Jurnal Fokus Manajemen Bisnis
Volume 15, Number 2, September 2025, Page 490-514
https://doi.org/10.12928/fokus.v15i2.14492
http://journal2.uad.ac.id/index.php/fokus
P-ISSN: 2088-4079 E-ISSN: 2716-0521

Building digital entrepreneurs in Indonesia: The role of education, competence, and self-efficacy

Ferry Arfiansyah[1*], Suryana[2], Hari Mulyadi[3], Vanessa Gaffar[4], Rengga Madya Pranata[5]
[1,2,3,4] Universitas Pendidikan Indonesia, Jawa Barat, Indonesia
[5] Universitas Buana Perjuangan Karawang, Jawa Barat, Indonesia
ferry.arfiansyah@upi.edu
*Correspondent Author Email

ARTICLE INFORMATION

Article History
Received: 18-09-2025
Revised: 17-10-2025
Accepted: 24-10-2025

Keywords
Digital Entrepreneurial Education;
Digital Competence;
Digital Entrepreneurial Self-Efficacy;
Digital Entrepreneurial Intention.

ABSTRACT

As digital transformation progresses, understanding the elements that motivate students in higher education to pursue digital entrepreneurship has become increasingly essential. Indonesia, as one of the largest developing digital economies, provides a vital context where high digital literacy among youth has not yet translated into strong entrepreneurial activity, making its university students a critical population for examining the education–intention gap. Most prior studies addressed digital entrepreneurial education and competence independently, with limited efforts to link them in explaining entrepreneurial motivation. This research analyzes the intermediary influence of digital entrepreneurial self-efficacy in bridging the effects of digital entrepreneurial education and digital competence on students' entrepreneurial intentions among 173 university students in West Java, Indonesia, utilizing a structural equation modeling approach. Analysis outcomes demonstrate that digital education and competence strengthen students' confidence to initiate digital ventures. This heightened self-efficacy, in turn, becomes the most decisive factor influencing entrepreneurial intention. Digital competence alone does not directly foster intention but becomes influential when accompanied by strong self-belief, indicating that technical proficiency must be complemented by psychological readiness. The research merges the theory of planned behavior and social cognitive theory to construct its conceptual framework to connect intention development with efficacy processes, illustrating how digital learning and skills collectively foster entrepreneurial motivation. Practically, it highlights the importance of educational designs that simultaneously build competence and confidence to cultivate capable and resilient digital entrepreneurs.

1. Introduction

Digital transformation has fundamentally reshaped entrepreneurial activity, requiring individuals who are not only creative and risk-taking but also technologically fluent and

adaptivee to disruption. Recent academic research has pointed out that developing digital entrepreneurial intentions in higher education students lays the groundwork for producing digitally driven entrepreneurs capable of navigating Industry 4.0 and the platform economy (Secundo et al., 2021; Ratten, 2022). However, participation in digital entrepreneurship remains uneven across different regions. In emerging economies, digital literacy often advances faster than entrepreneurial participation, producing what scholars have described as the digital–entrepreneurial divide (Cardenas et al., 2023).

Indonesia offers a compelling context for investigating this issue. Indonesia is the largest digital economy in Southeast Asia, with more than 200 million internet users and one of the region's fastest-growing start-up ecosystems (Aslam & Alamsyah, 2021; Purbasari et al., 2023; Wardoyo et al., 2025; Abdurrahman, 2025). The country demonstrates strong technological diffusion but limited entrepreneurial opportunities. The proportion of youth engaged in entrepreneurial activities is only 3.47 percent of the working-age population, far below the 10 percent benchmark common in developed economies (Handayati et al., 2021; Širec & Huđek, 2023). Studies specific to West Java, Indonesia, highlight the region's dynamic but uneven digitalentrepreneurial landscape. As one of Indonesia's most digitally connected provinces, West Java hosts an expanding innovation ecosystem that integrates higher-education institutions, start-ups, and government initiatives aimed at fostering digital transformation (Muafi et al., 2023; Purbasari et al., 2023). This makes it an appropriate context for examining university students' digital entrepreneurial intentions. However, empirical findings from the region indicate that despite relatively strong digital competence, students' entrepreneurial engagement and intentions remain inconsistent across institutions. Recent evidence suggests that entrepreneurship education ecosystems in West Java significantly influence entrepreneurial intention through attitudinal and self-efficacy pathways; however, the overall conversion from digital capability to intention remains suboptimal (Hia & Fa'uzobihi, 2025). Hence, focusing on university students in West Java allows this study to capture both the potential and psychological–pedagogical gaps characterizing digital entrepreneurship in an emerging regional ecosystem.

This imbalance between digital capability and entrepreneurial engagement highlights the need to understand the mechanisms that convert digital exposure into entrepreneurial intentions. While bibliometric analyses confirm a growing scholarly focus on youth entrepreneurship and entrepreneurial intention, most studies remain largely descriptive and fragmented, mapping topics, authors, and co-words rather than integrating psychological or technological mechanisms within empirical models (Batista-Canino et al., 2021; Ruiz-Alba et al., 2021; Arfiansyah et al., 2024). This underscores the relevance of analyzing how digital entrepreneurial education and competence, mediated by self-efficacy, affect entrepreneurial intention among students in emerging digital environments such as Indonesia (Bachmann et al., 2024; Duong et al., 2024). Prior evidence from Indonesian samples notes that entrepreneurship education and self-efficacy are key predictors of intention; however, the pattern remains uneven, pointing to psychological and pedagogical gaps that warrant theory-driven integration (Wardoyo et al., 2025).

Prior work frequently applies the theory of planned behavior (TPB) and the social cognitive theory (SCT) to entrepreneurial intention. However, their integrated application in digital entrepreneurship remains underdeveloped and largely theoretical. The TPB accounts for intention through three primary components: Attitudes, subjective norms, and perceived behavioral control, whereas the SCT underscores self-efficacy as the core psychological mechanism as the pivotal mechanism shaping agency (Bandura, 1986; Ajzen, 1991). However, digital entrepreneurship introduces unique dynamics of virtual collaboration, platform dependency, and algorithmic intermediation that challenge conventional behavioral

assumptions (Ferreira et al., 2022). This study moves beyond merely combiningg the TPB and SCT by re-operationalizing their constructs into digital-specific dimensions.

Digital entrepreneurial education represents the learning antecedent that shapes both attitudes and perceived control, digital competence represents the cognitive–technical capital that forms perceived capability, and digital entrepreneurial self-efficacy represents the efficacy-based psychological mechanism that translates these resources into intention. While TPB and SCT integrations have appeared in the general entrepreneurship literature (e.g., Urban, 2021), few empirical studies have tested all three digital antecedents simultaneously or examined their mediated relationships in a developing digital ecosystem. Most prior studies isolate education (Duong et al., 2024; Pham et al., 2024) or competence (Hsieh et al., 2023) and consider the interaction between both factors and self-efficacy in shaping intention. This gap limits the understanding of how digital learning and technical skills synergize through psychological confidence to produce entrepreneurial motivation, especially among students in digitally emerging contexts such as Indonesia.

Thus, this study does not simply replicate prior TPB and SCT frameworks. Instead, it extends them by embedding digitalized constructs and empirically validating their interdependence in a context marked by digital entrepreneurship. Recent studies have highlighted digital entrepreneurial education and self-efficacy as crucial antecedents that shape entrepreneurial intentions in digital settings (Wibowo et al., 2023; Duong et al., 2024). Furthermore, recent reviews contend that conventional TPB and SCT frameworks require adaptation to reflect digital-specific behavior and platform-oriented business models (Sitaridis & Kitsios, 2024). Empirical studies from emerging countries confirm that self-efficacy functions as an intermediary mechanism linking digital competence and entrepreneurial intention (Vafaei-Zadeh et al., 2023). This model is situated in Indonesia as a developing digital economy with unique characteristics. This research offers a theoretical contribution by integrating TPB and SCT with digital constructs, an empirical contribution by simultaneously examining digital entrepreneurial education, digital competence, and self-efficacy among university students in West Java, and a practical contribution by informing higher-education curricula that fuse competence-building with confidence-enhancing pedagogy.

2. Literature Review and Hypothesis Development

2.1. Literature Review

2.1.1. Theory of Planned Behavior

Rapid digital advancements have redefined entrepreneurship worldwide, making adaptability to technology a significant antecedent that influences entrepreneurial performance (Duong et al., 2024; Ahmed et al., 2025). The TPB proposed by Ajzen (1991), suggests that attitude, social norms, and perceived control over behavior are the primary antecedents of intention. In digital environments, positive technological attitudes encourage innovation, favorable social norms, and perceived control over digital tools increase an individual's likelihood of forming a digital entrepreneurial intention (Urban, 2021).

Researchers commonly identify the TPB as a foundational approach for interpreting the development of entrepreneurial intentions. It posits that intention derives from a person's evaluation of the behavior, interpretation of social norms, and perception of control in carrying it out. In digital entrepreneurship, these constructs map favorable evaluations of digital opportunities, supportive social or institutional expectations for innovation, and confidence in deploying digital technologies (Nguyen et al., 2024).

10.12928/fokus.v15i1.14492

Recent studies have extended the TPB to the digital domain, demonstrating that positive attitudes toward technological innovation and supportive online communities significantly enhance students' intention to start digital ventures (Vafaei-Zadeh et al., 2023; Al-Ayed, 2024). Moreover, attitudes formed through digital entrepreneurial education have been shown to mediate how perceived behavioral control influences the formation of entrepreneurial intention (Duong et al., 2024). Accordingly, TPB offers a strong cognitive basis for understanding why individuals intend to pursue digital entrepreneurship.

2.1.2. Social Cognitive Theory

Bandura (1986, 1997) explained behavior through triadic reciprocal causation linking person factors, context, and behavior. Within this framework, perceptions of personal ability to undertake and accomplish the actions essential to a desired outcome function as a core mechanism. In digital entrepreneurship, it denotes assurance in identifying, developing, and managing technology-driven businesses (Ferreira et al., 2022; Cardenas et al., 2023).

Research conducted in multiple countries underscores the importance of self-efficacy as a key factor shaping entrepreneurial intention and bridging digital competence to realize entrepreneurial behavior through mediation effects (Mir et al., 2023; Singh et al., 2024). For example, Liang et al. (2025) noted that even individuals who demonstrate a high level of digital literacy, entrepreneurial action depends on perceived self-efficacy rather than mere technical skill. This highlights the critical psychological mechanism through which knowledge and competence are converted into motivation and action (Bandura, 1997). While the TPB elucidates why individuals intend to act, the SCT explains how efficacy beliefs translate knowledge and capability into purposeful action. Integrating these two perspectives provides a comprehensive theoretical lens for examining digital entrepreneurial intentions (Ajzen, 1991; Bandura, 1997; Urban, 2021).

2.1.3. Digital Entrepreneurial Education

Digital entrepreneurial education refers to formal and informal learning activities that combine entrepreneurial knowledge with digital technology skills to foster students' capacity to identify, create, and manage digital ventures (Secundo et al., 2021; Ratten, 2022). It strengthens both cognitive understanding and psychological readiness to undertake digital entrepreneurial ventures (Darmanto et al., 2023). Empirical research confirms that digital entrepreneurial education exerts an immediate effect on fostering students' digital entrepreneurial intentions (Pham et al., 2024; Wibowo et al., 2023). Applied learning experiences encompass simulations, online business projects, and AI-based exercises that enable students to develop the technical competence and psychological readiness to perceive digital entrepreneurship as a credible alternative for career advancement (Duong, 2023; Sahrah et al., 2023). According to SCT, these experiences serve as mastery experiences that enhance self-efficacy (Bandura 1997). Consequently, digital entrepreneurial education not only transfers conceptual knowledge but also builds digital entrepreneurial self-efficacy, preparing individuals to manage risk and uncertainty in digital ventures (Singh et al. 2024).

2.1.4. Digital Competence

Defined across technical, cognitive, and socio-emotional dimensions, digital competence equips individuals to operate technologies responsibly in organizational

contexts, capitalize on digital opportunities, and generate novel business concepts while remaining responsive to technological shifts (Hsieh et al., 2023; Andriani et al., 2023; Nguyen et al., 2024). Research conducted with Andriani et al. (2023), Wibowo et al. (2023), and Nguyen et al. (2024) indicates that strong digital competence allows entrepreneurs to recognize online market opportunities, develop innovative business models, and optimize the use of e-commerce platforms. Within SCT, competence builds self-efficacy by reinforcing mastery experience (Bandura, 1986). In TPB, perceived behavioral control is strengthened, thereby promoting intention (Ajzen, 1991). However, competence alone does not guarantee the intention. According to Qureshi et al. (2021), Sahrah et al. (2023), and Duong (2024) digital competence is ineffective and underutilized withoutconfidence in its practical applicatione.

2.1.5. Digital Entrepreneurial Self-Efficacy

Entrepreneurial behavior is largely shaped by individuals' self-efficacy, which is a fundamental determinant (Urban, 2021; Ferreira et al., 2022). The construct of digital entrepreneurial self-efficacy captures individuals' confidence and perceived ability to engage successfully in entrepreneurial endeavors enabled by digital technologies, including online opportunity recognition, digital marketing, e-commerce management, and effective handling of technological challenges (Cardenas et al., 2023; Ferreira et al., 2022). Grounded in SCT, those with heightened self-efficacy are inclined to take purposeful entrepreneurial action and sustain their efforts in the face of difficulties, establish more ambitious goals, remain persistent amid uncertainty, and translate intentions into concrete actions (Bandura, 1997). Similarly, the TPB equates self-efficacy with perceived behavioral control as the immediate cognitive driver of intention (Ajzen, 1991). Empirical research has confirmed a strong and favorable connection between confidence in digital entrepreneurial abilities and the desire to pursue digital entrepreneurship (Hsieh et al., 2023). Individuals who believe that they can handle digital tools and business challenges are more likely to choose entrepreneurial careers. In SCT, self-efficacy serves as a proximal motivator that mediates the relationship between knowledge and intention.

2.1.6. Digital Entrepreneurial Intention

The concept of digital entrepreneurial intention captures a person's deliberate motivation and readiness to launch entrepreneurial activities through digital platforms by utilizing digital technologies, including online platforms, mobile applications, artificial intelligence, or e-commerce systems (Mir et al., 2023; Duong et al., 2024). The concept of digital entrepreneurial intention redefines classical entrepreneurial intention by integrating technology-driven opportunities and digital business models into the digital realm, encompassing both the willingness to initiate ventures and the capability to leverage opportunities offered by digital technologies (Ratten, 2022; Nguyen et al., 2024). As outlined in the TPB by Ajzen (1991), individuals' intention arises from their attitudes toward the act, perceived social expectations, and perceived ability to perform an action, which collectively serve as key predictors of intention and the most proximal antecedent of actual behavior. Within digital contexts, these determinants are shaped by factors such as perceived technological opportunities, social endorsement of digital innovation, and individuals' confidence in managing digital systems (Urban 2021).

As emphasized by the SCT by Bandura (1986), the extent to which individuals believe they can structure and implement behaviors required for specific digital entrepreneurial endeavors influences their intention to pursue such ventures. This

10.12928/fokus.v15i1.14492

means that digital entrepreneurial intention is not only a cognitive orientation but also an outcome of accumulated learning, digital exposure, and self-efficacy (Ferreira et al., 2022; Cardenas et al., 2023). Current research highlights entrepreneurial intention in the digital environment as an essential psychological driver of digital venture creation, especially among educated youth in emerging economies (Sahrah et al., 2023). In emerging digital economies such as Indonesia, digital entrepreneurial intention has gained prominence as a lens for understanding how digital transformation fosters entrepreneurial outcomes. Although the country demonstrates rapid growth in Internet penetration and digital skills, the proportion of young people actively engagedd in entrepreneurship remains comparatively low (Tambunan, 2021; Vafaei-Zadeh et al., 2023; Liang et al., 2025).

2.2. Hypothesis Development

2.2.1. Positive Effect of Digital Entrepreneurial Education on Digital Entrepreneurial Self-Efficacy

Digital transformation in universities and higher education has promoted the implementation of pedagogical models that combine technological integration with entrepreneurship education (Mir et al., 2023). As proposed by the SCT, individuals' experiential learning activities, such as digital simulations, start-up projects, and virtual business cases, offer mastery experiences that strengthen students' confidence in executing entrepreneurial tasks (Bandura, 1997). Empirical research confirms that digital entrepreneurship education boosts self-efficacy by engaging students in applying theory to real-world digital contexts (Duong et al., 2024; Pham et al., 2024; Singh et al., 2024). Similarly, Ferreira et al. (2022) and Liang et al. (2025) discovered that when digital education emphasizes experimentation and innovation, learners develop stronger psychological readiness for entrepreneurial action. **H_1: Digital Entrepreneurial Education Has a Positive Effect on Digital Entrepreneurial Self-Efficacy.**

2.2.2. Positive Effect of Digital Entrepreneurial Education on Digital Entrepreneurial Intention

According to TPB, education influences intention by influencing individuals' attitudes toward entrepreneurship, promoting innovation-friendly social expectations, and elevating their perceived behavioral capability (Ajzen, 1991; Urban, 2021). Digital entrepreneurship education builds these cognitive components by exposing students to digital market opportunities, start-up role models, and technology-driven problem-solving (Wibowo et al., 2023; Al-Ayed, 2024). Duong et al. (2024) demonstrated that students receiving digital-based entrepreneurship education exhibit higher entrepreneurial intentions than those taught using traditional methods. Likewise, Sitaridis and Kitsios (2024) concluded that digital pedagogies enrich entrepreneurial mindsets by merging technological competence with the recognition of opportunities. **H_2: Digital Entrepreneurial Education Has a Positive Effect on Digital Entrepreneurial Intention.**

2.2.3. Positive Effect of Digital Competence on Digital Entrepreneurial Self-Efficacy

Digital competence refers to the capability to utilize, modify, and develop digital technologies efficiently to support problem-solving and foster innovation (Vuorikari et al., 2022). According to SCT, competence generates mastery experiences that build self-efficacy through the reinforcement of one's confidence in technical skills (Bandura, 1997). Empirical evidence confirms that higher digital competence

significantly strengthens entrepreneurial self-efficacy (Andriani et al., 2023; Nguyen et al., 2024; Pham et al., 2024). Furthermore, Hsieh et al. (2023) and Mir et al. (2023) emphasized that digital competence fosters self-confidence, creativity, and opportunity recognition as critical dimensions of entrepreneurial efficacy in the digital era. **H_3: Digital Competence Has a Positive Effect of Digital Entrepreneurial Self-Efficacy.**

2.2.4. Positive Effect of Digital Competence on Digital Entrepreneurial Intention

As outlined in the TPB, the development of digital competence enhances one's perceived control over entrepreneurial behavior, making individuals more prepared to pursue digital business opportunities and perceive entrepreneurship as achievable through technology (Ajzen, 1991). However, research shows that the effect of digital competence on intention may depend on other psychological variables. Elnadi et al. (2023) and Duong (2024) revealed that competence alone does not guarantee intention unless it translates into confidence and self-motivation. However, individuals with high levelss of technical competence are more inclined to recognize potential market opportunities and design innovative digital business models (Hsieh et al., 2023; Nguyen et al., 2024). Thus, competence directly supports entrepreneurial intention by enhancing the ability to recognize and exploit digital opportunities. **H_4: Digital Competence Has a Positive Effect on Digital Entrepreneurial Intention.**

2.2.5. Positive Effect of Digital Entrepreneurial Self-Efficacy on Digital Entrepreneurial Intention

Drawing from both the TPB and SCT, self-efficacy is defined in terms of perceived behavioral control and is viewed as a central psychological mechanism that directly influences students' behavioral intention (Ajzen, 1991; Bandura, 1997). Self-efficacious individuals exhibit higher persistence, creativity, and resilience, which are essential traits for digital entrepreneurship (Cardenas et al., 2023; Urban, 2021). Empirical evidence consistently demonstrates that self-efficacy is a key psychological driver of entrepreneurial intention (Hsieh et al., 2023; Singh et al., 2024). Recent studies by Ferreira et al. (2022) and Elnadi et al. (2023) confirmed that confidence in organizing online tools and uncertainty directly enhance entrepreneurial motivation and behavioral readiness. **H_5: Digital entrepreneurial self-efficacy positively influences digital entrepreneurial intention.**

2.2.6. The Effect of Digital Entrepreneurial Education on Digital Entrepreneurial Intention through Digital Entrepreneurial Self-Efficacy

Although education builds knowledge and shapes favorable attitudes, its role in enhancing entrepreneurial intention is most pronounced when accompanied by strong self-belief in one's abilities. Within SCT, self-efficacy determines psychological traits that evolve acquired knowledge into goal-directed motivation (Bandura, 1986; Ferreira et al., 2022). Studies by Singh et al. (2024), Duong et al. (2024), and Vafaei-Zadeh et al. (2023) found that self-efficacy bridges and influences digital education on entrepreneurial intention, indicating that learning alone is insufficient unless students believe they can successfully apply digital tools in business creation. **H_6: Digital Entrepreneurial Self-Efficacy Mediates the Effect of Digital Entrepreneurial Education on Digital Entrepreneurial Intention.**

10.12928/fokus.v15i1.14492

2.2.7. The Effect of Digital Competence on Digital Entrepreneurial Intention through Digital Entrepreneurial Self-Efficacy

Within the framework of SCT, a psychological bridge of self-efficacy transforms digital skills into the motivation required for entrepreneurial engagement (Bandura, 1986; Ferreira et al., 2022). Empirical evidence from various international studies shows that individuals with well-developed digital skills tend to have higher self-efficacy in entrepreneurship, which subsequently boosts their intention to pursue digital ventures (Vafaei-Zadeh et al., 2023; Singh et al., 2024; Liang et al., 2025). Furthermore, Mir et al. (2023) identified that self-efficacy converts technical expertise into proactive entrepreneurial attitudes, underscoring its pivotal role in bridging capabilities and motivation. **H_7: Digital Entrepreneurial Self-Efficacy Mediates the Effect of Digital Competence on Digital Entrepreneurial Intention.**

2.3. Research Framework

Based on the integration of TPB and SCT, this study proposes a model in which digital entrepreneurial education and digital competence act as exogenous variables that influence digital entrepreneurial self-efficacy and digital entrepreneurial intention. DESE functions as a mediating construct that transforms learning and digital skills into intentionn. The model captures both direct and indirect effects and reflects the educational, cognitive, and psychological mechanisms contributing to the formation of digital entrepreneurial activities among Indonesian students, especially in West Java, Indonesia.

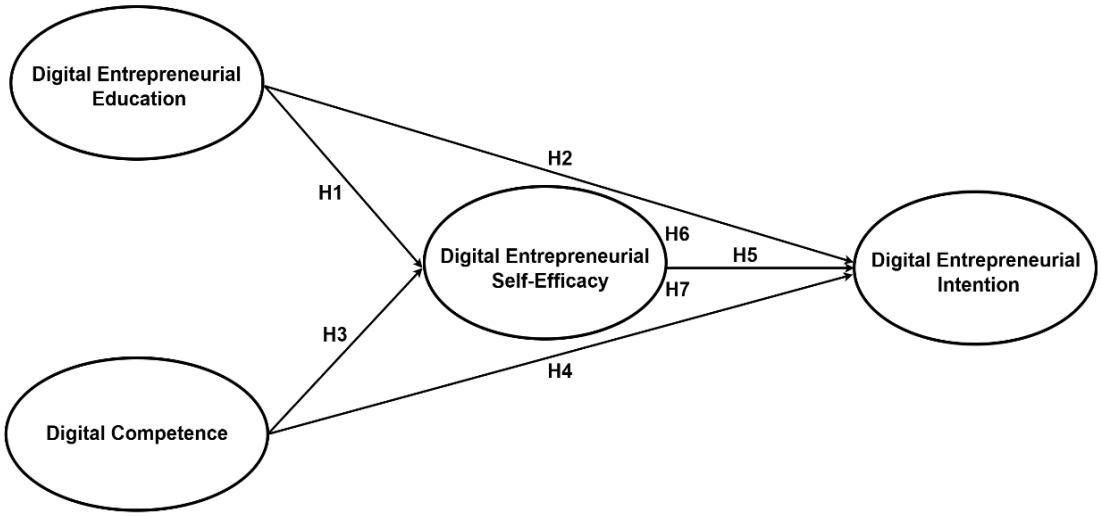

Figure 1. Research Framework

As depicted in Figure 1, the conceptual model integrates insights from the theoretical perspectives of TPB and SCT to uncover how digital entrepreneurial intention arises among students in higher education. The model posits that digital entrepreneurial education and digital competence function as exogenous antecedents that shape both digital entrepreneurial self-efficacy and digital entrepreneurial intention. The direction of the arrows in the model reflects the hypothesized causal flow: Digital entrepreneurial education and DC are expected to enhance digital entrepreneurial self-efficacy (first and third hypothesis) and directly increase digital entrepreneurial intention (second and fourth hypothesis). In addition, digital entrepreneurial self-efficacy is predicted to have a strong direct effect on digital entrepreneurial intention (fifth hypothesis), serving as the

psychological mechanism through which educational and skill-based factors are translated into entrepreneurial motivation.

The model also incorporates two indirect pathways (sixth and seventh hypothesis) to capture the mediating role of digital entrepreneurial self-efficacy, examining both the mediating effect of digital entrepreneurial self-efficacy on the relationship between digital entrepreneurial education and digital entrepreneurial intention, and its role in linking digital competence to digital entrepreneurial education. These mediation paths reflect the SCT perspective that self-efficacy transforms learning experiences and digital skills into action-oriented intentions. Overall, the framework represents a theoretically grounded integration of educational, cognitive, and psychological factors that collectively shape digital entrepreneurial intention.

Therefore, this model contains seven hypotheses covering both direct and indirect effects. The "value" of this model lies in its ability to combine the behavioral intention mechanism from TPB (attitudes and perceived control) with the self-efficacy mechanism from SCT (confidence to act), contributing to a broader comprehension of the role that digital education and competence play in cultivating entrepreneurial readiness amid digital transformation.

3. Research Methods

3.1. Population and Sampling Method

The research population comprised active undergraduate students currently enrolled in public and private universities in West Java, Indonesia, who had completed or were currentlyy taking courses related to digital entrepreneurship. West Java was purposively selected because it has a dense and diverse higher-education landscape alongside a documented digital and creative-innovation ecosystem that supports new venture formation, particularly in Greater Bandung, thus offering a theoretically rich context for examining mechanisms linking digital entrepreneurial education, digital competence, and digital self-efficacy to intention (Khoirunisa et al., 2023; Noviani et al., 2023; Atnan & Sembada, 2025). Evidence from recent international studies highlights West Java's active constellation of incubators, university–industry collaborations, and regional innovation programs that position the province as a significant node in Indonesia's platform-driven entrepreneurship landscape, making it an analytically appropriate case for generalizing the theory of digital entrepreneurial intention (Purbasari et al., 2023).

This regional scope provides a realistic reflection of Indonesia's developing digital entrepreneurship ecosystem while maintaining manageable data-collection boundaries. A purposive sampling technique was employed to obtain 173 valid responses, selecting participants who satisfied two designated criteria. They were active university students from either public or private universities in West Java. They expressed interest in or were exposed to digital entrepreneurship courses, programs, or activities. The number of respondents is consistent with the established guidelines for partial least squares-structural equation modeling (PLS-SEM) sample sufficiency, which stipulates that the sample size must be at least ten times the maximum number of structural links targeting any latent variable in the model (Hair et al., 2021).

3.2. Data Collecting Method

The measurement tool comprised fixed-response questions assessed using a seven-point Likert-type scale, with scores ranging from strongly disagree (1) to strongly agree (7). All related items were adapted from well-established and validated international scales on digital entrepreneurship, thereby maintaining both content

10.12928/fokus.v15i1.14492

validity and contextual relevance. The following is a summary of the operational definitions of the study variables and the origins of their respective indicators.

All items originated from previous empirical research and were modified to fit the local context of higher education institutions in West Java, which are currently facing both challenges and opportunities within the rapidly evolving digital entrepreneurship ecosystem. The digital entrepreneurial education (DEE) variable was assessed using 14 items originally developed by Duong et al. (2024) in their study on technology-based entrepreneurship learning in Southeast Asia, and later refined by Secundo et al. (2021) to measure the role of digital experiential instructional methods in enhancing entrepreneurial achievements. These items capture dimensions such as exposure to digital start-up knowledge, innovation-oriented teaching, and technology use in entrepreneurship courses.

In a similar manner, digital competence (DC) was assessed through 12 measurement items adapted from Vuorikari et al. (2022) digital competence framework (DigComp 2.1) and later operationalized in the empirical research of Nguyen et al. (2024) and Hsieh et al. (2023). The construct encompasses five fundamental aspects: information and data literacy, interaction and teamwork, producing digital materials, ensuring digital security, and addressing problems through digital means. A total of 14 indicators were used to measure digital entrepreneurial self-efficacy (DESE), adapted from prior research by Cardenas et al. (2023) and Ferreira et al. (2022), who investigated the mediating influence of self-efficacy on the relationship between digital capability and entrepreneurial behavior. These items assessed respondents' confidence in identifying digital business opportunities, creating online marketing strategies, and managing digital operations effectively. Finally, the digital entrepreneurial intention (DEI) variable was evaluated using 14 items adapted from Ajzen's (1991) theory and extended by Mir et al. (2023) to reflect digital contexts. The indicators measure students' desire, determination, and readiness to start digitally based ventures.

3.3. Data Analysis Method

PLS-SEM via Smart PLS version 4.0 was utilized for data analysis, as this technique is particularly effective for exploratory investigations, multifaceted mediation models, and prediction-focused analyses based on modest sample sizes (Hair et al., 2021). The analytical process was conducted in two sequential steps: Initially, the measurement model was evaluated for reliability and validity, and subsequently, the structural model was analyzed to test the study hypotheses and connections between variables.

3.3.1. Validity and Reliability Test

Before estimating the structural model, we verified that each latent construct met the accepted standards of reliability and validity. The measurement model was verified through four tests: indicator reliability, internal consistency, convergent validity, and discriminant validity. The reliability of each indicator was determined from its outer loading, with coefficients equal to or exceeding 0.70, demonstrating that the item strongly reflected its latent construct. To assess internall consistency, both Cronbach's alpha and composite reliability were calculated, and values higher than 0.7 were interpreted as evidence of strong indicator alignment. Convergent validity was examined using the average variance extracted (AVE), a measure of the proportion of indicator variance attributable to the underlying latent variable. AVE scores above 0.5 imply that the construct explains the majority of the variance in its observed measures (Hair et al., 2021). This study established discriminant validity, defined as the degree to which constructs differ empirically, by applying two methods: the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio. Following the guidelines of

Henseler et al. (2015), discriminant validity is deemed satisfactory when the square root of each construct's AVE is higher than its correlations with other latent variables, and the HTMT indices fall below the threshold of 0.85. Where any item or construct failed to meet these thresholds, we inspected the model further and considered item deletion or model re-specification. Satisfying these checks provides confidence that the measurement model is sound and that subsequent structural paths represent substantive relationships among latent variables (Henseler et al., 2015; Hair et al., 2021).

3.3.2. Hypothesis Test

Following the confirmation of measurement adequacy, the study advanced to structural model assessment to evaluate hypothesis. We implemented PLS-SEM using Smart PLS version 4.0, a technique suited to exploratory and predictive research with relatively small-to-moderate sample sizes (Hair et al., 2021). Collinearity among exogenous constructs was examined using the inner VIF (< 3.3 as the threshold). Next, the path coefficients were tested using a bootstrapping routine with 5,000 draws. Hypotheses were evaluated with two-tailed tests at $\alpha = 0.05$. Effects results were regarded as significant whenever the t-statistic surpassed 1.96 and the p-value fell below the 0.05 threshold (Hair et al., 2021).

To gauge how well the model accounts for the variance in the outcomes, we calculated the coefficient of determination (R^2) for each endogenous construct. Values above 0.1 were treated as minimally acceptable, with a larger R^2 reflecting a stronger explanatory power. We also inspected effect sizes (f^2) to determine how much each exogenous construct contributed to an endogenous variable. Hair et al. (2021) proposed that effect levels of 0.02, 0.15, and 0.35 correspond to weak, average, and strong relationships. The Stone–Geisser (Q^2) coefficient, generated via the blindfolding method, was utilized to examine the model's predictive power. When Q^2 exceeds zero, it indicates that the model forecasts better than expected solely from its data fit (Hair et al., 2021). The Standardized Root Mean Square Residual (SRMR) served as an additional measure of model adequacy. Values below 0.08 are interpreted as evidence of good overall model conformity (Hu & Bentler, 1999).

Additional testing focused on the intermediary role of digital entrepreneurial self-efficacy in the pathways from digital entrepreneurial education to digital entrepreneurial intention and from digital competence to digital entrepreneurial intention. Mediation was evaluated using bootstrapping, and the mediating type of digital entrepreneurial self-efficacy partial or full was identified through the statistical significance of its indirect effects (Hair et al., 2021). Taken together, these structural tests substantiate the proposed hypotheses and clarify how educational inputs, capability factors, and self-efficacy jointly shape students' intentions to pursue digital entrepreneurship.

4. Result and Discussion

4.1. Characteristics of Respondents

An outline of the participants' demographic and behavioral characteristics is displayed in Table 1, providing a general description of their profiles, including age, region of origin, academic background in entrepreneurial education, and the most frequently used digital platforms in productive or entrepreneurial activities.

10.12928/fokus.v15i1.14492

Table 1. Characteristics of Respondents

Characteristic	Details	Number
Age Distribution	18–20 years	64
	21–23 years	103
	> 23 years	6
Top 10 Cities of Origin	Bandung	76
	Cimahi	11
	Kota Bandung	8
	Bekasi	6
	Jakarta	5
	Medan	4
	West Bandung	4
	Garut	3
	Tasikmalaya	2
	Semarang	2
Enrollment in Entrepreneurship Courses	Yes	152
	No	21
Top 10 Most Frequently Used Digital Platforms	Instagram	133
	WhatsApp	125
	TikTok	120
	Shopee	87
	Tokopedia	31
	Facebook	9
	Youtube	7
	Personal Website	6
	Twitter	1
	Telegram	1

This study involved 173 active undergraduate students from various universities in West Java, Indonesia, representing both public and private higher-education institutions. A total of 57.9% of the respondents were within the 21–23 age group, representing the dominant group in the sample, followed by 18–20 years (36.0%) and over 23 years (6.1%). This demographic structure shows that most respondents are in the late stages of their undergraduate studies, which is a critical period for career decision-making and entrepreneurial exploration. Drawing on the TPB by Ajzen (1991), this life phase is characterized by the emergence of perceived control over one's behavior and crystallization of future aspirations, including entrepreneurial pursuits. The dominance of students from this age group enhances the validity of the research focus on digital entrepreneurial intention as a cognitive process influenced by educational exposure and competence.

Geographically, most participants originated from Bandung City and its metropolitan surroundings, followed by nearby urban centers, such as Cimahi, Bekasi, and Jakarta. This concentration reflects the urban nature of West Java's student population, which is characterized by strong digital infrastructure, active startup ecosystems, and government-supported innovation hubs such as Bandung Digital Valley and West Java Digital Service. These conditions create an ideal environment for studying digital entrepreneurship behavior, as students from such regions are likely to have higher exposure to digital tools, entrepreneurial role models, and innovation-driven peer networks.

In terms of academic background, a substantial majority of respondents (85.4%) reported having attended at least one entrepreneurship-related course, while the remaining 14.6% had not taken formal entrepreneurship classes. This distribution

suggests that most participants possess foundational entrepreneurial literacy as an important contextual factor when examining the interrelation of digital entrepreneurial education and digital competence on digital entrepreneurial self-efficacy and digital entrepreneurial intention in the study. Moreover, both experienced and non-experienced students in entrepreneurship courses provide a natural variation, allowing for a comparison of different educational exposures on intention outcomes.

Regarding digital engagement, the data show that the respondents were highly active users of social and commercial digital platforms. The five most frequently used platforms were Instagram (74.7%), WhatsApp (70.2%), TikTok (67.4%), Shopee (48.9%), and Tokopedia (17.4%). Respondents primarily used Instagram and TikTok for business promotion, product showcases, and customer engagement, while WhatsApp served as the main communication and coordination tool for buyers and team members. Shopee and Tokopedia were used as transaction platforms, indicating that many respondents had already engaged in entrepreneurial or quasi-entrepreneurial online activities. The diversity of platforms mentioned, including Facebook, YouTube, personal websites, and Telegram, further demonstrates the digital readiness and technological adaptability of the sample population.

Overall, these characteristics confirm that the respondents represent a digitally literate, opportunity-oriented, and entrepreneurship-aware student body. Their age, educational background, and behavioral engagement with digital platforms provide an appropriate foundation for testing how educational interventions and digital skills interact with self-efficacy to shape entrepreneurial intentions. This profile aligns with previous findings that students in digitally dynamic environments, such as West Java, exhibit strong potential for entrepreneurial transformation when equipped with self-efficacy and structured digital learning experiences (Ferreira et al., 2022; Nguyen et al., 2024).

4.2. Validity Test

To confirm that each measurement indicator effectively captured its underlying construct, a series of validity analyses were performed, encompassing indicator reliability, convergent validity, and discriminant validity. Table 2 compiles the key results derived from these assessments.

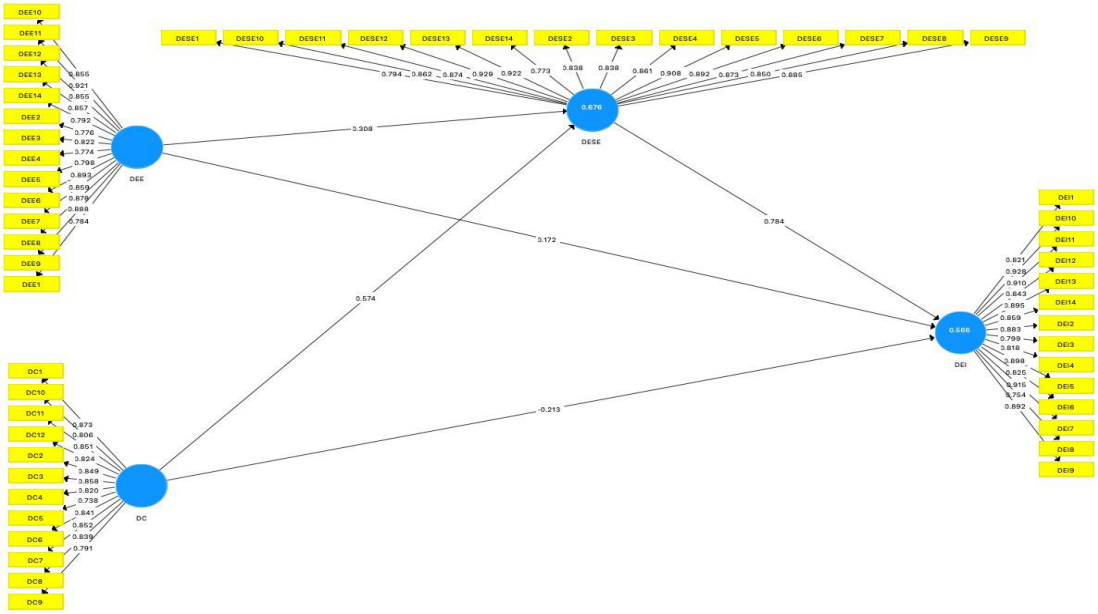

Figure 2. Measurement Model

10.12928/fokus.v15i1.14492

Table 2. Validity Test Result

Indicator	Digital Competence	Digital Entrepreneurial Education	Digital Entrepreneurial Intention	Digital Entrepreneurial Self-Efficacy
DESE1				0.794
DESE2				0.838
DESE3				0.838
DESE4				0.861
DESE5				0.908
DESE6				0.892
DESE7				0.873
DESE8				0.850
DESE9				0.885
DESE10				0.862
DESE11				0.874
DESE12				0.929
DESE13				0.922
DESE14				0.773
DEE1		0.784		
DEE2		0.776		
DEE3		0.822		
DEE4		0.774		
DEE5		0.798		
DEE6		0.893		
DEE7		0.859		
DEE8		0.878		
DEE9		0.888		
DEE10		0.855		
DEE11		0.921		
DEE12		0.855		
DEE13		0.857		
DEE14		0.792		
DC1	0.873			
DC2	0.849			
DC3	0.858			
DC4	0.820			
DC5	0.738			
DC6	0.841			
DC7	0.852			
DC8	0.839			
DC9	0.791			
DC10	0.806			
DC11	0.851			
DC12	0.824			
DEI1			0.821	
DEI2			0.883	
DEI3			0.799	
DEI4			0.818	
DEI5			0.898	
DEI6			0.825	
DEI7			0.915	
DEI8			0.754	
DEI9			0.892	
DEI10			0.928	
DEI11			0.910	

Indicator	Digital Competence	Digital Entrepreneurial Education	Digital Entrepreneurial Intention	Digital Entrepreneurial Self-Efficacy
DEI12			0.843	
DEI13			0.895	
DEI14			0.859	

The factor loadings for all indicators exceeded 0.7, signifying that each measure effectively captured the dimension it was designed to reflect. According to Hair et al. (2021), this indicates strong indicator reliability, meaning that each observed variable is a good reflection of its underlying latent construct. The Heterotrait–Monotrait Ratio (HTMT) assessment provided additional evidence supporting the discriminant validity and separateness of the constructs. As all Heterotrait–monotrait values were less than 0.85, the findings demonstrated adherence to the discriminant validity standard established by Henseler et al. (2015). Accordingly, the four latent constructs–Digital Competence (DC), Digital Entrepreneurial Education (DEE), Digital Entrepreneurial Self-Efficacy (DESE), and Digital Entrepreneurial Intention (DEI)–were established as conceptually and empirically distinct. The findings of these analyses appear in Table 3.

Table 3. Discriminant Validity Test Result

	Digital Competence	Digital Entrepreneurial Education	Digital Entrepreneurial Self-Efficacy	Digital Entrepreneurial Intention
Digital Competence				0.756
Digital Entrepreneurial Education	0.733			
Digital Entrepreneurial Self-Efficacy	0.817	0.735		
Digital Entrepreneurial Intention	0.543	0.593		

4.3. Reliability Test

PLS-SEM was employed to analyze the interrelationships among the research variables. Once the validity criteria were satisfied, the reliability of the constructs was examined using Cronbach's alpha and composite reliability. The findings of these analyses are presented in Table 4.

Table 4. Realibility Test Result

Variable	Cronbach's Alpha	Composite Reliability	AVE
Digital Competence	0.959	0.964	0.688
Digital Entrepreneurial Education	0.968	0.971	0.707
Digital Entrepreneurial Self-Efficacy	0.974	0.977	0.749
Digital Entrepreneurial Intention	0.973	0.976	0.742

All reported Cronbach's alpha and composite reliability measures in Table 4 were greater than 0.5, satisfying the minimum internal consistency requirement suggested by Hair et al. (2021). All reliability coefficients were above 0.95, indicating excellent

10.12928/fokus.v15i1.14492

consistency among the indicators of each construct. This indicates satisfactory internal consistency for all constructs. Specifically, the Cronbach's alpha coefficients ranged between 0.959 and 0.974, whereas the composite reliability values varied from 0.964 to 0.977, demonstrating excellent internal reliability. These results indicate that the measurement items consistently represent their respective constructs: Digital competence, digital entrepreneurial education, digital entrepreneurial self-efficacy, and digital entrepreneurial intention. The high reliability coefficients also confirmed that the measurement scales were stable and that the respondents answered each construct's items consistently, suggesting minimal measurement error.

The AVE values ranged between 0.688 and 0.749, surpassing the 0.5 benchmark and thereby confirming satisfactory convergent validity (Hair et al., 2021). Accordingly, the constructs account for most of the variance in the observed measures. When considered with elevated Cronbach's alpha and composite reliability coefficients, these findings attest to a robust and dependable measurement model appropriate for PLS-SEM structural analysis. The high internal consistency further indicates that respondents answered the items within each construct coherently, reinforcing the soundness of the scales capturing digital competence, digital entrepreneurial education, self-efficacy, and intention.

4.4. Hypothesis Test

We estimated the structural relationships using PLS-SEM and employed a nonparametric bootstrap with 5,000 resamples, adopting a two-tailed significance level of $\alpha = 0.05$. This strategy is well-suited for models that are comparatively complex, featuring multiple mediators and constructs still in the exploratory stage (Hair et al., 2021). Prior to formal hypothesis testing, we summarized the explanatory and results qualities of the hypothesis. The results revealed that digital entrepreneurial intention had a coefficient of determination equal to 0.63, indicating a substantial proportion of explained variance, implying that digital entrepreneurial education, digital competence, and digital entrepreneurial self-efficacy together account for 63% of the variance in students' entrepreneurial intentions. For digital entrepreneurial self-efficacy, $R^2 = 0.52$, indicating that digital entrepreneurial education, digital competence, and digital entrepreneurial self-efficacy together account and digital competence explained slightly more than half of the variance in self-efficacy. The computed SRMR value of 0.065, which is less than the suggested 0.08 criterion, reflects an acceptable level of global model fit (Hair et al., 2021). According to the structural analysis summarized in Table 5, all hypothesized linkages were significant, lending empirical support to the soundness of the proposed conceptual framework.

Table 5. Hypothesis Test Result

Hypothesis	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Digital Entrepreneurial Education → Digital Entrepreneurial Self-Efficacy	0.308	0.302	0.120	2.566	0.010
Digital Entrepreneurial Education → Digital Entrepreneurial Intention	0.172	0.177	0.072	2.382	0.017
Digital Competence → Digital Entrepreneurial Self-Efficacy	0.574	0.582	0.107	5.367	0.000
Digital Competence → Digital Entrepreneurial Intention	-0.213	-0.218	0.075	2.833	0.005
Digital Entrepreneurial Self-Efficacy → Digital Entrepreneurial Intention	0.784	0.786	0.079	9.948	0.000

Hypothesis	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Digital Entrepreneurial Education → Digital Entrepreneurial Self-Efficacy → Digital Entrepreneurial Intention	0.241	0.236	0.096	2.523	0.012
Digital Competence → Digital Entrepreneurial Self-Efficacy → Digital Entrepreneurial Intention	0.450	0.458	0.102	4.418	0.000

The analysis shows that both digital entrepreneurial education and digital competence significantly enhance digital entrepreneurial self-efficacy, producing standardizedd path coefficients of 0.308 ($p = 0.010$) and 0.574 ($p < 0.001$), respectively. This indicates that educational exposure and digital skills development jointly contribute to fostering stronger self-efficacy among students in managing and implementing digital business initiatives. From the perspective of SCT by Bandura (1986), this outcome illustrates that gaining competence through direct experience and learning from others plays a pivotal role in building self-efficacy. Students who receive structured digital entrepreneurial education gain practical and cognitive mastery that builds their psychological readiness to start and manage digital ventures. Similarly, students with high digital competence, such as proficiency in using e-commerce platforms, social media marketing tools, or data analytics, experience a higher sense of control over digital tasks, which further reinforces their entrepreneurial confidence.

Digital entrepreneurial education and digital competence also exhibit significant direct effects on digital entrepreneurial intention. The established positive effect of digital entrepreneurial education on digital entrepreneurial intention demonstrates that educational engagement meaningfully contributes to the formation of favorable attitudes and intentions toward digital venture creation. This evidence lends further support to TPB by Ajzen (1991), highlighting that individuals' behavioral intentions emerge chiefly from their attitudes, social expectations, and sense of control over their actions. Through digital entrepreneurial education, students develop more favorable attitudes toward innovation- and technology-based entrepreneurship, increasing their likelihood of translating these attitudes into intentions.

In contrast, the findings showed that digital competence exerted a statistically significant inverse effect on digital entrepreneurial intention, as reflected by $\beta = -0.213$ and $p = 0.005$. This suggests a suppression effect, wherein individuals with higher digital competence could simultaneously gain deeper insight into the multifaceted nature and inherent risks of a digital enterprise, thereby engendering prudence or reluctance to engage in startup activities. As noted by Hsieh et al. (2023), competence alone may not immediately lead to entrepreneurial action unless it is accompanied by psychological readiness to take calculated risks. This implies that digital competence, while necessary, may not be sufficient to drive intention unless it is internalized as confidence through self-efficacy.

The analysis demonstrated a robust and statistically significant positive link between digital entrepreneurial self-efficacy and digital entrepreneurial intention, as reflected by $\beta = 0.784$ and $p < 0.001$, representing the most dominant relationship in this model. These findings imply that students feel assured of their capability to execute digital entrepreneurial tasks, including opportunity identification and online marketing management, or leveraging digital platforms, which is the most powerful determinant of their entrepreneurial intention. Within TPB, this relationship corresponds to perceived behavioral control, whereas within SCT, it reflects agency belief or a person's assurance in their own capacity to implement the necessary efforts to realize expected achievements

10.12928/fokus.v15i1.14492

(Bandura, 1997). Consequently, digital entrepreneurial self-efficacy represents the core psychological process mediating the influence of education and competence on concrete entrepreneurial intentions.

In addition to the direct effects, the mediation analysis sheds light on the underlying mechanism through which digital entrepreneurial education and digital competenc affect students' entrepreneurial intention via self-efficacy. The indirect influence of digital entrepreneurial education revealed a statistically significant positive indirect effect on digital entrepreneurial intention operating through digital entrepreneurial self-efficacy ($\beta = 0.241$; $p = 0.012$), indicating that educational engagement indirectly enhances entrepreneurial intention by reinforcing students' beliefs in their digital proficiency. This result aligns with previous research by Ferreira et al. (2022) and Duong et al. (2024), both of which underscored the pivotal mediating role of self-efficacy in transforming educational inputs into entrepreneurial intentionss. Consequently, the educational process serves not only as a medium for knowledge acquisition but also as a catalyst for psychological empowerment, enabling students to act on their entrepreneurial aspirations.

Similarly, digital competence demonstrated a substantial and statistically significant indirect effect on digital entrepreneurial intention through self-efficacy ($\beta = 0.450$; $p < 0.001$). This result highlights that greater technical proficiency with digital tools strengthens individuals' entrepreneurial intentions only when accompanied by a strong sense of confidence in applying those skills effectively. Students adept at using digital technologies are more likely to consider establishing digital enterprises when they possess sufficient confidence to confront and resolve challenges arising during implementation and business management. This result underscores the synergy between the SCT and the TPB adopted in this study. While competence and education establish the knowledge and action framework, self-efficacy serves as the psychological link that channels these factors into forming intention.

Overall, all seven hypotheses were supported, demonstrating the empirical robustness of the proposed theoretical framework. The results underscore the vital contribution of digital entrepreneurial self-efficacy in two capacities: directly influencing entrepreneurial intention and mediating the effects of education and competence on entrepreneurial motivation. The strong explanatory power ($R^2 = 0.63$) confirms that the integration of digital education, competence, and psychological self-efficacy effectively predicts the entrepreneurial intention of students all over West Java, Indonesia. The findings highlight the importance of higher education institutions advancing digital literacy and entrepreneurship education while designing pedagogical strategies that nurture students' confidence, agency, and perceived behavioral control psychological capacities that enable the translation of digital potential into tangible entrepreneurial initiatives.

4.5. Discussion

4.5.1. The Effect of Digital Entrepreneurial Education on Digital Entrepreneurial Self-Efficacy

The results indicate that education in digital entrepreneurship significantly enhances students' belief in their capability to implement entrepreneurial projects within the digital landscape. The findings suggest that when education incorporates technological applications into instruction, it can generate impactful learning experiences and enhance students' self-assurance in addressing practical challenges in the digital entrepreneurial sphere. In the context of the SCT by Bandura (1997), this process reflects the mechanism of mastery experience, in which individuals build self-

confidence through direct experience and positive reinforcement of small successes. Through activities such as digital business simulations, start-up projects, and technology-based innovative experiments, students obtain concrete evidence of their ability to solve problems and create value.

These results correspond with Mir et al. (2023), emphasizing that digital transformation within universities has driven a pedagogical shift from traditional, passive learning to experiential and participatory learning models. With this approach, students do not merely learn the theoretical aspects of entrepreneurship; they also embrace the belief that they can create innovative solutions using digital technology. In line with Duong et al. (2024), Pham et al. (2024), Singh et al. (2024), and Alzahrani and Bhunia (2024), digital entrepreneurship education has been proven to improve technical skills and strengthen psychological readiness, which is the foundation of entrepreneurial behavior. Thus, digital entrepreneurship education plays a dual role: enriching cognitive competencies while strengthening self-confidence as the primary psychological capital for adapting to and overcoming sophisticated challenges that characterize the digital world.

4.5.2. The Effect of Digital Entrepreneurial Education on Digital Entrepreneurial Intention

Additionally, the study demonstrates that digital entrepreneurship education has a significant positive effect on entrepreneurial intentions. This outcome confirms that education does more than impart knowledge, it nurtures attitudes, social expectations, and perceived behavioral control, which collectively shape intention in line with the TPB by Ajzen (1991). Through exposure to digital business opportunities, technology case studies, and interaction with innovation-based entrepreneurship models, students develop the perception that starting a digital business is a rational and achievable career choice for them. Digital education reinforces positive attitudes toward entrepreneurship by demonstrating that technology can lower market entry barriers and open new opportunities for young innovators.

Furthermore, digital entrepreneurship education broadens students' horizons by linking theoretical learning with real market dynamics. Through project-based assignments, students learn that success in digital business depends not only on ideas but also on the ability to adapt to changes in technology and consumer behavior. Research by Wibowo et al. (2024) and Al-Ayed (2024) supports this view, suggesting that digital education encourages the formation of proactive attitudes and innovative orientations. Meanwhile, Sitaridis and Kitsios (2024) emphasize that the integration of technology in entrepreneurship education enriches the way students understand risks and opportunities, thereby fostering a stronger entrepreneurial intent. Thus, digital entrepreneurship education becomes a strategic instrument for building a generation that is not only tech-savvy but also oriented towards value creation.

4.5.3. The Effect of Digital Competence on Digital Entrepreneurial Self-Efficacy

The results of the research show a significant positive correlation between digital competence and digital entrepreneurial self-confidence. Individuals who can use, adapt, and create technology show higher confidence in developing and managing digital-based businesses. According to the SCT (Bandura, 1997), mastery of certain skills fosters experiences of success that reinforce perceptions of one's own abilities. Digital competence gives individuals control over technology and strengthens their ability to innovate, remain adaptable, and create value in a digital environment. These findings corroborate prior research by Nguyen et al. (2024), Andriani et al. (2023), and

10.12928/fokus.v15i1.14492

Pham et al. (2024), which identified digital competence as a key determinant in strengthening entrepreneurial self-efficacy. Furthermore, Hsieh et al. (2023) and Mir et al. (2023) emphasize that variable digital competence not only builds self-confidence but also cultivates creativity and the capability to recognize and exploit new entrepreneurial opportunities. In this context, digital competence is not merely a technical skill but also a psychological foundation that makes individuals confident that they can overcome technological challenges and create valuable innovations. In other words, digital competence is the cognitive and emotional fuel that strengthens confidence and action to act as an entrepreneur who utilizes digital platforms.

4.5.4. The Effect of Digital Competence on Digital Entrepreneurial Intention

Interestingly, this study found a negative interrelationship between digital competence and digital entrepreneurial intention. This differs from the initial hypothesis, which assumed a positive influence, but provides important insights into the complexity of the role of digital competence in digital entrepreneurship. Individuals with high digital competence may have a more realistic perception of the challenges of digital businesses, including the level of competition, market uncertainty, and high risk of failure. Within the framework of the TPB by Ajzen (1991), increased perceived behavioral control does not always result in higher intentions; sometimes, perceptions of greater difficulty can actually reduce the intention to actt. These findings are consistent with the views of Duong (2024) and Elnadi et al. (2023), who highlighted that high technical competence does not guarantee an increase in entrepreneurial intention without strong psychological motivation. Students with high digital skills may also be more interested in working in established technology industries than in facing the uncertainty of entrepreneurship. This indicates that digital competence needs to be balanced with the enhancement of entrepreneurial orientation and self-confidence to translate into motivation to start a business. Therefore, educational institutions must balance technical training and the formation of an entrepreneurial mindset so that digital competence functions as a driver, not an obstacle, for digital entrepreneurial intention.

4.5.5. The Effect of Digital Entrepreneurial Self-Efficacy on Digital Entrepreneurial Intention

The evidence from this study indicates that students' confidence in their capacity to initiate and oversee digital businesses has a direct positive effect on entrepreneurial intention. Those with stronger self-efficacy display greater willingness to take risks, maintain persistence after failures, and handle the ambiguity inherent in digital businesses. Consistent with the TPB and SCT, self-efficacy is a primary determinant of intention and subsequent behavior, fostering greater perceived control and assurance in achieving results (Ajzen, 1991; Bandura, 1997). These findings mirror earlier reports that emphasize self-efficacy as a catalyst for digital entrepreneurial motivation (Urban, 2021; Cardenas et al., 2023) and a foundation for innovation readiness and goal pursuit (Doanh et al., 2023; Hsieh et al., 2023; Singh et al., 2024). Hence, contemporary entrepreneurial education should prioritize building self-efficacy.

4.5.6. Digital Entrepreneurial Self-Efficacy as a Mediator Between Digital Entrepreneurial Education and Digital Entrepreneurial Intention

This evidence highlights the pivotal function of digital entrepreneurial self-confidence as an underlying psychological driver shaping the entrepreneurial

behavior mechanism that connects digital education with entrepreneurial intention. This indicates that impactful digital education does more than develop technical proficiency or theoretical insight; it also empowers students with the confidence to execute entrepreneurial ideas in practice. In accordance with the principles of the SCT by Bandura (1986), self-confidence acts as a bridge between learning and goal-oriented behavior. Digital entrepreneurship education creates space for students to experience small-scale successes, such as designing digital products, validating ideas, or managing market simulations, which cumulatively build a sense of competence and a desire to take action. These findings reinforce the research results of Vafaei-Zadeh et al. (2023), Singh et al. (2024), and Duong et al. (2024), which show that digital education increases entrepreneurial intent through the formation of self-efficacy. Without self-confidence, the knowledge gained from education does not transform into a drive for action. Thus, digital entrepreneurship education functions as a process that internalizes the value of self-efficacy, making it a source of motivational energy that encourages students to take concrete steps toward digital entrepreneurship.

4.5.7. Digital Entrepreneurial Self-Efficacy as a Mediator Between Digital Competence and Digital Entrepreneurial Intention

Finally, although digital competence shows a negative direct relationship with entrepreneurial intention, the study results suggest that digital entrepreneurial self-confidence can change the direction of this relationship to positive through a mediating effect. This means that individuals with high digital competence will have stronger entrepreneurial intentions if they feel confident that they can use their technological abilities productively. SCT by Bandura (1986) describes self-efficacy as the belief individuals hold regardingr their competence to plan and execute behaviors that bring about intended goals as a psychological mechanism that transforms competence into behavior. Without self-confidence, digital skills remain a latent potential that is not actualized.

Vafaei-Zadeh et al. (2023), Singh et al. (2024), and Liang et al. (2025) reinforce this finding by showing that self-efficacy is connected to digital competence and entrepreneurial motivation. Mir et al. (2023) also emphasize that self-efficacy enables individuals to convert technological mastery into proactive action. Thus, the role of self-efficacy is fundamental: it channels digital competence toward entrepreneurial intention, ensuring that existing capabilities do not stop at the technical level but are manifested in innovative and value-creating behaviors.

Overall, the findings support the connection between the TPB and SCT as complementary frameworks for understanding digital entrepreneurial intention among students. The TPB explains how intentions develop through cognitive evaluation, whereas the SCT highlights the psychological influence of self-efficacy in driving entrepreneurial behavior. This study contributes to the digital entrepreneurship literature by demonstrating that the intention to engage in digital ventures arises not merely from knowledge and skills but from the belief in one's capability to mobilize those resources effectively. In emerging economic environments, particularly in Indonesia, this highlights the strategic importance of efficacy-based digital entrepreneurial education programs that combine digital skill acquisition with confidence-building experiences. The novelty of this research lies in positioning self-efficacy as a bridge between external educational inputs and internal entrepreneurial motivation, offering a comprehensive explanation of how cognitive, technical, and psychological factors jointly shape the digital entrepreneurial intention of future graduates.

10.12928/fokus.v15i1.14492

5. Conclusion

The findings indicate that digital entrepreneurial education and digital competence serve as critical antecedents of digital entrepreneurial intention, affecting outcomes directly and indirectly through the intermediary function of digital entrepreneurial self-efficacy. This suggests that the digital knowledge and skills possessed by students are insufficient to optimally foster entrepreneurial intention without the accompanying belief in their own capabilities. Empirical evidence suggests that digital entrepreneurial self-efficacy serves as a psychological link between education and digital competence and entrepreneurial intention. In this role, self-efficacy functions as both a mediator and a catalyst, turning technical skills and digital knowledge into real entrepreneurial actions in a digital business environment.

Overall, this study substantiates and enriches the theoretical integration of the Theory of Planned Behavior with Social Cognitive Theory, while offering new empirical insights into digital entrepreneurship among students from developing countries. The main originality of this research rests in revealing that the development of digital entrepreneurial intention cannot rely solely on technical or theoretical expertise. It must also foster strong self-efficacy through practical, context-based, and empowering educational experiences. Accordingly, the success of digital entrepreneurial education depends not only on what is taught, but also on how the learning process cultivates students' belief in their ability to take action.

Practically, these results urge educational institutions to go beyond merely improving technical competencies via teaching materials and to place equal importance on cultivating students' confidence in their entrepreneurial abilities. This can be achieved through the implementation of applied learning approaches such as digital project development, business simulations, interdisciplinary collaborations, and mentoring programs involving digital entrepreneurs. Furthermore, higher education policies should be directed toward creating an inclusive and empowering learning ecosystem, thereby cultivating the digital self-confidence offyoungerg generations as a critical asset for active participation in the increasingly competitive digital entrepreneurship landscape.

References

Abdurrahman, A. (2025). Extending the IBCDE framework to explore barriers and drivers in Indonesia's digital economy. *Journal of Digital Economy*. https://doi.org/10.1016/j.jdec.2025.08.003

Ahmed, H., Bajwa, S. U., Nasir, S., & others. (2025). Digital empowerment: Exploring the role of digitalization in enhancing opportunities for women entrepreneurs. *Journal of the Knowledge Economy.* https://doi.org/10.1007/s13132-025-02658-0

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Akhter, A., Islam, K. A., Karim, M. M., & Latif, W. B. (2022). Examining determinants of digital entrepreneurial intention: A case of graduate students. *Problems and Perspectives in Management, 20*(3), 153–165. https://doi.org/10.21511/ppm.20(3).2022.13

Al-Ayed, S. (2024). Effect of digital opportunity recognition on students' digital entrepreneurial intentions and behavior. *Problems and Perspectives in Management, 22*(1), 32–44. https://doi.org/10.21511/ppm.22(1).2024.04

Alzahrani, S., & Bhunia, A. K. (2024). A serial mediation model of the relationship between digital entrepreneurial education, alertness, motivation, and intentions. *Sustainability, 16*(20), 8858. https://doi.org/10.3390/su16208858

Andriani, R., Wibowo, A., & Nugroho, A. (2023). Exploring the link between digital skills and start-up intention among students in emerging markets. *Education and Information Technologies, 28*(3), 4411–4428. https://doi.org/10.1007/s10639-022-11537-2

Arfiansyah, F., Suryana, S., Rahayu, A., & Wibowo, L. A. (2024, June). The interrelation of youth entrepreneurship and entrepreneurial intention: A bibliometric approach. In *8th Global Conference on Business, Management, and Entrepreneurship (GCBME 2023)* (pp. 1007-1014). Atlantis Press. https://doi.org/10.2991/978-94-6463-443-3_132

Aslam, S., & Alamsyah, A. (2021). The small-world phenomenon and network analysis of ICT start-up investment in Indonesia and Singapore. *Technological Forecasting and Social Change, 171*, 120955. https://doi.org/10.1016/j.techfore.2021.120955

Atnan, N., & Sembada, W. Y. (2025). An analysis of digital environment structuring and its impact on engagement: A case study of the Bandung City government's social media accounts, Indonesia. *Frontiers in Communication*, *10*, 1628346. https://doi.org/10.3389/fcomm.2025.1628346

Bachmann, N., Rose, R., Maul, V., & Hölzle, K. (2024). What makes for future entrepreneurs? The role of digital competencies for entrepreneurial intention. *Journal of Business Research*, *174*, 114481. https://doi.org/10.1016/j.jbusres.2023.114481

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* Freeman.

Batista-Canino, R. M., Santana-Hernández, L., & Medina-Brito, P. (2024). A holistic literature review on entrepreneurial intention: A scientometric approach. *Journal of Business Research*, *174*, 114480. https://doi.org/10.1016/j.jbusres.2023.114480

Cardenas, J. J., Aranda, C., & Llinas, M. (2023). Digital self-efficacy and entrepreneurial intention: The mediating role of perceived opportunity. *Journal of Entrepreneurship in Emerging Economies, 15*(4), 703–722. https://doi.org/10.1108/JEEE-04-2022-0156

Darmanto, S., Ekopriyono, A., Hikmah, & Tri Ratnawati, A. (2023). Investigating the development of entrepreneurial behavior among nascent digital entrepreneurs. *Cogent Business & Management, 10*(2), 2247875. https://doi.org/10.1080/23311975.2023.2247875

Doanh, D. C., Nguyen, H. N., & Tran, H. T. (2023). The impact of entrepreneurship education on entrepreneurial intention: The mediating role of self-efficacy. *Education and Training, 65*(3), 325–341. https://doi.org/10.1108/ET-02-2022-0031

Duong, C. D. (2023). Entrepreneurship: Nature, nurture, or both? Empirical evidence from a moderated polynomial regression with response surface analysis. *The International Journal of Management Education, 21*(3), 100877. https://doi.org/10.1016/j.ijme.2023.100877

Duong, C. D., Ngo, T. V. N., Nguyen, T. P. T., Tran, N. M., & Pham, H. T. (2024). Digital entrepreneurial education and digital entrepreneurial intention: A moderated mediation model. *Social Sciences & Humanities Open, 10*, 101178. https://doi.org/10.1016/j.ssaho.2024.101178

Elnadi, M., & Gaber, H. R. (2023). The role of individual characteristics in shaping digital entrepreneurship: Evidence from emerging economies. *Telematics and Informatics, 77*, 101976. https://doi.org/10.1016/j.tele.2023.101976

Ferreira, J. J., Fernandes, C. I., & Ratten, V. (2022). The role of entrepreneurial self-efficacy in digital entrepreneurship: A systematic literature review. *Journal of Small Business and Enterprise Development, 29*(7), 1093–1112. https://doi.org/10.1108/JSBED-11-2021-0485

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.

Handayati, P., Wibowo, A., Narmaditya, B. S., Kusumojanto, D. D., Setiawan, A. B., & Tung, D. T. (2021). The university students enterprises development: Lesson from Indonesia. *Cogent Education*, *8*(1), 1973286. https://doi.org/10.1080/2331186X.2021.1973286

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hia, A. K., & Fa'uzobihi, F. (2025). Building an entrepreneurship ecosystem in higher education towards a strong entrepreneurial intention. *Journal of Entrepreneurship & Teaching, 6*(1), 1–15. https://doi.org/10.51454/jet.v6i1.519

Hsieh, Y. J., Hsieh, Y. C., & Tang, Y. C. (2023). Digital competence and entrepreneurial intention among university students: The mediating role of innovation self-efficacy. *Education and Information Technologies, 28*(5), 6165–6186. https://doi.org/10.1007/s10639-022-11245-9

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Khoirunisa, R., Mushfiroh, A., & Gamal, A. (2023). The identification of challenges in innovation ecosystem of West Java, Indonesia using a systematic literature review. *International Journal of Technology*, *14*(7), 1408-1418. https://doi.org/10.14716/ijtech.v14i7.6662

Liang, X., Zhang, J., & Chen, Y. (2025). Shaping digital entrepreneurial intention in higher education: The role of entrepreneurship education, creativity, and digital literacy among Chinese university students. *Journal of Innovation & Knowledge, 10*(1), 100315. https://doi.org/10.1016/j.jik.2025.100315

Mir, M., Hassan, M., & Akhtar, R. (2023). Determinants of digital entrepreneurial intention among university students. *Technological Forecasting and Social Change, 191*, 122467. https://doi.org/10.1016/j.techfore.2023.122467

Muafi, Z., Sanusi, Z. M., & Roostika, R. (2023). Digital skills, digital entrepreneurship, job satisfaction, and sustainable performance of MSMEs in West Java and Yogyakarta, Indonesia. *International Journal of Sustainable Development and Planning, 18*(2), 465–473. https://doi.org/10.18280/ijsdp.180210

Nguyen, T. T., Pham, H. T., & Le, D. H. (2024). Digital competence and entrepreneurial behavior among youth in developing economies. *International Journal of Entrepreneurial Behavior & Research, 30*(2), 315–333. https://doi.org/10.1108/IJEBR-09-2023-0879

Pham, H. T., Duong, T. H., & Le, T. N. (2024). Digital entrepreneurship education and student start-up intention: The mediating role of self-efficacy. *Technological Forecasting and Social Change, 198*, 122879. https://doi.org/10.1016/j.techfore.2023.122879

Purbasari, R., Wijaya, C., & Rahayu, N. (2023). Digital innovation ecosystem on digital entrepreneurs: Evidence from West Java, Indonesia. *International Journal of E-Entrepreneurship and Innovation, 13*(1), 1–17. https://doi.org/10.4018/IJEEI.326231

Qureshi, S., Hassan, S. Z., & Mian, S. A. (2021). Business incubation and acceleration in Pakistan: An entrepreneurship ecosystem development approach. In *Handbook of Research on Business and Technology Incubation and Acceleration* (pp. 280–298). Edward Elgar Publishing. https://doi.org/10.4337/9781788974783.00025

Ratten, V. (2022). Digital entrepreneurship and innovation: Trends and future research directions. *Journal of Small Business and Entrepreneurship, 34*(5), 627–644. https://doi.org/10.1080/08276331.2020.1843225

Ruiz-Alba, J. L., Guzman-Parra, V. F., Vila Oblitas, J. R., & Morales Mediano, J. (2021). Entrepreneurial intentions: A bibliometric analysis. *Journal of Small Business and Enterprise Development*, *28*(1), 121-133. https://doi.org/10.1108/JSBED-07-2019-0221

Sahrah, A., Guritno, P. D., Rengganis, R. P., & Dewi, R. P. (2023). Subjective well-being and psychological resilience as the antecedents of digital entrepreneurship intention. *Journal of Educational and Social Research, 13*(4), 54–65. https://doi.org/10.36941/jesr-2023-0089

Secundo, G., Ndou, V., & Del Vecchio, P. (2021). Digital entrepreneurship education in the knowledge economy: A systematic literature review. *Technological Forecasting and Social Change, 165*, 120543. https://doi.org/10.1016/j.techfore.2020.120543

Singh, R., Kumar, S., & Yadav, R. (2024). The mediating role of self-efficacy in the relationship between digital skills and entrepreneurial intention. *International Journal of Entrepreneurial Behavior & Research, 30*(3), 512–530. https://doi.org/10.1108/IJEBR-05-2023-0568

Širec, K., & Huđek, I. (2023). Perceived obstacles to the early-stage entrepreneurial activity of youth. *Ekonomski vjesnik/Econviews-Review of Contemporary Business, Entrepreneurship and Economic Issues*, *36*(2), 269-283. https://doi.org/10.51680/ev.36.2.10

Sitaridis, I., & Kitsios, F. (2024). Digital entrepreneurship and entrepreneurship education: A review of the literature. *International Journal of Entrepreneurial Behavior & Research, 30*(2), 285–304. https://doi.org/10.1108/IJEBR-04-2023-0356

Tambunan, T. (2021). Entrepreneurship development in Indonesia: The current state and future direction. *Journal of Developmental Entrepreneurship, 26*(1), 2150002. https://doi.org/10.1142/S1084946721500024

Urban, B. (2021). Entrepreneurial self-efficacy and digital entrepreneurship: A multi-level analysis. *Journal of Entrepreneurship in Emerging Economies, 13*(5), 1127–1145. https://doi.org/10.1108/JEEE-04-2020-0104

Vafaei-Zadeh, A., Wong, S. L., Han, Y., & Jafari, S. (2023). Cyber-entrepreneurial intention among students in public universities of Malaysia. *Education and Information Technologies, 38*(10), 10429–10452. https://doi.org/10.1007/s10639-022-11362-4

Vuorikari, R., Kluzer, S., & Punie, Y. (2022). *DigComp 2.2: The digital competence framework for citizens-with new examples of knowledge, skills and attitudes*. Publications Office of the European Union.

Wardoyo, C., Setiawan, A., & Wibowo, H. (2025). Are students ready for digital business? Antecedents of digital business creation in Indonesia. *Heliyon, 11*(2), e31028. https://doi.org/10.1016/j.heliyon.2025.e31028

Wibowo, A., Saptono, A., Narmaditya, B. S., Effendi, M. S., Mukhtar, S., Suparno, & Shafiai, M. H. M. (2024). Using technology acceptance model to investigate digital business intention among Indonesian students. *Cogent Business & Management, 11*(1), 2314253. https://doi.org/10.1080/23311975.2024.2314253

10.12928/fokus.v15i1.14492