

Digital Entrepreneurship Among Students: Driving Factors, Challenges, and Career Orientation

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ABSTRACT

This study explores the phenomenon of digital entrepreneurship among college students in response to rapid technological transformation and evolving career orientations. Using a qualitative phenomenological approach, this study examines students' lived experiences in starting and managing digital-based businesses, focusing on their driving factors, challenges, and future career orientations. Data were collected through in-depth interviews with seven students actively involved in digital businesses, then analyzed using the Colaizzi method supported by NVivo 14 software. The findings revealed three interrelated themes: the driving factors for students to become digital entrepreneurs are stimulated by the role of parents, the desire to earn money or income, developing self-skills, challenges faced generally difficult in time management, lack of consistency, difficulty finding customers, limited capital, busy studies, and career orientation as a digital entrepreneur is still lacking because students only consider digital entrepreneurship as an alternative career choice, where the main career choice is working in a company or agency. This study concludes that digital entrepreneurship is not only an economic activity but also a process of identity formation and individual adaptation to a technology-driven economy that needs to be improved. This highlights the importance of developing a sustainable digital entrepreneurship ecosystem in higher education through incubators, mentoring, and experiential learning to foster innovation, independence, and readiness for the digital economy.

Keywords: digital entrepreneurship, students, career orientation.

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1. INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed the way younger generations engage in entrepreneurial activities. On a global scale, digital entrepreneurship has emerged as a key driver of technology-based economies, leveraging creativity and innovation to generate economic value through digital platforms (Lingfu, 2025; Oufkir, 2025). This digital transformation has not only reshaped economic structures but also cultivated a new mindset among university students, who increasingly perceive digital environments not merely as tools for learning but as dynamic spaces for career development and entrepreneurial opportunities (Jintana, 2025; Wardoyo, 2025). Consequently, the digital ecosystem has become an integral part of how students conceptualize their future careers in an increasingly interconnected world.

In this evolving context, students are no longer viewed solely as job seekers but as potential digital entrepreneurs capable of utilizing technology to create new employment opportunities (Primahendra, 2024; Sahrah, 2023). This shift is closely associated with increased access to digital technologies, improved digital literacy, and the development of supportive entrepreneurial learning ecosystems within higher education institutions (García-Tudela, 2024; T. T. T. Nguyen, 2025). As a result, there is a notable transition in career orientation—from

traditional employment pathways toward digital independence—driven by innovation, flexibility, and creative problem-solving (Li, 2025; Marshall, 2020). This transformation reflects a broader paradigm shift in how young individuals approach work, value creation, and professional identity in the digital age.

From an opportunity perspective, digital entrepreneurship enables students to access global markets without geographical limitations, utilize social media as effective marketing channels, and develop technology-based products and services (Shukla, 2021; Wibowo, 2023). With relatively minimal capital, students can establish online businesses and achieve significant outreach through platforms such as e-commerce, fintech, and social media ecosystems (Pham, 2025; Younis, 2020). Furthermore, the expansion of the digital economy, coupled with increasing levels of digital financial literacy, enhances students' ability to understand and manage digital business mechanisms more professionally (Falahat, 2024; T. T. Nguyen, 2024). These developments highlight the democratization of entrepreneurship, where technological accessibility lowers traditional barriers to entry.

Numerous studies indicate that entrepreneurship education in higher education institutions significantly influences the development of students' digital entrepreneurial intentions (Abaddi, 2024; T. T. Nguyen, 2024; Otache, 2022). Digital entrepreneurship-based learning not only enhances technological competencies but also fosters self-efficacy, creativity, and entrepreneurial career orientation (Dabbous, 2023; Pratama, 2024; San-Martín, 2021). In addition, institutional support, adaptive curricula, and project-based training approaches have been proven to strengthen students' intentions to establish digital businesses (Antón-Sancho, 2022; Vicente-Ramos, 2024). This suggests that educational institutions play a critical role in shaping entrepreneurial readiness by integrating theoretical knowledge with practical digital experiences.

Despite these opportunities, students face complex and multidimensional challenges. One of the most critical issues is the significant gap between academic competencies and the practical skills required in the digital marketplace (Muchenje, 2025; Kanal Núñez, 2022). Although many students exhibit strong entrepreneurial intentions, they often lack essential technical skills, including digital platform management, data analytics, and the application of artificial intelligence technologies (Chen, 2023; Liang, 2025). This mismatch between entrepreneurial intention and digital competence represents a strategic challenge in contemporary entrepreneurship education (González-Calatayud, 2022; Sánchez-Vera, 2024). Addressing this gap is crucial to ensuring that students can effectively translate their entrepreneurial aspirations into viable digital ventures.

Beyond technical skills, social and psychological factors also significantly shape students' interest in digital entrepreneurship. Family support, social environment, and parental involvement have been shown to influence students' motivation and entrepreneurial engagement (Li, 2025; Moreno-Gómez, 2020). Gender also plays an important role, with several studies identifying disparities in confidence, access, and opportunities between male and female students (Alshebami, 2025; Liñán, 2022; Shukla, 2021). These findings emphasize the importance of promoting digital inclusivity and equity within entrepreneurship education systems (Fatmawati, 2024). Without addressing these disparities, the benefits of digital entrepreneurship may not be equally distributed across different groups.

From a psychological perspective, students' intentions to engage in digital entrepreneurship are influenced by factors such as self-efficacy, resilience, openness to experience, and entrepreneurial orientation (Tepung, 2024; Sarah, 2023). Students who demonstrate higher levels of creativity and confidence in their digital competencies are more prepared to pursue entrepreneurial activities in the era of digital transformation (Ferreira-Neto, 2023; Wardoyo, 2025). Moreover, emerging technologies such as Artificial Intelligence (AI) and Generative AI (GenAI) are increasingly enhancing learning processes and entrepreneurial innovation among students (Duong, 2025; P. N. D. Nguyen, 2025). These technologies not only

expand the scope of entrepreneurial possibilities but also redefine the skills required for success in the digital economy.

Another critical challenge lies in the limited policy support and underdeveloped campus ecosystems that facilitate digital entrepreneurial activities. Many universities have not yet fully provided digital incubation spaces, professional mentoring, or access to funding for student-led digital projects (García-Tudela, 2024; Yusof, 2022). Previous studies suggest that integrating digital entrepreneurship education with real-world practice can significantly enhance students' career readiness for the future workforce (Mavlutova, 2020; Secundo, 2020; Swaramarinda, 2025). Therefore, strengthening institutional infrastructure and support systems is essential to fostering a sustainable digital entrepreneurial ecosystem within higher education.

Additionally, some students still perceive digital entrepreneurship as a secondary activity rather than a primary career option (Barba-Sánchez, 2022; Jintana, 2025). Conventional career orientations that prioritize job stability often reduce students' motivation to take risks in building digital businesses (Marshall, 2020; Paliwal, 2022). Consequently, higher education institutions must actively cultivate a digital entrepreneurial mindset by adopting creative, innovative, and experiential learning approaches (Pratama, 2024; San-Martín, 2021). Encouraging risk-taking, innovation, and adaptability is essential in preparing students for the uncertainties of the digital economy.

In the Indonesian context, similar dynamics are evident. With a large student population and high internet penetration, Indonesia holds significant potential to develop a new generation of young digital entrepreneurs (Darmanto, 2023; Wardoyo, 2025). However, challenges such as limited digital financial literacy, inadequate supporting infrastructure, and unequal access to technology in rural areas remain critical barriers (Primahendra, 2024; Zapata, 2024). Furthermore, Swaramarinda (2025) emphasizes that vocational education and digital training are crucial factors in preparing students for the future digital economy. These structural challenges highlight the need for targeted policies and inclusive strategies to ensure equitable participation in digital entrepreneurship.

Thus, a clear gap exists between idealism and reality: while students possess significant opportunities to become key players in the digital economy, their competencies, institutional support, and career orientations are not yet fully aligned with the demands of the digital ecosystem. This gap represents an important area for further research, particularly through a phenomenological approach that seeks to understand students' lived experiences in pursuing digital entrepreneurship.

Overall, the phenomenon of digital entrepreneurship represents a paradigm shift in students' career orientation—from merely seeking employment to creating new economic value through technology (Lingfu, 2025; Wibowo, 2023). By leveraging digital literacy, innovation, and relevant entrepreneurship education, students can develop adaptive career orientations that align with contemporary demands (Liang, 2025; P. N. D. Nguyen, 2024). Therefore, this study aims to analyze in depth the phenomenon of digital entrepreneurship among university students, emphasizing opportunities, challenges, and career orientation as forms of adaptation to an increasingly complex digital economy (Fossen, 2024; Kraus, 2023).

Based on this background, this study seeks to address the following research questions: What factors drive students to engage in digital entrepreneurship? What challenges do students face in developing technology-based businesses? How does students' career orientation influence their decision to pursue digital entrepreneurship in the era of digital transformation? This research aims to provide a comprehensive analysis of the dynamics of student digital entrepreneurship within the context of technology-driven social and economic change. Specifically, it focuses on identifying driving factors, examining the challenges faced by students, and understanding their career orientations toward digital entrepreneurship. The findings are expected to offer a deeper understanding of the paradigm shift in young people's career

trajectories and contribute to the development of effective digital entrepreneurship education strategies in higher education.

2. METHOD

This study employed a qualitative phenomenological approach to explore the lived experiences of university students engaged in digital entrepreneurship. A phenomenological perspective was selected to gain a deep understanding of how students perceive and interpret their motivations, challenges, and career orientations within the context of rapid digital transformation. Rather than aiming for generalization, this approach focuses on capturing the essence of participants' subjective experiences and meaning-making processes. Phenomenology is particularly suitable for uncovering the depth and richness of individual experiences in complex social phenomena, especially in emerging fields such as digital entrepreneurship (Creswell & Creswell, 2023; Moustakas, 1994).

The primary objective of this study was to describe students' experiences in pursuing digital entrepreneurship, with a specific focus on three key aspects: the driving factors that motivate students to engage in digital business activities, the challenges they encounter in developing technology-based enterprises, and the ways in which their career orientation influences their decision to pursue entrepreneurship in the digital era. The study involved seven undergraduate students from public universities in Banten, Indonesia, who met specific criteria, including active enrollment, at least six months of experience managing a digital-based business (such as e-commerce, social media marketing, fintech, or creative digital services), and willingness to participate in in-depth interviews. Participants were selected using purposive sampling to ensure the relevance and richness of the data (Palinkas et al., 2015; Patton, 2015).

Data collection was conducted using multiple qualitative instruments to ensure depth and validity. Semi-structured interviews were the primary method, allowing participants to freely express their experiences while guided by open-ended questions. Each interview lasted between 60–90 minutes and was conducted in a comfortable and private setting, with participants' consent for audio recording. In addition, field notes were used to capture non-verbal cues, emotional expressions, and contextual nuances that enriched the data. All interviews were audio-recorded and transcribed verbatim for analysis. NVivo 14 software was utilized to systematically organize, code, and visualize qualitative data. Ethical considerations, including informed consent, confidentiality, and anonymity (through participant codes such as P1, P2, etc.), were strictly maintained throughout the research process (Braun & Clarke, 2021; Guest et al., 2012).

The research procedure followed a systematic and rigorous process to ensure transparency and consistency. Initially, an interview guide was developed based on relevant literature on digital entrepreneurship and student motivation. This was followed by conducting in-depth interviews, detailed field note documentation, and verbatim transcription of all recordings. The data were then imported into NVivo 14 for management and thematic analysis. The study applied Colaizzi's phenomenological method, which involved several stages: repeated reading of transcripts, extraction of significant statements, open coding, clustering of codes into themes and subthemes, and synthesis of findings into a coherent description of the essence of participants' experiences. Visual tools such as thematic maps and word clouds were also used to support data interpretation and highlight dominant patterns (Colaizzi, 1978; Smith et al., 2022).

To ensure the trustworthiness and rigor of the study, several validation strategies were implemented. Credibility was established through member checking, where participants reviewed and confirmed the accuracy of transcripts and interpretations. Transferability was supported by providing rich and detailed descriptions of the research context and participants' backgrounds. Dependability was maintained through systematic documentation of coding procedures and analytical decisions, while confirmability was ensured by maintaining reflective notes to minimize researcher bias. The findings were reported using a descriptive and thematic

approach, including thematic tables, verbatim participant quotations, and narrative explanations that capture the essence of students' experiences in digital entrepreneurship. These methodological strategies align with best practices in qualitative research to ensure reliability, validity, and meaningful interpretation of data (Lincoln & Guba, 1985; Tracy, 2020).

3. RESULTS AND DISCUSSION

3.1. Findings

Data analysis was conducted using NVivo 14 software to organize, code, and interpret the results of in-depth interviews with eight students who had been running digital businesses for at least six months. The analysis followed four main stages: open coding, categorization, theme grouping, and visualization. Through this process, five main themes were identified, reflecting the students' experiences in digital entrepreneurship:

1. Motivating factors for students to carry out digital entrepreneurship ,
2. Challenges faced in developing technology-based businesses , and
3. Students' career orientation influences the decision to pursue digital entrepreneurship in the era of digital transformation .

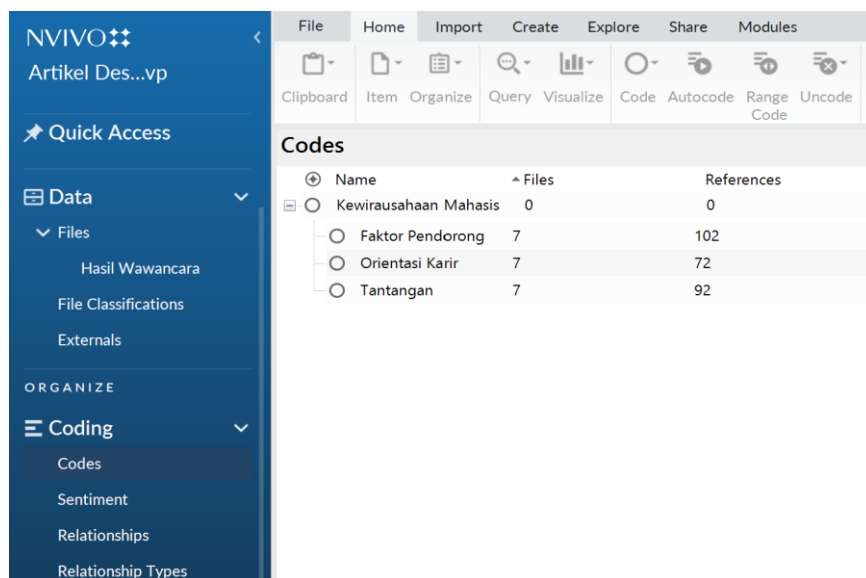


Figure 1. Node Encoding View in NVivo 14

This visualization illustrates the results of the coding process conducted on eight student interview transcripts. The analysis identified three main themes with a total of 266 references, reflecting the diverse experiences and perceptions of the participants. These themes serve as the basis for gaining a phenomenological understanding of digital entrepreneurship among students.

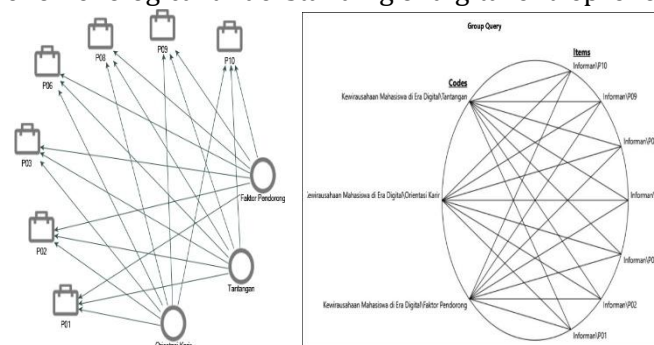


Figure 2. Thematic Map of Triangulation and Query Group of Coding Relationships

Word cloud in Theme 3, namely career orientation to become a digital entrepreneur according to the opinions of participants including the following: (1) work in a company/agency, (2) side, (3) alternative work and other things so on. This finding shows that career orientation as a digital entrepreneur among students is still less in demand and only makes it a side to get additional income apart from their main job who want to work in a company or agency. This allows students who are undergoing digital entrepreneurship to have a tendency to fill their free time and get additional income only, but do not have the courage that can be caused by various things, such as fluctuations in sales results in entrepreneurship, self-doubt, the image of digital entrepreneurs is still weak in the assessment of society and other reasons so that making the profession as a digital entrepreneur has not been made the main choice of career in earning income.

3.2. Discussion

The findings of this study reveal that the phenomenon of student digital entrepreneurship emerges from a dynamic convergence of personal factors, rapid technological advancement, and institutional support systems. The digital environment provides expansive opportunities for students to actualize their entrepreneurial potential, enabling them to access global markets, utilize innovative tools, and develop scalable business models. At the same time, this environment imposes significant challenges, requiring students to continuously adapt to fast-changing technological trends and market demands. This duality highlights that digital entrepreneurship is not merely an economic activity but a complex socio-technological process shaped by both opportunity and uncertainty (Sánchez-Vera, 2024; Muchenje, 2025; Nambisan et al., 2019).

The motivational drivers that encourage students to engage in digital entrepreneurship align closely with Self-Determination Theory, which emphasizes autonomy, competence, and relatedness as core psychological needs influencing human behavior (Deci & Ryan, 2013). Students who possess strong intrinsic motivation—such as the desire for independence, creativity, and self-fulfillment—are more likely to initiate and sustain digital ventures. These intrinsic factors are further reinforced by extrinsic motivators, including financial incentives, social recognition, and peer influence. Previous studies confirm that entrepreneurial intention among students is significantly shaped by both internal motivations and external environmental factors (Ryan & Deci, 2020; Zhao et al., 2021).

Furthermore, the learning process involved in digital entrepreneurship reflects Kolb's Experiential Learning Theory, which posits that knowledge is created through the transformation of experience (Kolb, 1984). Students develop entrepreneurial competencies through iterative cycles of concrete experience, reflective observation, abstract conceptualization, and active experimentation. In the context of digital entrepreneurship, this learning process is highly practical, as students directly engage in real-world business activities such as managing online platforms, analyzing consumer behavior, and adapting marketing strategies. This experiential approach transforms theoretical knowledge into practical innovation, enhancing students' readiness to operate in digital markets (Kolb, 1984; Kolb & Kolb, 2018).

Despite these opportunities, the study identifies several critical challenges faced by student entrepreneurs, including limited financial capital, time constraints due to academic responsibilities, and insufficient institutional support. These challenges are consistent with previous research emphasizing that the success of digital entrepreneurship is highly dependent on the readiness of the entrepreneurial ecosystem, particularly within higher education institutions (Sánchez-Vera, 2024; Muchenje, 2025). Without adequate access to funding, mentorship, and technological infrastructure, students often struggle to scale their businesses or sustain long-term growth. This finding is further supported by recent studies highlighting the importance of ecosystem support in fostering entrepreneurial success (Spigel, 2022; Stam & Van de Ven, 2021).

In addition, the findings indicate a notable shift in students' career orientation toward digital entrepreneurship, which contrasts with traditional career pathways that prioritize stable employment in established organizations. This shift aligns with studies suggesting that younger generations increasingly value flexibility, autonomy, and personal control over their professional trajectories (Barba-Sánchez, 2022; Wardoyo, 2025). However, despite this shift, many students remain hesitant to fully commit to entrepreneurship due to perceived risks, such as income instability, market uncertainty, and societal expectations that favor conventional employment. This tension reflects the ongoing transition between traditional and emerging career paradigms in the digital economy (Kautonen et al., 2023; Khoiruman, 2025).

Moreover, social perception plays a significant role in shaping students' entrepreneurial decisions. The relatively weak societal image of digital entrepreneurs, particularly in contexts where stable employment is highly valued, creates psychological barriers for students. Many participants expressed concerns about the lack of recognition and legitimacy associated with digital entrepreneurship compared to formal employment. This finding highlights the importance of cultural and social factors in influencing entrepreneurial behavior, as supported by prior research emphasizing the role of social norms in shaping career choices (Liñán & Fayolle, 2022).

From a phenomenological perspective, digital entrepreneurship extends beyond economic activity and becomes a process of identity formation and meaning-making. Through entrepreneurial practices, students develop self-confidence, independence, resilience, and a sense of responsibility toward society. This transformative experience allows students to redefine their personal and professional identities, positioning themselves not only as business actors but also as innovators and problem-solvers in the digital economy. Such findings are consistent with phenomenological studies that emphasize the role of lived experience in shaping individual identity and agency (Moustakas, 1994; Smith et al., 2022).

The study also highlights a broader paradigm shift in higher education, moving from traditional theory-based learning toward experiential and practice-oriented models. Digital entrepreneurship serves as a platform for integrating academic knowledge with real-world application, fostering critical thinking, creativity, and innovation among students. Universities are increasingly expected to play an active role in facilitating this transformation by providing supportive learning environments, access to digital tools, and opportunities for industry collaboration (Neck et al., 2020; Nabi et al., 2023).

In terms of practical implications, the findings underscore the need for higher education institutions to develop comprehensive digital entrepreneurship ecosystems. This includes establishing digital incubators, offering technology-based business training, providing mentorship programs, and fostering partnerships with industry stakeholders. Such initiatives can significantly enhance students' entrepreneurial capabilities and increase the sustainability of their ventures. Previous research also confirms that structured institutional support is a key determinant of successful student entrepreneurship (Stam & Van de Ven, 2021; Spigel, 2022).

In conclusion, this study emphasizes that digital entrepreneurship among students is a multifaceted phenomenon shaped by psychological, technological, and institutional dimensions. While students demonstrate strong motivation and adaptability, they continue to face significant structural and cultural challenges. Therefore, fostering a supportive ecosystem that integrates education, technology, and policy is essential for developing a new generation of competitive and sustainable digital entrepreneurs. By strengthening these elements, higher education institutions can play a pivotal role in preparing students to thrive in the evolving digital economy (Nambisan et al., 2019; Nabi et al., 2023).

4. CONCLUSIONS AND SUGGESTION

This research provides a comprehensive understanding of the phenomenon of digital entrepreneurship among university students as a response to the rapid transformation of a

technology-driven economy. The findings indicate that digital entrepreneurship is not solely an economic activity, but also a meaningful process through which students construct identity, develop autonomy, and find purpose in navigating the digital era. Students are motivated to engage in digital entrepreneurship by a combination of financial aspirations, self-actualization needs, and the desire to contribute socially. Their entrepreneurial journey reflects a learning process grounded in direct experience, continuous reflection, and adaptive action, which enables them to transform ideas into practical and innovative business ventures. Despite the strong entrepreneurial potential demonstrated by students, the study also identifies a significant gap between their motivation and the level of institutional support available, indicating that universities have not yet fully established an integrated ecosystem that supports digital entrepreneurship through structured programs, mentorship, and incubation.

Based on these findings, several strategic recommendations can be proposed to strengthen the development of student digital entrepreneurship. Universities are encouraged to build sustainable ecosystems by establishing digital business incubators, offering technology-based entrepreneurship training, and fostering collaborations with industry stakeholders. Students themselves need to continuously enhance their digital literacy, innovative capabilities, and adaptability to emerging technologies in order to remain competitive in the global market. From a policy perspective, governments should design higher education policies that are responsive to the demands of the digital economy and promote collaboration between academia, industry, and financial institutions. Furthermore, future research is recommended to expand this study through quantitative or mixed-method approaches, as well as cross-cultural comparisons, to gain deeper insights into the evolving characteristics of young digital entrepreneurs. Overall, this research contributes not only to theoretical development but also to practical efforts in shaping educational strategies and policies that empower the younger generation in the digital age.

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