business management. With Attitude Toward Using as a mediating variable, this study focuses on how perceptions of the ease and benefits of technology can shape students' positive attitudes toward the integration of technology in online businesses. This attitude is expected to encourage a shift from consumptive to productive patterns, so that students are not only users of technology, but also creators of added value in the digital business ecosystem (Ngo & Chase, 2021; Nguyen et al., 2024; Sun & Moon, 2024).

In addition, business learning innovations in higher education must be designed to be adaptive, innovative, and futuristic to meet the needs of the technology-based business world (Zhou et al., 2021; Zou, 2022). Collaborative and project-based learning approaches can encourage students to understand the complexity of digital business (Bachnik et al., 2023; Eom et al., 2024; Singh et al., 2024). For example, by presenting technology-based business management simulations or hands-on practice in digital product development, students can develop business skills that are relevant to market needs. To support international market expansion, students also need to be equipped with knowledge in business administration (Khan et al., 2021; Lafuente et al., 2019; Zhang et al., 2022). Learning that covers aspects of business legality, licensing, and the development of an informative company profile are important elements in creating global competitiveness. Good business legality and documentation will facilitate access to broader markets and enhance credibility in the eyes of international partners and customers. With this approach, the research aims to create a learning ecosystem that supports students to not only accept technology but also actively integrate it into sustainable digital business practices.

To gain a broader perspective, this state-of-the-art research uses bibliographic analysis with VOSviewer, revealing a strong relationship between core concepts such as Perceived Usefulness and Perceived Ease of Use with attitude and technology adoption, as seen in the yellow and red clusters. This relationship is consistent with the TAM model that forms the basis of the research, in which perceptions of the benefits and ease of technology play an important role in shaping attitudes towards its use (Jingzu et al., 2024; Parilla & M Abadilla, 2021). In addition, the green cluster, which includes entrepreneurial intention and entrepreneurial education, reinforces the importance of innovation in business learning, which supports students' readiness to engage in online business productively (37–39). This relationship shows that an integrative approach linking TAM, learning innovation, and student attitudes can make a significant contribution to preparing students to face the challenges of the digital economy, towards the 2030 Golden Indonesia Vision.

Thus, the novelty of this study offers a comprehensive approach by integrating the factors of perceived usefulness, perceived ease of use, and business learning innovation as determinants of students' online business readiness. In addition, the mediating variable of attitude toward using provides

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a new perspective in understanding how attitudes toward technology can strengthen the relationship between these factors and online business readiness. The implications of this research result in innovative research and contribute significantly to producing students who are ready to compete globally and open up job opportunities. It is hoped that students will be able to achieve optimal readiness in starting an online business, in line with the Asta Cita of Surabaya State University to produce graduates who are globally competitive. This strategy also supports the grand vision of Indonesia Emas 2045 by creating a productive, innovative young generation capable of creating new job opportunities through online businesses. Ultimately, this approach not only contributes to the achievement of Indonesia Emas 2030 but also supports the Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation, and Infrastructure).

LITERATURE REVIEW

Perceived Usefulness (X^1)

Perceived Usefulness significantly influences students' attitudes toward technology. In the context of online business, students who see digital tools as useful are more likely to engage in entrepreneurial activities. In this study, the level of students' belief that the use of digital business technology will improve their performance in running and developing online businesses, which includes functional benefits, efficiency, and operational effectiveness.

Perceived Ease of Use (X^2)

Perceived Ease of Use was also identified as an important factor in technology adoption. Research by Davis et al. (1989) and other researchers emphasizes that if a technology is considered easy to use, its users are more likely to utilize it. In this study, students' perceptions of the ease of understanding, using, and implementing digital business technology without experiencing significant technical barriers encouraged technology adoption in online businesses.

Business Learning Innovation (X^3)

Innovative business learning methods, such as experience-based learning and project-based learning, can increase students' readiness for online business. Adaptive, collaborative, and project-based learning approaches in higher education are designed to prepare students for the challenges of digital business, including technology simulations, digital product development, and training in international business administration and legality.

Attitude Toward Using (Z)

Students' positive attitude toward the use of digital business technology, which reflects their level of acceptance, satisfaction, and confidence in the benefits of technology in supporting online business readiness.

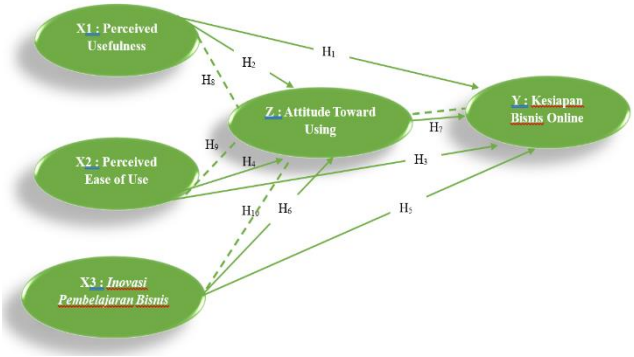
Students' online business readiness (Y)

Students' ability to start, manage, and develop technology-based businesses, including mastery of technological tools, digital marketing strategies, and readiness to face competition in domestic and international markets.

METHOD

Based on the research design regarding the Effect of (X1) Perceived Usefulness, (X2) Perceived Ease of Use (X3) Business Learning Innovation on the Readiness of Students' Online Businesses to Achieve the Eight Goals Towards Indonesia Emas 2030 with (Z) Attitude Toward Using as a mediating variable, this study uses a quantitative approach, with descriptive and explanatory research types.

Figure 1. Research Framework



Source: Researchers, 2024

The research was conducted in East Java, carried out by strengthening the source of the problem and searching for literature studies and comparing previous studies on the research variables. This questionnaire uses a Likert scale with a rating of 1-5. The population of this study is university students in East Java, including PTNBH and BLU universities. These universities were selected because they have a strong reputation in the field of learning, particularly in study programs related to business and management. The research location also reflects the diversity of regions in East Java, which is considered representative in describing the readiness of students to face digital transformation and online business towards Indonesia Emas. The selection of these locations also considered the availability of study programs that support business innovation and a significant number of students, so that the research results are expected to provide relevant and applicable contributions to the development of an online business readiness model in a university environment. The sample in this study consisted of undergraduate students in the Faculty of Economics who were at least in their fifth semester. The sampling technique used was purposive sampling with certain criteria, including: (1) Students who had completed four semesters of study (2) Students who had taken courses in Entrepreneurship and Digital Literacy. Therefore, the sample size for this study was 300 research samples. Data analysis using Structural Equation Modeling (SEM)-PLS. The SEM calculation tool used in this study is Smart-PLS 3.0.

RESULTS AND DISCUSSIONS

Results

Model Evaluation of Measurement (Outer Model)

The measurement model, also known as the outer model, aims to assess the validity and reliability of the model. The convergent validity test of reflective indicators using the SmartPLS 3.0 program can be seen from the loading factor value for each construct indicator. The rule of thumb used in this study refers to a loading factor value > 0.70. The discriminant validity test relates to the principle that different manifest variables of a construct should not be highly correlated. The way to measure discriminant validity is to see that the cross loading value for each variable must be > 0.70. Furthermore, the AVE (average variance extracted) value must be > 0.5. Conversely, if the AVE value is < 0.5, it does not meet convergent validity. The PLS-SEM composite reliability test with SmartPLS 3.0 can be done in two ways: (1) by looking at the Cronbach's Alpha (a) value, where for confirmatory research the a value is > 0.70, and (2) by looking at the composite reliability (CR) value > 0.70. The following shows the values of convergent validity, discriminant validity, and composite reliability of variable X1 (Perceived Usefulness).

Table 1. Measurement Results for Perceived Usefulness (X1)

Code	Variable dan Indicator	Loading Factor	Cronbach's Alpha	CR	AVE
X1.1	1) The use of digital business technology helps me manage my online business more easily.	0.902	0.954	0.963	0.812

X1.2	2) Digital business technology makes it easier for me to access and process business information quickly.	0.905
X1.3	3) The use of digital business technology saves me time in running my online business.	0.947
X1.4	4) Digital business technology helps me reduce the operational costs of my online business.	0.878
X1.5	5) Digital business technology helps me improve the quality of service to customers.	0.877
X1.6	6) The use of digital business technology allows me to respond more quickly to market needs.	0.897

Source: Processed by researchers, 2025

Based on the table above, it is known that variable X1 (Perceived Usefulness) after conducting a convergent validity test using SmartPLS 3.0 software, all indicator items have a loading factor in the range of 0.877-0.905 above 0.70 or > 0.70. Therefore, referring to the opinions of Chin (1998), Chin (2010), and Hair et al. (2013), the six indicators in variable X1 (Perceived Usefulness) meet convergent validity. Furthermore, based on the table, it is known that variable X1 (Perceived Usefulness) has a Cronbach's alpha (a) value of 0.954 > 0.70 and a composite reliability (CR) of 0.963 > 0.70, thus meeting the composite reliability test (Chin, 1998; Chin, 2010; Hair et al., 2013). Table 1 also shows that variable X1 (Perceived Usefulness) has an average variance extracted (AVE) of 0.812 > 0.5, thus meeting convergent validity (Chin, 1998; Chin, 2010; Hair et al., 2013). Based on Table 3.15 and the previous descriptions, it can be concluded that variable X1 (Perceived Usefulness) meets convergent validity, discriminant validity, and composite reliability.

The following table shows the values of convergent validity, discriminant validity, and composite reliability of variable X2 (Perceived Ease of Use).

Table 2. Measurement Results for Perceived Ease of Use (X2)

Code	Variable dan Indicator	Loading Factor	Cronbach's Alpha	CR	AVE
X2.1	1) I find digital business technology easy to understand in a short period of time.	0.902	0.963	0.968	0.793
X2.2	2) Instructions or guidelines for using digital business technology are easy to understand.	0.841			
X2.3	3) I can operate digital business technology without help from others.	0.882			
X2.4	4) Using digital business technology does not require complex technical skills.	0.919			
X2.5	5) Digital business technology helps me complete my work faster.	0.887			
X2.6	6) Using digital business technology saves energy in running an online business.	0.886			
X2.7	7) I rarely experience technical problems when using digital business technology.	0.922			
X2.8	8) If technical problems occur, solutions can be found easily.	0.883			

Source: Processed by researchers, 2025

Based on the convergent validity test using SmartPLS 4.0 software, it was found that the 8 indicators of variable X2 (Perceived Ease of Use) had factor loadings in the range of 0.841-0.919 > 0.70. Therefore, referring to the opinions of Chin (1998), Chin (2010), and Hair et al. (2013), the 8 indicators of variable X2 (Perceived Ease of Use) meet convergent validity. Furthermore, based on Table 2, it is known that variable X2 (Perceived Ease of Use) has a Cronbach's alpha (a) value of 0.963 > 0.70 and a composite reliability (CR) value of 0.968 > 0.70, thus meeting the composite reliability test (Chin, 1998; Chin, 2010; Hair et al., 2013). Table 2 also shows that variable X2 (Perceived Ease of Use) has an average variance extracted (AVE) of 0.793 > 0.5, thus meeting convergent validity (Chin,

1998; Chin, 2010; Hair et al., 2013). Based on Table 2 and the previous descriptions, it can be concluded that variable X2 (Perceived Ease of Use) meets convergent validity, discriminant validity, and composite reliability.

The following table shows the values of convergent validity, discriminant validity, and composite reliability of variable X3 (Business Learning Innovation).

Table 3. Measurement Results for Business Learning Innovation (X3)

Code	Variable dan Indicator	Loading Factor	Cronbach's Alpha	CR	AVE
X3.1	1) Business education at my university adapts to the latest developments in digital technology.	0.925	0.987	0.988	0.895
X3.2	2) Lecturers use flexible teaching methods tailored to the needs of students in the digital business era.	0.932			
X3.3	3) Business education encourages me to collaborate in interdisciplinary teams.	0.931			
X3.4	4) I am often involved in discussions or joint projects involving students from various backgrounds.	0.945			
X3.5	5) The business courses I take involve real-world project assignments.	0.944			
X3.6	6) Learning assessment is conducted more through business project results than theoretical exams.	0.947			
X3.7	7) I have the opportunity to use digital business software/applications in my learning.	0.968			
X3.8	8) Business education at my campus involves simulations using e-commerce or digital marketing platforms.	0.965			
X3.9	9) I receive business administration materials or training that are relevant to real-world practices.	0.952			
X3.10	10) Business learning trains me to create business documents such as business proposals, financial reports, and contracts.	0.948			

Source: Processed by researchers, 2025

Based on the convergent validity test using SmartPLS 3.0 software, it was found that the 10 indicators of variable X3 (Business Learning Innovation) had loading factors in the range of 0.931-0.968 > 0.70. Therefore, referring to the opinions of Chin (1998), Chin (2010), and Hair et al. (2013), the 10 indicators in variable X3 (Business Learning Innovation) meet convergent validity. Furthermore, based on Table 3, it is known that variable X3 (Business Learning Innovation) has a Cronbach's alpha (a) value of 0.987 > 0.70 and a composite reliability (CR) value of 0.988 > 0.70, thus meeting the composite reliability test (Chin, 1998; Chin, 2010; Hair et al., 2013). Table 3 also shows that variable X3 (Business Learning Innovation) has an average variance extracted (AVE) of 0.895 > 0.5, thus meeting convergent validity (Chin, 1998; Chin, 2010; Hair et al., 2013). Based on Table 3 and the previous descriptions, it can be concluded that variable X3 (Business Learning Innovation) meets convergent validity, discriminant validity, and composite reliability.

The following table shows the values of convergent validity, discriminant validity, and composite reliability of variable Z (Attitude Toward Using).

Table 4. Measurement Results for Attitude Toward Using (Z)

Code	Variable dan Indicator	Loading Factor	Cronbach's Alpha	CR	AVE
Z1	1) I believe that the use of digital technology can improve the performance of my online business.	0.927	0.967	0.972	0.813
Z2	2) In my opinion, digital technology is very useful for developing student online businesses.	0.957			

Z3	3) I am willing to utilize digital technology in running my online business.	0.906
Z4	4) I accept digital technology as an important part of online business.	0.911
Z5	5) I am satisfied with the results obtained from using digital technology in my online business.	0.880
Z6	6) Using digital technology makes me more satisfied in running my online business.	0.824
Z7	7) I am interested in continuing to use digital technology in my online business.	0.914
Z8	8) I plan to utilize digital technology in the long term for my online business.	0.887

Source: Processed by researchers, 2025

Based on the convergent validity test using SmartPLS 3.0 software, eight indicators of variable Z (Attitude Toward Using) were obtained with factor loadings in the range of 0.824-0.957 > 0.70. Thus, referring to the opinions of Chin (1998), Chin (2010), and Hair et al. (2013), the 8 indicator items on variable Z (Attitude Toward Using) meet convergent validity. Furthermore, based on the table, it is known that variable Z (Attitude Toward Using) has a Cronbach's alpha (a) value of 0.967 > 0.70 and a composite reliability (CR) value of 0.972 > 0.70, thus meeting the composite reliability test (Chin, 1998; Chin, 2010; Hair et al., 2013). Table 4 also shows that variable Z (Attitude Toward Using) has an average variance extracted (AVE) of 0.813 > 0.5, thus meeting convergent validity (Chin, 1998; Chin, 2010; Hair et al., 2013). Based on the table and the previous descriptions, it can be concluded that variable Z (Attitude Toward Using) meets convergent validity, discriminant validity, and composite reliability.

The following table shows the values of convergent validity, discriminant validity, and composite reliability of variable Y (Student Online Business Readiness).

Tabel 5. Measurement Results for Student Online Business Readiness (Y)

Code	Variable dan Indicator	Loading Factor	Cronbach's Alpha	CR	AVE
Y1	1) I am capable of operating various online business support applications (e-commerce, social media, etc.).	0.770	0.969	0.972	0.710
Y2	2) I can utilize digital technology to improve business operational efficiency.	0.853			
Y3	3) I understand digital marketing techniques (SEO, ads, content marketing) to promote products.	0.844			
Y4	4) I can create engaging digital content to increase online sales.	0.833			
Y5	5) I am able to manage inventory, finances, and shipping of goods/services effectively through online platforms	0.859			
Y6	6) I can develop online business plans with clear sales targets	0.918			
Y7	7) I am able to develop new product/service ideas that are in line with digital market trends	0.816			
Y8	8) I can make updates to products/services to increase customer appeal	0.846			
Y9	9) I actively collaborate with other parties to develop online businesses	0.778			
Y10	10) I utilize online communities or forums to expand my business network	0.855			

Y11	11) I am able to analyze consumer behavior to determine online sales strategies	0.840
Y12	12) I use sales data to evaluate and improve business strategies	0.862
Y13	13) I understand the opportunities and challenges of online business in the international market	0.906
Y14	14) I have strategies for marketing products/services to the global market	0.806

Source: Processed by researchers, 2025

Based on the convergent validity test using SmartPLS 3.0 software, 14 indicators of variable Y (Student Online Business Readiness) were obtained with loading factors ranging from 0.778 to 0.918 > 0.70. Therefore, referring to the opinions of Chin (1998), Chin (2010), and Hair et al. (2013), the 14 indicator items in variable Y (Student Online Business Readiness) meet convergent validity.

The complete results of the R2 test variables of Community Support (X2), Entrepreneurial Attitude (Z), and Business Success (Y) can be seen in Table 20 below:

Table 6. R-Square Test Results (R2)

Variable Relationship	Path Coefficients (p)
X1 (Perceived Usefulness) -> Y (Student Online Business Readiness)	0.206
X1 (Perceived Usefulness) -> Z (Attitude Toward Using)	0.302
X2 (Perceived Ease of Use) -> Y (Student Online Business Readiness)	0.252
X2 (Perceived Ease of Use) -> Z (Attitude Toward Using)	0.273
X3 (Business Learning Innovation) -> Y (Student Online Business Readiness)	0.170
X3 (Business Learning Innovation) -> Z (Attitude Toward Using)	0.362
Z (Attitude Toward Using) -> Y (Student Online Business Readiness)	0.283

Source: Processed by researchers, 2025

Testing the Effect Size (f^2)

This study uses a prerequisite test in the form of a size effect/influence test (f2) which aims to determine the extent of the influence of the predictor latent variable (exogenous latent variable) on the structural model. To determine the results of the size effect/influence test (f2), this study uses the rule of thumb developed by Hair, et al. (2013) and Chin (1998), where values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively. The following table shows the results of the effect size test (f2) of each predictor latent variable on the structural model. Based on this table, the f2 value of variable Z (Attitude Toward Using) on variable Y (Student Online Business Readiness) is 0.067, which indicates a small effect size. Furthermore, the f2 value of variable X1 (Perceived Usefulness) on variable Y (Student Online Business Readiness) is 0.042, which indicates a small effect size. The f2 value of variable X2 (Perceived Ease of Use) on variable Y (Student Online Business Readiness) is 0.058, which indicates a small effect. The f2 value of variable X3 (Business Learning Innovation) on variable Y (Student Online Business Readiness) is 0.026, which indicates a small effect.

Furthermore, based on the table, it is also known that the f2 value of variable X1 (Perceived Usefulness) on Z (Attitude Toward Using) is 0.121, which indicates a small effect size. Similarly, the f2 value of variable X2 (Perceived Ease of Use) on Z (Attitude Toward Using) is 0.089, which indicates a small effect size. Similarly, the f2 value of variable X3 (Business Learning Innovation) on Z (Attitude Toward Using) is 0.164, which indicates a medium effect size. The complete results of the effect size (f2) test of each predictor latent variable on the structural model can be seen in Table 7 below:

Table 7. Result of Effect Size (f^2)

	X1 (Perceived Usefulness)	X2 (Perceived Ease of Use)	X3 (Business Learning Innovation)	Y (Student Online Business Readiness)	Z (Attitude Toward Using)
X1 (Perceived Usefulness)				0.042	0.121
X2 (Perceived Ease of Use)				0.058	0.089

X3 (Business Learning Innovation)	0.026	0.164
Y (Student Online Business Readiness)		
Z (Attitude Toward Using)	0.067	

Source: Processed by researchers, 2025

Testing Q^2 Relevant Predictions

This study also conducted a relevant Q^2 prediction test aimed at measuring how well the model generated observations and parameter estimates. A Q^2 value > 0 (zero) indicates that the model has predictive relevance. A Q^2 value < 0 indicates that the model lacks predictive relevance. The formula used in this study is as follows: $Q^2 = 1- (1- R2)$.

$Q^2 = 1-(1-R12)\ (1-R22)$

$Q^2 = 1- (1-0,701)\ (1-0,750)$

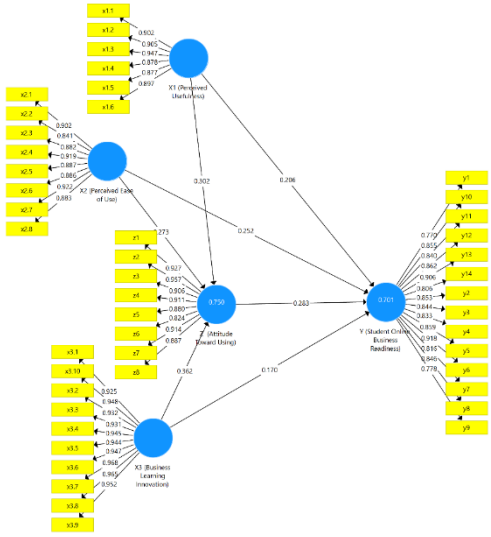
$Q^2 = 0,925 > 0$

Based on the test results, it is known that the Q2 values of variables X1 (Perceived Usefulness), X2 (Perceived Ease of Use), X3 (Business Learning Innovation), Z (Attitude Toward Using), and Y (Student Online Business Readiness) are greater than 0, thus showing that the model has predictive relevance.

Hypothesis Testing

Based on the results of the outer model and inner model tests that have been carried out, the outer model and inner model have met the requirements for hypothesis testing. Through calculations using SmartPLS 3.0 software, the following model was obtained. The hypothesis testing conducted in this study was divided into two stages, the first being the testing of direct effects and the second being the testing of indirect effects conducted through bootstrapping using SmartPLS 3.3.3 software. The path diagram from this study can be seen in Figure 2 below.

Figure 2. Path Diagram of the Research Theoretical Model



Source: Data Processing With PLS, 2025

Next, hypothesis testing is conducted using t-statistical analysis or t-test (calculated t must be > 1.645), and the p-value (probability) must be less than (<) 0.050. If the data processing results meet these requirements, then the proposed research hypothesis can be accepted. The testing of research hypotheses will be discussed step by step in accordance with the proposed hypotheses. This study proposes seven hypotheses, which are discussed in the following section.

Table 8. Results of Hypothesis Testing

Direct Effects	T Statistics	t-value Sobel Test	P Values
X1 (Perceived Usefulness) -> Y (Student Online Business Readiness)	2.983		0.003
X1 (Perceived Usefulness) -> Z (Attitude Toward Using)	4.715		0.000
X2 (Perceived Ease of Use) -> Y (Student Online Business Readiness)	3.660		0.000
X2 (Perceived Ease of Use) -> Z (Attitude Toward Using)	4.258		0.000
X3 (Business Learning Innovation) -> Y (Student Online Business Readiness)	2.084		0.038
X3 (Business Learning Innovation) -> Z (Attitude Toward Using)	5.428		0.000
Z (Attitude Toward Using) -> Y (Student Online Business Readiness)	3.525		0.000
Indirect Effects			
X1 (Perceived Usefulness) -> Z (Attitude Toward Using) -> Y (Student Online Business Readiness)		2.949	0.003
X2 (Perceived Ease of Use) -> Z (Attitude Toward Using) -> Y (Student Online Business Readiness)		2.423	0.016
X3 (Business Learning Innovation) -> Z (Attitude Toward Using) -> Y (Student Online Business Readiness)		3.166	0.002

Source: Processed by researchers, 2025

Discussions

H1 The Effect of Perceived Usefulness on Students' Online Business Readiness

The results of the first hypothesis test show that Perceived Usefulness (X1) has a positive and significant effect on Students' Online Business Readiness (Y), with a t-value of 2.983 > 1.645 and a p-value of 0.003 < 0.050. These results indicate that the higher students' perception of the usefulness of technology, the higher their level of readiness to run an online business. Empirically, these findings confirm that students' belief in the ability of technology to improve business performance is an important determinant in encouraging their readiness to engage in digital entrepreneurship.

This finding is in line with previous studies which state that Perceived Usefulness is a significant predictor in technology adoption, especially in the context of digital business. Research (PURNAMASARI et al., 2020) which introduced the Technology Acceptance Model (TAM) has identified Perceived Usefulness as a key variable that influences the intention and behavior of technology use. Subsequent studies, such as that conducted by (Viswana Venkatesh, 2013), also reinforce that belief in the benefits of technology has a direct correlation with readiness and success in implementing digital-based systems, including in the context of student entrepreneurship.

H2 The Effect of Perceived Usefulness on Attitude Toward Using

The results show that the Perceived Usefulness variable (X1) has a positive and significant effect on Attitude Toward Using (Z) with a t-value of 4.715 > 1.645 and a p-value of 0.000 < 0.050. This finding indicates that the higher the students' perception of the usefulness of technology, the more positive their attitude toward the use of that technology in the context of online business. Statistically, this confirms that students who believe that technology can improve online business performance tend to have a more accepting attitude toward that technology. These results reinforce the role of Perceived Usefulness as an important determining factor in shaping students' positive attitudes.

This finding is in line with previous studies that state that Perceived Usefulness is a major predictor of attitudes towards technology use (Azman & Zabri, 2022; Kwarteng et al., 2024; Lee et al., 2024; Tatik & Setiawan, 2024). Davis (1989), through the Technology Acceptance Model (TAM), emphasized that perceived usefulness is one of the most powerful factors in influencing positive user attitudes. Research by Venkatesh and Bala (2008) also shows that the perception of the benefits of technology drives users' intrinsic motivation to accept and utilize technology in their daily activities.

Thus, the results of this study confirm previous empirical findings that emphasize the importance of perceived benefits in shaping attitudes toward use.

H3 The Effect of Perceived Ease of Use on Students' Online Business Readiness

Based on the results of data analysis using SEM-PLS, a t-value of 3.660 was obtained, which is greater than 1.645, and a p-value of 0.000, which is less than 0.05. These results statistically indicate that the third hypothesis (H3) is accepted. This means that the Perceived Ease of Use (X2) variable has a positive and significant effect on Student Online Business Readiness (Y). This finding indicates that the higher the students' perception of the ease of use of digital business technology, the higher their readiness to start and manage an online business. This confirms the importance of the ease dimension as a key factor driving technology adoption in the context of digital business.

The results of this study are consistent with Davis' (1989) findings in the development of the Technology Acceptance Model (TAM), which confirms that perceived ease of use is one of the important determinants in technology acceptance. The easier a technology is to use, the more likely a person is to adopt it in productive activities (Horas et al., 2023; K. Pramudito et al., 2023; Loo et al., 2023). Research by Gunawan et al. (2019) also shows that perceived ease of use has a direct influence on technology acceptance behavior, which ultimately impacts users' readiness to utilize the technology optimally. Thus, the findings of this study reinforce empirical evidence that the ease of use of technology is a crucial factor in increasing students' readiness to become digital business actors.

H4 The Effect of Perceived Ease of Use on Attitude Toward Using

Based on the results of data analysis, the fourth hypothesis (H4), which states that Perceived Ease of Use (X2) has a positive and significant effect on Attitude Toward Using (Z), is accepted. This is evidenced by a t-value of 4.258, which is greater than the t-table (1.645), and a p-value of 0.000, which is below the significance threshold of 0.05. Thus, it can be statistically confirmed that the higher the students' perception of the ease of use of digital business technology, the more positive their attitude toward using this technology. This finding indicates that perceived ease of use plays a major role in shaping students' attitudes toward accepting and using technology in online business activities.

These results are consistent with previous research findings stating that Perceived Ease of Use contributes significantly to individuals' attitudes toward adopting technology. (Davis et al., 2015) in the TAM model emphasizes that ease of use is one of the factors that shapes positive attitudes toward system use. Research by (Bregashtian & S.E., M.M., CFP2, 2021; Hanjaya et al., 2019) also found that perceived ease of use can indirectly increase perceived usefulness, which then reinforces positive attitudes toward technology. This means that when students find the technology, they use easy to understand and operate, they tend to have higher acceptance and are more motivated to use it continuously.

H5 The Effect of Business Learning Innovation on Students' Online Business Readiness

Based on the results of the research data analysis, the fifth hypothesis (H5), which states that Business Learning Innovation (X3) has a positive and significant effect on Student Online Business Readiness (Y), is proven to be accepted. The t-value of 2.084 > 1.645 indicates that the effect is significant at a 95% confidence level, while the p-value of 0.038 < 0.05 further strengthens this result. This means that the higher the level of business learning innovation implemented in higher education institutions, the higher the readiness of students to start and manage online businesses. This finding indicates that adaptive, project-based learning approaches that integrate digital technology have a real contribution to students' readiness to become business actors in the digital era.

The results of this study are in line with the findings (Bhaktiar et al., 2023; Ispim et al., 2024; Zou, 2022) which show that innovation in business learning plays an important role in improving students' entrepreneurial skills. Project-based approaches, business simulations, and the integration of technology in the learning process have been proven to increase students' entrepreneurial readiness. Additionally, research by (Aminoff & Pihlajamaa, 2020; Bachnik et al., 2023; Singh et al., 2024) confirms that learning experiences that emphasize hands-on practice and real-world problem-solving can strengthen students' self-efficacy in managing digital businesses. In other words, learning

innovation serves as a catalyst that bridges the gap between classroom theory and the reality of the digital business world.

H6 The Effect of Business Learning Innovation on Attitude Toward Using

Based on the results of data analysis, the sixth hypothesis (H6), which states that Business Learning Innovation (X3) has a positive and significant effect on Attitude Toward Using (Z), is accepted. The test results show a t-value of 5.428, which is greater than the t-table value of 1.645, with a p-value of 0.000 < 0.05. This indicates that business learning innovation implemented in higher education institutions can increase students' positive attitudes toward the use of technology in online business. Empirically, these findings reinforce the belief that innovation-based learning encourages students to be more accepting, satisfied, and confident in the use of digital technology. In other words, the higher the level of innovation in business learning, the more positive students' attitudes toward the use of technology.

These results are in line with the Technology Acceptance Model (TAM) theoretical framework, which explains that attitudes toward technology use are formed from positive experiences gained by users, including from a supportive learning environment. Business learning innovations, such as project-based learning, digital business simulations, and the introduction of e-commerce platforms, provide relevant hands-on experiences for students (Han et al., 2024; X. Li et al., 2022; Priyono & Hidayat, 2024). An interactive and contextual learning environment encourages students to feel comfortable using technology, thereby strengthening their positive attitudes. These findings also support the view that innovative education plays an important role in shaping students' digital readiness, especially in the context of entrepreneurship.

H7 The Influence of Attitude Toward Using on Students' Online Business Readiness

Based on the results of data analysis using SEM-PLS, it was found that the Attitude Toward Using (Z) variable had a positive and significant influence on Students' Online Business Readiness (Y). This is indicated by a t-value of 3.525 (> 1.645) and a p-value of 0.000 (< 0.050), which means that the hypothesis is statistically accepted. This finding indicates that the more positive students' attitudes toward technology use are, the higher their level of readiness to start and manage an online business. In other words, a positive attitude toward digital technology acts as a catalyst that encourages students to transition from being mere technology users to productive and competitive digital business actors.

This finding is in line with the Technology Acceptance Model (TAM) framework, which emphasizes that attitudes toward technology use are an important determinant in influencing individuals' actual behavior toward technology adoption. Davis et al. (1989) stated that Attitude Toward Using serves as a psychological bridge between the perceived benefits and ease of use of technology and the intention to use it. Several previous studies also confirmed that a positive attitude toward technology encourages continuous technology acceptance behavior, thereby strengthening individuals' readiness to utilize it in productive activities, including in the context of online business (Bayaga & du Plessis, 2024; Buabeng-Andoh & Baah, 2020; Puriwat & Tripopsakul, 2021; Zeebaree et al., 2022).

H8, H9 dan H10 Attitude Toward Using acts as a mediator

Based on the statistical test results, this study proves that Attitude Toward Using (Z) acts as a significant mediator in the relationship between Perceived Usefulness (X1) and Perceived Ease of Use (X2) on Students' Online Business Readiness (Y). The Sobel test values for the three hypotheses show t-values greater than 1.645 with a significance level below 0.05, so it can be concluded that the influence of X1 and X2 on Y does not only occur directly but also indirectly through students' positive attitudes toward technology use. This means that students' perceptions of the usefulness and ease of use of technology will encourage the formation of positive attitudes towards technology, which in turn will increase their readiness to start and develop a sustainable online business.

This finding reinforces the views expressed by Davis (1989) and Venkatesh & Davis (2000) in the Technology Acceptance Model (TAM), which asserts that perceptions of the benefits and ease of technology will form positive attitudes towards the use of technology, which in turn influences actual behavior. Recent studies (Alajmi & Alotaibi, 2020; Altalhi, 2021; Hu et al., 2020) also show that attitude

plays a catalytic role in transforming perceptions into concrete actions, for example in the adoption of online businesses, the use of e-commerce platforms, or the development of digital-based businesses. In the context of this study, students' positive attitudes toward technology are an important driver that bridges their beliefs about the benefits and convenience of technology with the mental readiness, knowledge, and skills needed for digital entrepreneurship.

A synthesis of these three results shows that students' readiness for online business cannot be built solely by increasing their perceptions of the benefits or convenience of technology, but must be accompanied by the formation of positive, adaptive, and innovative attitudes. Attitude Toward Using is a key psychological variable that encourages students to move from being merely consumptive users of technology to productive business actors. In other words, this mediating variable serves as the driving force for students' digital transformation, from perception to actual readiness to do business.

Based on these findings, the author argues that universities need to strengthen technology-based curricula with experiential learning and project-based learning approaches that enable students to directly experience the use of technology in the context of digital business. This not only increases the perception of the benefits and convenience of technology, but also fosters a sustainable positive attitude towards digital innovation. With this strategy, students will not only be technically prepared, but will also have a visionary digital entrepreneurial mindset, supporting the achievement of the Eight Goals of Surabaya State University, Indonesia Emas 2045, as well as making a real contribution to SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation, and Infrastructure).

CONCLUSION

Based on the results of the quantitative analysis that has been conducted, all hypotheses proposed (H1–H10) are proven to be significant. This indicates that perceived usefulness and perceived ease of use directly influence attitude toward using and readiness for online business, in line with the Technology Acceptance Model (TAM) framework (Davis, 1989). These findings confirm that the higher the perception of usefulness and ease of use of technology, the more positive the attitude of students, which ultimately increases their readiness to utilize digital platforms for entrepreneurship.

In addition, the mediation results show that attitude toward using plays an important role as an intermediary variable, strengthening the relationship between students' initial perceptions and their readiness for online business. This confirms that a positive attitude toward technology is a strategic key in shaping students' readiness to become digital entrepreneurs. Thus, this study not only supports the TAM theory but also provides empirical contributions to the development of digital-based entrepreneurship education strategies.

In practical terms, the research results recommend that universities strengthen their digital entrepreneurship curriculum, provide technological assistance, and create an inclusive digital entrepreneurship ecosystem. With these steps, it is hoped that students will be better prepared to face the challenges of the digital era and be able to contribute to the achievement of the 2030 SDGs and the 2045 Golden Indonesia vision.

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