

DIGITAL ENTREPRENEURSHIP EDUCATION AND KNOWLEDGE AS PREDICTORS OF DIGITAL ENTREPRENEURIAL INTENTION: EVIDENCE FROM UNIVERSITI PENDIDIKAN SULTAN IDRIS

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Abstract: Malaysia has introduced several policies, such as the Digital Education Policy (2024–2030) and the IPT Entrepreneurship Action Plan (2021–2025), to encourage graduates to start technology-based businesses, but empirical evidence on whether digital entrepreneurship education and knowledge truly shape students' intention to become digital entrepreneurs is still limited, particularly in the Malaysian public university context. This study examines the effect of digital entrepreneurship education (DEE) and digital entrepreneurship knowledge (DEK) on digital entrepreneurial intention (DEI) among students of the Faculty of Management and Economics (FPE), Universiti Pendidikan Sultan Idris (UPSI). This study used a quantitative, cross-sectional design. A total of 346 students from FPE UPSI answered a questionnaire distributed through Google Form. Descriptive analysis was used to identify the level of DEI, DEE, and DEK, while multiple regression analysis, using SPSS version 26, was used to test the effect of DEE and DEK on DEI. The findings show that FPE UPSI students have a high level of DEI (mean = 3.96), DEE (mean = 3.87), and DEK (mean = 3.90). Both DEE ($\beta = 0.441, p < .001$) and DEK ($\beta = 0.371, p < .001$) significantly and positively affected DEI, together explaining 55.3% of its variance, with DEE the stronger predictor. These

findings imply that universities need to move entrepreneurship courses beyond theory by embedding hands-on digital activities, such as e-commerce simulations, digital marketing projects, and mentoring, so that education and knowledge work together to build students' confidence to start a digital business. For policymakers, the findings support strengthening the digital components of national entrepreneurship action plans and curricula, while for students, they point to digital skill building as a practical step toward becoming a digital entrepreneur after graduation.

Keywords: *digital entrepreneurship education, digital entrepreneurship knowledge, digital entrepreneurial intention, higher education students, Theory of Planned Behavior*

Introduction

Digital entrepreneurship is becoming an important part of the economy, especially for young people and university students (Ratten & Jones, 2020). Digital platforms make it easier for people to reach customers, advertise, and run a business without needing a physical shop (Nambisan, 2017). Because of this, more countries are trying to help students build digital business skills through education (Budiman & Harlina Putri, 2026).

A recent systematic review of 15 empirical studies from Asia, Europe, Africa, and South America confirms that entrepreneurship education has a significant, positive effect on entrepreneurial intention, but the strength of this effect depends on students' attitude, subjective norms, perceived behavioural control, and entrepreneurial self-efficacy, and is further shaped by prior entrepreneurial experience, academic major, gender, and psychological capital (Budiman & Harlina Putri, 2026). In other words, entrepreneurial intention is not the same everywhere as it depends on students' background and the kind of education they receive. In developing countries such as Vietnam, students showed a strong intention to become entrepreneurs when supported by strong entrepreneurial self-efficacy and a favourable educational environment (Doanh & Bernat, 2019). In Malaysia, however, entrepreneurial intention among university students is still only at a moderate level, even though entrepreneurship education is already available (Suzyanty et al., 2024).

Data from the Ministry of Higher Education's Graduate Tracking Study show that out of 295,962 graduates, 69.9% found jobs, 16.6% continued their studies, 1.9% joined skills-upgrading programmes, 3.3% were waiting for job placement and 10.2% were still unemployed six months after graduating (Ministry of Higher Education Malaysia, 2023). Reflecting modern shifts in the job market relating to gig work, freelancing, and digital business, the Ministry of Higher Education's latest tracking parameters show that 4.8% of employed graduates chose self-employment while an additional 2.6% pursued freelance paths, and 8.3% entered the highly competitive gig economy sector (Kementerian Pendidikan Tinggi Malaysia, 2023). This data reflects that the number of graduates who chose to be self-employed or to run their own business is limited. Even though education opportunities are growing, most graduates still prefer to work for someone else rather than start a business.

Since the 1980s, Malaysia has introduced entrepreneurship-related subjects in schools, such as Commerce, Living Skills, Economics, and Accounting, to build an entrepreneurial culture among students. Entrepreneurship education was later introduced more formally at universities through basic entrepreneurship courses, university entrepreneurship centres, and business

incubators (Mohd Sauh et al., 2023). This effort continued through the IPT Entrepreneurship Action Plans of 2016–2020 and 2021–2025, which aim to raise the number of student and graduate entrepreneurs (Ministry of Higher Education Malaysia, 2021).

As technology developed, entrepreneurship education began to include digital elements such as e-commerce, digital marketing, and technology-based business (Mahmood et al., 2023). Digital entrepreneurship lowers the cost and barriers of starting a business, allowing students to reach a wider market with fewer resources (Nambisan, 2017; Gunaseelan et al., 2022). This makes digital entrepreneurship an attractive career path for students who are already familiar with digital tools and platforms.

Even so, past studies suggest that entrepreneurship subjects do not always increase students' real entrepreneurial competence or interest. A study on TVET students found that taking a digital entrepreneurship subject did not significantly build their personal entrepreneurial competence (Abd Rahim & Md Osman, 2025). Other studies found that students' readiness to become digital entrepreneurs also depends on attitude, subjective norms, and confidence, not education alone (Suzyanty et al., 2024). This shows that formal education by itself may not be enough to turn interest into a real intention to start a digital business.

Findings on this topic are also mixed. Some studies found that positive entrepreneurial emotion is the main driver of entrepreneurial intention (Zhao & Xie, 2020), while family business background also plays a role (Fragoso et al., 2020). A recent quasi-experiment involving 819 students from Southern and Central-Eastern Europe found that personal factors, especially students' self-assessment of their own ability and their entrepreneurial desire, predicted entrepreneurial intention more strongly than education level itself, although gender and prior entrepreneurial experience also mattered (Spilbergs et al., 2026). However, several studies agree that education and knowledge about digital entrepreneurship do have a significant relationship with digital entrepreneurial intention (Wibowo et al., 2023a; Prabandari et al., 2026).

Malaysia is currently implementing the Digitalisation of Higher Education Policy (2025–2030) (Ministry of Higher Education, 2025) and the Malaysia MADANI Economy Framework particularly its Innovation (Daya Cipta) pillar, which prioritises digital transformation and technology-driven growth (Prime Minister's Office of Malaysia, 2023) both of which stress digital skills and entrepreneurship. Under the Thirteenth Malaysia Plan (2026–2030), the government has set explicit targets to create 5,000 digital entrepreneurs and 500,000 new digital economy jobs, alongside efforts to raise small and medium enterprises' contribution to GDP to 50% by 2030 (Economic Planning Unit, 2025). Furthermore, universities are expected to play roles in fulfilling the 2030 Agenda for Sustainable Development Goals asserting that higher education institutions are increasingly anticipated to provide graduates with the knowledge, skills, and values necessary to tackle global challenges (UNESCO 2022). The Ministry of Higher Education Malaysia (MOHE) supports the United Nations Sustainable Development Goals (SDGs), focusing primarily on SDG 4 (Quality Education) as well as SDG 9 (Industry, Innovation and Infrastructure) embedded in the higher education curriculum (Ministry of Higher Education, 2022). Due to these reasons, it is important to examine closely how digital entrepreneurship education and knowledge shape students' intention to become entrepreneurs, especially since empirical evidence on this relationship among Malaysian public university students is still limited. This study was therefore carried out to examine the level of

digital entrepreneurial intention (DEI), digital entrepreneurship education (DEE) and digital entrepreneurship knowledge (DEK) among students of the Faculty of Management and Economics (FPE), Universiti Pendidikan Sultan Idris (UPSI), as well as to examine the effect of digital entrepreneurship education (DEE) and digital entrepreneurship knowledge (DEK) on digital entrepreneurial intention (DEI). Based on the objectives outlined above, this study proposes that digital entrepreneurship education (DEE) has a significant effect on digital entrepreneurial intention (DEI) among FPE UPSI students (H1), and that digital entrepreneurship knowledge (DEK) likewise has a significant effect on digital entrepreneurial intention among FPE UPSI students (H2).

Literature Review

Entrepreneurship Education in Malaysia

Entrepreneurship education in Malaysia began to receive attention in the early 1980s, as part of the government's effort to grow the economy and reduce dependence on salaried jobs. In the 1990s, entrepreneurship courses were introduced in universities, mostly as elective subjects that focused on business theory, management, and writing business plans, without much use of digital technology.

In the early 2000s, as Malaysia moved toward a knowledge-based economy, entrepreneurship education was expanded to students from different fields of study, not just business, so that more graduates could create their own jobs and develop an entrepreneurial mindset. This effort was later strengthened through national plans such as the Malaysia Higher Education Blueprint (2015–2025) and the IPT Entrepreneurship Action Plan 2021–2025 (Kementerian Pengajian Tinggi Malaysia, 2021), which shifted the focus from theory based learning toward hands on, innovation driven entrepreneurship education. A recent systematic review confirms that this shift matters: entrepreneurship education has a consistently positive effect on entrepreneurial intention across different countries and educational contexts, though the size of the effect still depends on curriculum design and how it is delivered (Budiman & Harlina Putri, 2026).

With the rise of Industry 4.0, entrepreneurship education in Malaysia has evolved into digital entrepreneurship education, which focuses on e-commerce, digital marketing, social media, and online platforms as the main tools for doing business (Mohd Sauh et al., 2023). Universities now offer specific courses, technology-based projects, and digital entrepreneurship support programmes. Wibowo et al. (2023a) found that digital entrepreneurship education can raise students' digital entrepreneurship knowledge and awareness, which then increases their digital entrepreneurial intention. This is echoed by a recent study among Gen Z students, which found that entrepreneurship education raises technopreneurship intention indirectly, by first building students' digital business literacy and then their digital financial literacy in a sequential, capability-building process (Hasan et al., 2026). However, Mohd Sauh et al. (2023) note that entrepreneurship curricula at many Malaysian higher learning institutions, particularly private universities, are not always well matched with national entrepreneurship policy, pointing to a need for stronger curriculum-policy alignment.

Entrepreneurial Intention

Concept of Entrepreneurial Intention

Entrepreneurial intention is one of the most studied ideas in entrepreneurship research because it is the strongest predictor of actual entrepreneurial behaviour (Krueger et al., 2000). Bird (1988) described entrepreneurial intention as a state of mind that directs a person's attention and action toward starting a new business. Liñán and Chen (2009) added that entrepreneurial intention reflects a person's readiness and planning to start a business in the future. Both definitions agree that entrepreneurial intention is more than interest alone. It includes commitment and willingness to act.

Entrepreneurial intention is shaped by both internal and external factors, such as entrepreneurship education, business knowledge, entrepreneurial mindset, and institutional support (Liñán & Fayolle, 2015). This is confirmed by a recent systematic review, which found that the effect of entrepreneurship education on entrepreneurial intention is mediated by attitude, subjective norms, perceived behavioural control, and entrepreneurial self-efficacy, and moderated by prior entrepreneurial experience, academic major, gender, and psychological capital (Budiman & Harlina Putri, 2026). In Malaysia, Lokman and Yakob (2023) found that entrepreneurial intention among new university students is still at a moderate level, while Azizan and Abd Rani (2024) found that entrepreneurial mindset has a significant relationship with entrepreneurial intention. Even so, research that focuses specifically on digital entrepreneurship education and knowledge, and how they shape digital entrepreneurial intention, is still limited in the Malaysian higher education context.

Digital Entrepreneurial Intention

Digital entrepreneurial intention refers to a person's tendency, readiness, and commitment to start or grow a business based on digital technology (Liñán & Fayolle, 2015; Nambisan, 2017). Unlike traditional entrepreneurial intention, digital entrepreneurial intention involves the ability to notice and use business opportunities in a fast changing digital environment. Digital entrepreneurship does not only mean starting a new business but it also means using digital technology to create value, encourage innovation, and gain a competitive edge (Kraus et al., 2019).

Among university students, digital entrepreneurial intention is often linked to their exposure to digital entrepreneurship education, technology knowledge, and experience using digital platforms. Wibowo et al. (2023a) found that digital entrepreneurship education has a significant positive effect on students' digital entrepreneurial intention, especially when supported by good digital entrepreneurship knowledge. A related study among Indonesian university students further found that digital entrepreneurship education raises digital entrepreneurial intention partly through greater social media use and entrepreneurial intuition (Wibowo et al., 2023b). This is supported by a multi-group study of 461 Indonesian students, which found that entrepreneurship education has a positive and significant effect on digital entrepreneurial intention, working mainly through students' entrepreneurial motivation rather than their entrepreneurial mindset (Prabandari et al., 2026). Students who are confident in using digital tools tend to see technology as a business opportunity rather than just a study tool (Nambisan, 2017).

Digital Entrepreneurship Education

Digital entrepreneurship education (DEE) combines entrepreneurship courses with information and communication technology (ICT) skills to produce technology-literate students (Abd Rahim & Md Osman, 2025). Students are exposed to e-commerce platforms, online marketing strategies, and data analysis for business purposes. The success of digital entrepreneurship education depends not only on the course content, but also on technology readiness, infrastructure, and students' own digital skills, meaning universities need to keep supporting digital mentoring and access to relevant, real-world learning platforms (Kementerian Pendidikan Malaysia, 2024).

A study among undergraduates in East Malaysia found that digital entrepreneurship education significantly improved students' soft skills, such as communication, problem-solving, and teamwork, although leadership skills showed the smallest improvement (Zainal & Yong, 2020). This suggests that digital entrepreneurship education benefits students beyond technical business knowledge, by also building the soft skills needed to run a business.

Newer evidence also points to the value of digital tools themselves as a teaching method. A quasi-experiment comparing an AI-based digital entrepreneurship tool with traditional classroom workshops among 819 students in Southern and Central-Eastern Europe found that the group using the digital tool reported significantly higher entrepreneurial intention, with students' self-assessment of their own ability and their entrepreneurial desire emerging as the strongest predictors, while the level of education itself made little difference (Spilbergs et al., 2026). This suggests that how digital entrepreneurship education is delivered, not just its content, plays an important role in shaping students' entrepreneurial intention.

Digital Entrepreneurship Knowledge

Digital entrepreneurship knowledge (DEK) refers to a person's understanding, skill, and ability to use digital tools to plan, manage, and grow a business. It covers digital literacy, online marketing, cybersecurity, customer data analysis, and the use of technologies such as artificial intelligence (AI) and business automation. High digital entrepreneurship knowledge helps students use technology more strategically, and also helps them recognise digital risks, such as online fraud, data leaks, and payment security issues. A recent study of Gen Z students found that two specific forms of this knowledge, digital business literacy and digital financial literacy, act as significant mechanisms that convert entrepreneurship education into technopreneurship intention, with digital business literacy building the foundation for digital financial literacy in a step-by-step process (Hasan et al., 2026).

Digital entrepreneurship knowledge is important not only for technical skills, but also for strategy, that is, how an entrepreneur uses technology to create value and stay competitive (Porter, 1985). This makes digital entrepreneurship knowledge a key part of preparing students to become creators of value through digital innovation, rather than only users of technology.

Theoretical Framework

This study is guided by the Theory of Planned Behavior (TPB), introduced by Ajzen (1991). TPB explains that a person's intention to perform a behaviour is shaped by three factors: attitude toward the behaviour, subjective norms, and perceived behavioural control. In this study, digital entrepreneurship education and digital entrepreneurship knowledge are expected to

build a positive attitude toward digital entrepreneurship and to raise students' perceived control over managing an online business. When students feel confident that they have enough digital skills and knowledge, they feel more in control of succeeding in a digital business, which increases their intention to become an entrepreneur (Ajzen, 1991).

Guided by this theory, the conceptual framework of this study positions digital entrepreneurship education (DEE) and digital entrepreneurship knowledge (DEK) as the two independent variables that shape digital entrepreneurial intention (DEI), the dependent variable. DEE is treated as the structured, formal learning experience that helps build students' attitude and subjective norms toward digital entrepreneurship, while DEK is treated as the practical, skill-based understanding that builds students' perceived behavioural control over running a digital business. Together, DEE and DEK represent the educational and cognitive antecedents of intention identified by TPB, and the framework predicts that each will significantly and positively predict DEI, as stated in H1 and H2. Figure 1 illustrates this conceptual framework, showing DEE and DEK as the independent variables feeding into DEI as the dependent variable, with the two hypothesised paths (H1 and H2) tested through multiple regression analysis.

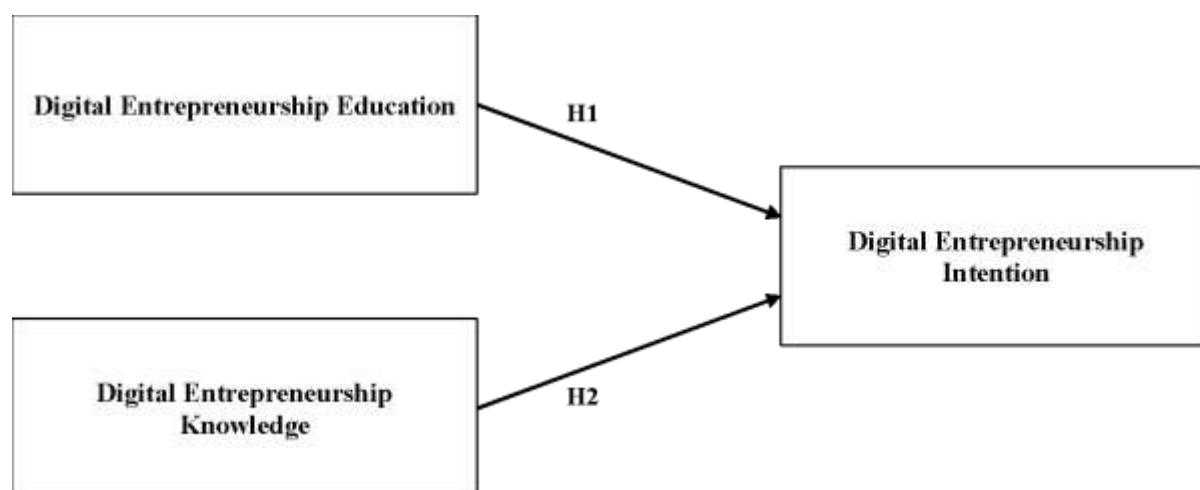


Figure 1: Conceptual Framework of the Study

Source: Developed by the researcher, based on the Theory of Planned Behavior (Ajzen, 1991)

Hypotheses Development

Digital Entrepreneurship Education and Digital Entrepreneurial Intention

Adding digital elements to entrepreneurship education can raise students' interest in entrepreneurship because they see digital entrepreneurship as easier to access and more flexible (Asiah et al., 2022). Local studies found that digital-based entrepreneurship courses raise students' interest in entrepreneurship, especially when learning activities include virtual business simulations (Gunaseelan et al., 2022). Other studies stress the need to improve digital learning within entrepreneurship education, especially in the context of Industry 4.0, where digital competence needs to be built into the curriculum (Suhaimi et al., 2025). Other authors (e.g., Al-Mamary & Alraja, 2022; Ramadani et al., 2021) similarly indicated that digital entrepreneurship education (DEE) is a robust predictor of digital entrepreneurial intention (DEI). Based on this, the following hypothesis is proposed:

H1: Digital entrepreneurship education (DEE) has a significant effect on digital entrepreneurial intention (DEI).

Digital Entrepreneurship Knowledge and Digital Entrepreneurial Intention

A lack of digital knowledge is one of the main reasons students do not get actively involved in digital entrepreneurship. Students who are exposed to digital tools such as Shopify, Canva, TikTok Shop, and Meta Ads show a stronger tendency to start their own business (Shuhidan, 2022). High digital entrepreneurship knowledge helps students use technology more strategically, which raises their interest and ability to manage a digital business, while also helping them understand digital risks such as online fraud and data leaks (Kraus et al., 2019). Based on this, the following hypothesis is proposed:

H2: Digital entrepreneurship knowledge (DEK) has a significant effect on digital entrepreneurial intention (DEI).

Methodology

Research Design

This study used a quantitative approach with a descriptive and correlational design to examine how digital entrepreneurship education and digital entrepreneurship knowledge effect digital entrepreneurial intention among students of the Faculty of Management and Economics (FPE), Universiti Pendidikan Sultan Idris (UPSI). A quantitative approach is suitable when a study aims to test the relationship between variables in a structured and numerical way (Saunders et al., 2019).

This study is based on positivism, an approach that focuses on objective observation, numerical measurement, and statistical testing. A deductive approach was used, starting from an existing theory, the Theory of Planned Behavior, to build and test hypotheses using real data. A survey method was used because it allows data to be collected from a large number of respondents within a short time and is suitable for measuring attitudes, knowledge, and intention (Saunders et al., 2019). Data were collected once, using a cross-sectional design, which is suitable for academic research with limited time and cost (Saunders et al., 2019).

Population and Sample

The population of this study consisted of 1,404 students from Semester 2 to Semester 7, from the Faculty of Management and Economics, UPSI. This study employed a non-probability purposive sampling technique. To ensure the collected data was robust and relevant to the study's core variables, a strict purposive criterion was applied, that is, respondents must have completed or be currently enrolled in an official university entrepreneurship course. This approach allowed the researcher to target information-rich cases capable of addressing the research objectives effectively. Based on the table for determining sample size by Krejcie and Morgan (1970), a total of 346 students were selected.

Instrument

The questionnaire was adapted from Wibowo et al. (2023a) and distributed in both Malay and English through Google Form. It had four sections: Section A (respondent demographics), Section B (digital entrepreneurial intention, 7 items), Section C (digital entrepreneurship

education, 5 items), and Section D (digital entrepreneurship knowledge, 5 items). A five-point Likert scale was used, from 1 (strongly disagree) to 5 (strongly agree), because it is easy for respondents to answer and has been shown to reliably measure attitudes and constructs (Brown, 2011).

Validity and Reliability

Before the actual data collection, a pilot study was carried out in two stages. First, two experts with PhD qualifications in Business Management from UPSI reviewed the questionnaire for content validity. Both experts confirmed that the questionnaire had a high level of validity and could measure what it was intended to measure. Second, a pilot test was conducted with 30 students from the Faculty of Management and Economics over one week to check the clarity and flow of the questionnaire. The internal consistency of the instrument was measured using Cronbach's Alpha, where a value above 0.6 is considered acceptable.

Data Collection Procedure

Data were collected online through Google Form over four weeks. The questionnaire link was shared through official university email, WhatsApp, and Telegram groups. Follow-up reminders were sent to increase the response rate, and incomplete responses were removed before analysis. Participation was voluntary, and all responses were kept confidential, in line with UPSI's research ethics guidelines.

Data Analysis

Data were analysed using SPSS version 26. Descriptive analysis (frequency, percentage, mean, and standard deviation) was used to describe the respondent profile and to determine the level of DEI, DEE, and DEK, following the interpretation shown in Table 1. Before running the multiple regression analysis, normality, multicollinearity, and outlier tests were carried out to make sure the data met the basic assumptions of regression (Tabachnick & Fidell, 2013). Multiple regression analysis was then used to test H1 and H2, and to examine the effect of the two independent variables on digital entrepreneurial intention.

Table 1: Interpretation of Mean Score

Mean Score	Interpretation
1.00 – 2.33	Low
2.34 – 3.66	Moderate
3.67 – 5.00	High

Source: Researcher's own classification, based on a standard three-band mean-score interpretation commonly used for five-point Likert-scale survey data

Findings

Respondent Profile

A total of 346 FPE UPSI students took part in this study. Most respondents were female (268 students, 77.5%), while 78 (22.5%) were male. In terms of study semester, most respondents were in Semester 7 (224 students, 64.7%), followed by Semester 5 (about 53 students, 15.3%) and Semester 3 (about 52 students, 15.0%), with the remaining respondents spread across

Semesters 2, 4, and 6. Most respondents were aged 22 to 24 years old (250 students, 72.3%), followed by those aged 19 to 21 years old (83 students, 24.0%), and 25 to 27 years old (13 students, 3.8%). No respondents were aged 28 and above.

Table 2: Respondent Profile

Category	Group	n	%
Gender	Female	268	77.5
	Male	78	22.5
Semester	Semester 7	224	64.7
	Semester 5	53	15.3
	Semester 3	52	15.0
	Other semesters	17	4.9

Source: Field survey

Level of Digital Entrepreneurial Intention, Digital Entrepreneurship Education, and Digital Entrepreneurship Knowledge

Table 3 shows the mean and standard deviation for digital entrepreneurial intention (DEI), digital entrepreneurship education (DEE), and digital entrepreneurship knowledge (DEK).

Table 3: Mean and Standard Deviation of DEI, DEE, and DEK

Variable	Mean	SD	Level
Digital Entrepreneurial Intention (DEI)	3.96	0.639	High
Digital Entrepreneurship Education (DEE)	3.87	0.622	High
Digital Entrepreneurship Knowledge (DEK)	3.90	0.644	High

Source: Field survey

All three variables were at a high level, with DEI recording the highest mean score. This shows that FPE UPSI students already have a strong intention to become digital entrepreneurs, supported by a fairly high level of digital entrepreneurship education and knowledge, with no large gap between DEE and DEK.

Regression Assumption Tests

Before the regression analysis, normality, multicollinearity, and outlier tests were carried out. The skewness and kurtosis values for all items were between -2 and 2, showing that the data were normally distributed (Hair et al., 2019). The tolerance value for both DEE and DEK was 0.545, and the VIF value was 1.837 for both, which are within the acceptable range (tolerance > 0.2, VIF < 10), showing no multicollinearity problem. An outlier check using standardized residuals and boxplots found no significant outliers, so all cases were retained for analysis (Tabachnick & Fidell, 2013).

Multiple Regression Results

Table 4 presents the results of the multiple regression analysis used to test H1 and H2.

Table 4: Multiple Regression Results

Model Statistic	Value		
R	0.744		
R ²	0.553		
Adjusted R ²	0.550		
F	212.025***		
Independent Variable	Standardized Beta	t	Sig.
Digital Entrepreneurship Education (DEE)	0.441***	9.008	0.000
Digital Entrepreneurship Knowledge (DEK)	0.371***	7.585	0.000

Source: Field survey. ***significant at $p < .001$

The R^2 value of 0.553 shows that digital entrepreneurship education and digital entrepreneurship knowledge together explain 55.3% of the variance in digital entrepreneurial intention. Both DEE ($\beta = 0.441$, $p < .001$) and DEK ($\beta = 0.371$, $p < .001$) had a significant, positive effect on DEI, with DEE emerging as the stronger predictor. Hence, both H1 and H2 are supported.

Discussion

Level of Digital Entrepreneurial Intention, Digital Entrepreneurship Education and Digital Entrepreneurship Knowledge

The findings show that FPE UPSI students have a high level of digital entrepreneurial intention (mean = 3.96). This means most students are inclined to consider digital entrepreneurship as a career choice after graduation. This finding matches Wibowo et al. (2023a), who found that digital entrepreneurship education raises students' digital entrepreneurship knowledge, which then strengthens their digital entrepreneurial intention. This is also supported by Asiah et al. (2022), who found that digital literacy and ICT use are important factors that raise students' tendency toward entrepreneurship, and by Suhaimi et al. (2025), who stressed the need to improve digital learning in entrepreneurship education in the context of Industry 4.0.

Both digital entrepreneurship education (mean = 3.87) and digital entrepreneurship knowledge (mean = 3.90) were also found to be at a high level, with no large gap between the two. This suggests that UPSI has been fairly successful in delivering digital entrepreneurship education that builds students' knowledge and skills, in line with Wibowo et al. (2023a) and Asiah et al. (2022). However, in a related context, Khoirotun Nisa' and Norida Canda Sakti (2025) found that entrepreneurship knowledge alone is not always enough to build entrepreneurial intention without support from other factors, such as self-efficacy or motivation. This suggests that while education and knowledge are important, they work best together with other personal and environmental factors.

Effect of Digital Entrepreneurship Education on Digital Entrepreneurial Intention

Digital entrepreneurship education was found to be the strongest predictor of digital entrepreneurial intention ($\beta = 0.441$), supporting H1. This means students who received structured education about digital tools and their use in business were more likely to have a higher intention to become digital entrepreneurs. This finding is consistent with Öztörün and Efeoğlu (2025), who found that exposure to digital entrepreneurship education directly shapes students' digital entrepreneurial intention, and with the Theory of Planned Behavior, where education strengthens students' attitude and perceived control over starting a digital business (Ajzen, 1991). This finding is also supported by other authors indicating that entrepreneurship education functions as a foundational mechanism for strengthening technopreneurship intention (Al-Mamary & Alraja, 2022; Ramadani et al., 2021; Hasan et al., 2026).

Effect of Digital Entrepreneurship Knowledge on Digital Entrepreneurial Intention

Digital entrepreneurship knowledge also significantly affected digital entrepreneurial intention ($\beta = 0.371$), supporting H2. Students with a deeper understanding of digital business concepts, tools, and strategies showed a stronger intention to start a digital business after graduation. This is supported by Amborashang and Abu Seman (2022), who found that entrepreneurship knowledge has a positive effect on entrepreneurial intention among Malaysian university students, and by Asiah et al. (2022), who found that digital literacy is closely linked to entrepreneurial intention, as students with stronger digital literacy tend to feel more confident and ready to take up digital business opportunities. This finding is aligned with other studies showing that digital business literacy enhances students' capacity to identify, design, and implement technology-based ventures. Similarly, digital literacies become catalytic tools that translate educational experiences into entrepreneurial aspiration (Hasan et al., 2026).

Implications of the Study

Theoretically, this study extends the use of the Theory of Planned Behavior in the context of digital entrepreneurship among Malaysian university students, by showing that digital entrepreneurship education and knowledge help build students' attitude and perceived control, which then shape their intention to become entrepreneurs.

Practically, the findings suggest that higher education institutions should integrate digital entrepreneurship more fully into the curriculum, focus more on hands-on learning such as the use of e-commerce platforms, digital marketing, and business simulations, and provide more workshops and training that directly build students' digital business skills.

Socially, raising students' digital entrepreneurial intention may help reduce graduates' dependence on salaried jobs, support the growth of Malaysia's digital economy, and help lower the graduate unemployment rate.

Limitations and Future Research

This study has several limitations. First, it only involved students from one faculty at one university, so the findings cannot be generalised to all higher education students in Malaysia. Second, only two factors, digital entrepreneurship education and digital entrepreneurship knowledge, were studied, while other factors such as attitude, family support, peer effect, self-

efficacy, and past business experience were not included. Third, this study used a self-reported questionnaire, which may be affected by response bias. Fourth, the cross-sectional design means the study cannot capture how students' intention changes over time.

Future studies could involve a wider sample from different types of higher education institutions, include other variables such as self-efficacy and family support, or use a mixed-method approach with interviews or focus group discussions. A longitudinal design could also be used to track changes in students' intention before and after taking digital entrepreneurship courses. Future studies could also apply a multi-group comparative approach across different faculties, institutions, or student majors, similar to Prabandari et al. (2026), to test whether the effect of digital entrepreneurship education and knowledge differs between student subgroups. In addition, future research could examine whether digital entrepreneurial intention actually leads to real entrepreneurial behaviour, since a study among Chinese college students found that managing learning together with entrepreneurship education helps convert digital entrepreneurial intention into actual digital entrepreneurship behaviour (Li et al., 2024).

Conclusion

This study examined the effect of digital entrepreneurship education and digital entrepreneurship knowledge on digital entrepreneurial intention among students of the Faculty of Management and Economics, UPSI. The findings show that FPE UPSI students have a high level of digital entrepreneurial intention, digital entrepreneurship education, and digital entrepreneurship knowledge. Both digital entrepreneurship education and digital entrepreneurship knowledge significantly and positively affect digital entrepreneurial intention, with digital entrepreneurship education being the stronger predictor.

These findings support the importance of providing structured digital entrepreneurship education and knowledge to build students' confidence and readiness to become digital entrepreneurs. The findings can guide universities and policymakers in designing more effective digital entrepreneurship teaching strategies, while also helping students understand practical steps to raise their own readiness to face the challenges of the digital economy.

Beyond its academic contribution, this study's findings carry practical relevance for Malaysia's national development agenda. By showing that digital entrepreneurship education and knowledge significantly build students' intention to become digital entrepreneurs, this study offers empirical support for the curriculum and skill-building strategies universities need in order to contribute toward the achievement of the Thirteenth Malaysia Plan (2026–2030) targets. The findings also align with the Malaysia MADANI Economy Framework under Innovation (Daya Cipta) whereby equipping graduates with stronger digital entrepreneurial intention is one practical way universities can support this pillar. More broadly, the study reflects the United Nations Sustainable Development Goals that is SDG 4 (Quality Education), by demonstrating how targeted digital entrepreneurship education strengthens graduate readiness as well as SDG 9 (Industry, Innovation and Infrastructure), by preparing students to build technology-based ventures. Taken together, these connections suggest that strengthening digital entrepreneurship education and knowledge at the university level is not only an academic concern but also a practical lever for advancing Malaysia's digital economy and national development goals.

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References

- Abd Rahim, A. N., & Md Osman, S. Z. (2025). Keberkesanan subjek keusahawanan digital ke atas kompetensi keusahawanan pelajar di institusi TVET MARA. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Al-Mamary, Y. H. S., & Alraja, M. M. (2022). Understanding entrepreneurship intention and behavior in the light of TPB model from the digital entrepreneurship perspective. *International Journal of Information Management Data Insights*, 2(2).
- Amborashang, J., & Abu Seman, S. (2022). The relationship of entrepreneurial knowledge on entrepreneurial intention among undergraduate students in Malaysia: Examining moderating effect of self-efficacy. *Jurnal Evolusi*, 3(1).
<https://doi.org/10.61688/jev.v3i1.35>
- Asiah, N., Juhdi, N. H., Hassan, R., & Radin A. Rahman, R. S. A. (2022). Menggalakkan kecenderungan pelajar terhadap keusahawanan melalui literasi digital, penggunaan ICT dan kecekapan sendiri dalam kalangan pelajar universiti. *Jurnal Personalia Pelajar*, 21(1).
- Azizan, A. Z., & Abd Rani, N. S. (2024). Hubungan antara minda keusahawanan dan niat keusahawanan dalam kalangan pelajar dari Universiti Tun Hussein Onn Malaysia. *Research in Management of Technology and Business*, 5(1), 563–578.
- Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review*, 13(3), 442–453.
- Brown, J. D. (2011). Likert items and scales of measurement. *SHIKEN: JALT Testing and Evaluation SIG Newsletter*, 15(1), 10–14.
- Budiman, A., & Harlina Putri, L. (2026). The effect of entrepreneurship education on entrepreneurial intention: A literature review. *Journal Business Administration: Entrepreneurship and Creative Industry*, 5(1), 11–18.
<https://doi.org/10.32734/jba.v5i1.24328>
- Doanh, D. C., & Bernat, T. (2019). Entrepreneurial self-efficacy and intention among Vietnamese students: A meta-analytic path analysis based on the theory of planned behavior. *Procedia Computer Science*, 159, 2447–2460.
<https://doi.org/10.1016/j.procs.2019.09.420>
- Economic Planning Unit, Prime Minister's Department. (2025). Thirteenth Malaysia Plan, 2026–2030.
- Fragoso, R., Rocha, W., & Xavier, A. (2020). Determinant factors of entrepreneurial intention among university students in Brazil and Portugal. *Journal of Small Business & Entrepreneurship*, 32(1), 33–57.
- Gunaseelan, K., Subramaniam, T. S., Sern, L. C., Jabor, M. K., & Rathakrishnan, G. (2022). Digital entrepreneurship among higher education students. *International Journal of Academic Research in Business and Social Sciences*, 12(9), 365–373.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage.

- Hasan, M., Januddin, T., & Tahir, T. (2026). "I'm gen Z—Can I become a Technopreneur?" The mediating power of digital business and financial literacy in entrepreneurship education. *Entrepreneurship Education*. <https://doi.org/10.1007/s41959-025-00168-3>
- Khoirotun Nisa', & Norida Canda Sakti. (2025). Pengaruh pengetahuan kewirausahaan, efikasi diri, dan literasi digital terhadap intensi berwirausaha mahasiswa prodi pendidikan ekonomi universitas negeri surabaya. *Jurnal Pengabdian Masyarakat dan Riset Pendidikan*, 4(1), 1653–1661. <https://doi.org/10.31004/jerkin.v4i1.1789>
- Kraus, S., Palmer, C., Kailer, N., Kallinger, F. L., & Spitzer, J. (2019). Digital entrepreneurship: A research agenda on new business models for the digital age. *International Journal of Entrepreneurial Behavior & Research*, 25(2), 353–375.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607–610.
- Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5–6), 411–432.
- Li, S., Bu, Y., Zhang, Z., & Huang, Y. (2024). Digital entrepreneurship intention and digital entrepreneurship behavior: The mediating role of managing learning and entrepreneurship education. *Education + Training*. Advance online publication.
- Liñán, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593–617.
- Liñán, F., & Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: Citation, thematic analyses, and research agenda. *International Entrepreneurship and Management Journal*, 11(4), 907–933.
- Lokman, N. H., & Yakob, N. (2023). Niat keusahawanan dalam kalangan pelajar baharu di universiti awam Malaysia. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*.
- Mahmood, S., Abdul Rahman, N., & Yusof, R. (2023). Integration of digital entrepreneurship in higher education: Preparing future entrepreneurs in Malaysia. *Asian Journal of Entrepreneurship and Innovation*, 9(1), 34–48.
- Ministry of Higher Education (2025). Digitalisation of Higher Education Policy 2025-2030. www.mohe.gov.my
- Ministry of Higher Education Malaysia. (2023). Graduate Tracking Study report. www.mohe.gov.my
- Ministry of Higher Education. (2022). Education world forum: innovation in education. www.mohe.gov.my
- Ministry of Higher Education Malaysia. (2021). Entrepreneurship Action Plan Higher Education Institutions 2021–2025. www.mohe.gov.my
- Mohd Sauh, S. H., Asmaai, M., & Khairuddin, Z. N. (2023). Entrepreneurship education at higher learning institutions (HLI): Policy mismatch and recommendations. *Malaysian Journal of Business, Economics and Management*, 2(1), 27–33.
- Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship Theory and Practice*, 41(6), 1029–1055.

- Öztorun, M., & Efeoğlu, İ. E. (2025). Investigation of digital entrepreneurship intention in the context of entrepreneurship education and the theory of planned behavior. *Uluslararası Sosyal Bilgilerde Yeni Yaklaşımlar Dergisi*, 9(1), 81–96.
- Prime Minister's Office of Malaysia (2023). *MADANI Economy: Empowering the people*. www.pmo.gov.my
- Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.
- Prabandari, S. P., Fakhri, E. A., & Masli, E. K. (2026). The determinants of digital entrepreneurial intention among higher education students: A multi-group analysis. *Problems and Perspectives in Management*, 24(1), 28–42. [https://doi.org/10.21511/ppm.24\(1\).2026.03](https://doi.org/10.21511/ppm.24(1).2026.03)
- Ramadani, V., Jashari, F., Gërguri-Rashiti, S., & Palalić, R. (2021). Digital entrepreneurship intentions: Evidence from Kosovo. *International Journal of Technology Transfer and Commercialisation*, 18(4), 399–417.
- Ratten, V., & Jones, P. (2020). Entrepreneurship and management education: Exploring trends and gaps. *The International Journal of Management Education*.
- Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson Education.
- Shuhidan, S. M. (2022). Effect of digital literacy on learning engagement among students. *Journal of Digital Education*.
- Spilbergs, A., Mavlutova, I., & Lesinskis, K. (2026). Entrepreneurial intention of students: The role of digital tools and personal factors in entrepreneurship education. *PLoS ONE*, 21(1), e0337826. <https://doi.org/10.1371/journal.pone.0337826>
- Suhaimi, N. F. N. M., Radzi, N. M., & Halili, S. H. (2025). Hubungan dan pengaruh pembelajaran digital pendidikan keusahawanan kolej vokasional di Selangor. *JuPiDi: Jurnal Kepimpinan Pendidikan*, 12(3), 48–64.
- Suzyanty Mohd Shokory, Nur Shahirah Hashim, Zuraidah Zainol, & Rusliza Yahaya. (2024). Faktor-faktor yang mempengaruhi kecenderungan pemilihan kerjaya keusahawanan digital dalam kalangan pelajar pendidikan tahun akhir. *International Journal of Education, Psychology and Counselling (IJEPC)*, 8(51).
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson.
- UNESCO (2022). *Global review of Education for Sustainable Development 2022*. www.unesco.org
- Wibowo, A., Narmaditya, B. S., Saptono, A., Effendi, M. S., Mukhtar, S., & Mohd Shafiai, M. H. (2023a). Does digital entrepreneurship education matter for students' digital entrepreneurial intentions? The mediating role of entrepreneurial alertness. *Cogent Education*, 10(1), 2221164.
- Wibowo, A., Narmaditya, B. S., Suparno, Sebayang, K. D. A., Mukhtar, S., & Mohd Shafiai, M. H. (2023b). How does digital entrepreneurship education promote entrepreneurial intention? The role of social media and entrepreneurial intuition. *Social Sciences & Humanities Open*, 8, 100681.
- Zainal, N. T. A., & Yong, K. (2020). Examining the digital entrepreneurship education effectiveness on soft skills among undergraduates. *MANU*, 31(1), 139–151.
- Zhao, Y., & Xie, B. (2020). Cognitive bias, entrepreneurial emotion and entrepreneurship intention. *Frontiers in Psychology*, 11, 625.