

Research Article

Entrepreneurial Literacy and Digital Mindset as Catalysts for Online Business Readiness: A Systematic Literature Review

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Abstract: Global development in digital technology have driven the transformation of business models towards online ecosystems, requiring individuals and organizations to have adaptive online business readiness. The growing potential of e-commerce, driven by the massive number of internet users, presents a strategic opportunity. However, many students and young entrepreneurs do not yet have an adequate digital mindset to compete. The urgency of this research lies in the need to understand how entrepreneurship education and digital mindset can act as catalysts in preparing business actors to enter the online business world. This study uses the Systematic Literature Review method with stages of identification, selection, and synthesis of scientific articles, as well as bibliometric analysis using VOSviewer. The results show that the combination of entrepreneurship education and strengthening the digital mindset can improve online business readiness to include the ability to utilize artificial intelligence (AI) technology for marketing, the use of data analytics for decision making, and automated online store management. Additionally, there is a digital literacy gap among students and SME entrepreneurs that can be bridged through a digital project-based entrepreneurship curriculum. The implications of this research encourage universities and policymakers to design entrepreneurship programs that emphasize digital transformation, the use of AI.

Keywords: AI; Digital Mindset; Entrepreneurship Education; Online Business Readiness; VOSviewer

1. Introduction

The development of digital technology has fundamentally changed the global business landscape. Kwarteng et al. (2024) and Lee et al. (2024) state that the transformation towards a digital ecosystem has encouraged the creation of new business models based on platforms, automation, and data-driven decision making. Meanwhile, Candra et al. (2024) project that the global e-commerce market value will reach more than USD 6.3 trillion by 2025, indicating a significant acceleration in digital transactions. This phenomenon is also reinforced by the emergence of disruptive technologies such as Artificial Intelligence (AI), Big Data, and the Internet of Things (IoT), which are changing the way businesses interact with customers, manage supply chains, and make data-driven strategic decisions (Maula et al., 2023; Neligan et al., 2023). These changes require individuals and organizations to have an adaptive digital mindset and continuous innovation in order to remain relevant and competitive. In addition, the current digital disruption is accelerating the shift in consumer behaviour from conventional to digital. Online shopping trends, algorithm-based marketing, the use of cross-border e-commerce platforms, and customer service automation through AI chatbots have become the new standard in global business (Holzweiss et al., 2020; Ronkowitz & Ronkowitz, 2021). Competition is becoming increasingly fierce as businesses not only compete at the local level, but also face international competitors who are present virtually.

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In Indonesia itself, the development of digitalisation provides great opportunities for national economic growth (Purnamasari et al., 2020; Sulistyowati et al., 2024; Tjahjadi et al., 2020). Data from the Indonesian Internet Service Providers Association (APJII, 2024) shows that the number of internet users has reached more than 220 million people, or around 78% of the population, making Indonesia one of the largest digital markets in Southeast Asia. This growth has driven the expansion of the e-commerce sector, digital financial services (fintech), technology-based logistics, and creative industries that rely on digital platforms. The Google-Temasek report (2023) projects that Indonesia's digital economy will exceed USD 130 billion by 2025, driven by growth in e-commerce transactions, digital payments, and on-demand services. This phenomenon is also reinforced by increasing smartphone penetration, more widespread internet access, and high social media adoption. This ecosystem creates strategic opportunities for the younger generation, including students, to innovate and create technology-based businesses that can reach national and even global markets (Anggadwita et al., 2021; Purnamasari et al., 2020; Sukendro et al., 2020; Sulistyowati et al., 2024; Syahreza et al., 2023; Tjahjadi et al., 2020).

Ideally, the community should have online business readiness that includes a deep understanding of digital technology, the ability to utilize social media and e-commerce platforms, and the skills to manage customer data to support evidence-based decision making. The development of digital technology has fundamentally changed the way people interact, work and shop. According to (Noor et al., 2019; Tjahjadi et al., 2020), more than 210 million Indonesians are active internet users, with more than 75% of them purchasing goods or services online. This condition makes online business not just a trend, but a strategic necessity for entrepreneurs to reach consumers more widely, quickly, and efficiently. E-commerce platforms, social media, and marketplace applications enable businesses of all sizes, from micro to large, to compete on an equal footing, without being hindered by physical location limitations (Bekele, 2024; Darmasetiawan, 2019; Sumiyana & Susilo, 2021). By leveraging digital technology, operational costs can be reduced, promotions can be targeted accurately, and customer relationships can be personalized.

In addition, online businesses offer high flexibility in business management and responsiveness to market changes (Othman et al., 2021; So-In et al., 2021). In an era marked by disruption and rapid consumer dynamics, the ability to adapt is a key factor in business sustainability. According to the Dynamic Capabilities theory (Teece, 2010), companies that are able to utilize digital technology to respond to new opportunities and anticipate threats have higher competitiveness. Online businesses enable entrepreneurs to collect consumer data in real time, analyze trends, and develop more accurate marketing strategies. Thus, online businesses not only increase profit potential but also strengthen business resilience in the face of global economic uncertainty (Setyawati et al., 2023; Hadiyati & Hendrasto, 2021; Manurung & Kurniawan, 2022).

Noor et al. (2019) state that online business readiness can be understood as the level of readiness of individuals or organizations to effectively start, manage, and develop digital-based businesses. The first important component is knowledge about online business, which includes an understanding of basic e-commerce concepts, digital consumer behaviour, platform-based business models, and regulations related to electronic commerce (Madurapperuma & Wijayanayake, 2021; Salazar et al., 2022). According to Pleno (2024) and Qian Qiu & Mok Kim Man (2021), adequate knowledge of the digital business ecosystem is the main foundation for prospective entrepreneurs to identify market opportunities, understand industry trends, and minimize the risk of failure in the early stages of the business.

Owan (2019) and Tjahjadi et al. (2020) state that the next component is technical capability, which includes skills in using e-commerce platforms, social media, and digital marketing tools such as SEO, paid advertising, and content management. In addition, the ability to utilize data analytics to understand customer behaviour is a competitive advantage in the digital economy era. Research by Setyawati et al. (2023) shows that mastery of digital marketing technology can increase business visibility and boost sales higher than businesses that only rely on conventional methods.

Online business readiness is also determined by mental readiness, which includes entrepreneurial motivation, self-confidence, and the courage to take risks (Maula et al., 2025; Setyawati et al., 2023; Wardana et al., 2024). According to the Entrepreneurial Self-Efficacy theory by Wardana et al. (2024), individuals who have confidence in their abilities are more likely to start and maintain a business, even when facing market uncertainty. This mental readiness is important so that prospective entrepreneurs are able to survive in the face of rapidly changing digital competition, while adapting to changes in trends and consumer needs.

In addition, Setyawati et al. (2024) state that financial readiness and business planning are other important components. Financial readiness includes initial capital management, cash flow calculations, and financing strategies, whether through personal funds, investors, or fintech platforms. On the other hand, business planning includes developing creative business ideas, marketing strategies, and determining the right target market (Rahma et al., 2022; Setyawati et al., 2023; Wardana et al., 2024). According to Setyawati et al. (2024), entrepreneurs who have a written business plan with clear financial projections have a 50% higher success rate than those who start without planning. The combination of financial literacy and strategic planning is the main provision in ensuring the sustainability of online businesses. Thus, the integration of knowledge, technical skills, mental preparedness, financial literacy, and strategic planning forms an ideal combination that strengthens the competitiveness of entrepreneurs in the era of digital transformation, where adaptability and innovation are the keys to long-term success.

Although digital economic opportunities are increasingly wide open, various studies show that the readiness of human resources, particularly students and MSME actors, is still not optimal (Manurung & Kurniawan, 2022; Martins & Perez, 2020; Neneh, 2022; W. Zhang et al., 2022). According to Yan et al. (2023), more than 60% of students taking entrepreneurship courses are not yet ready to utilize digital technology to start an online business. This is due to entrepreneurship curricula that tend to be theoretical, lack project-based learning, and lack integration of digital literacy and the latest technology such as e-commerce, digital marketing, and data analysis. A similar situation also occurs in the SME sector. Research Martins & Perez (2020) and Sumiyana & Susilo (2021) found that most MSMEs have not been able to optimize digital media for product marketing. The obstacles that arise include limited digital literacy, low understanding of how e-commerce platforms work, and a lack of confidence in using technology. As a result, local products find it difficult to compete with competitors who are more digitally prepared, both in terms of market visibility and speed of response to changes in consumer demand. These findings indicate a significant gap between the enormous potential of the digital economy and the practical ability of the community to take advantage of it. If not immediately addressed through targeted education and training policies, the opportunities for digital transformation will be difficult to optimize and may even widen the economic gap between adaptive businesses and those that are left behind (Martins & Perez, 2020; Neneh, 2022; Sumiyana & Susilo, 2021).

A digital mindset-based approach and entrepreneurship education are strategic keys to bridging the gap between digital economic potential and human resource readiness (Bazkiaei et al., 2020; Fragoso et al., 2020; Jazuli Jazuli et al., 2023; L. Li & Wu, 2019). The integration of digital mindset into the entrepreneurship curriculum is necessary to foster creative, innovative, and adaptive thinking patterns in response to technological developments. According to Krohn & Jantos (2022), digital mindset enables individuals to see opportunities arising from technological advances while anticipating potential risks, thereby increasing the success of digital businesses.

The development of a digital mindset is a fundamental strategy in improving online business readiness in the era of digital transformation (Hasan et al., 2025; MBA, *Especialistas en finanzas*, 2020; Sarwar et al., 2024). Digital mindset is defined as a way of thinking that is oriented towards utilising technology to create value, innovate, and adapt to rapid change (Pietsch & Mah, 2025; Shen et al., 2025). Students and aspiring entrepreneurs who have a digital mindset tend to see technology not as an obstacle, but as a strategic opportunity to create competitive advantage (Forsythe & Rafoth, 2022; Nitsche et al., 2023). Therefore, the entrepreneurship education curriculum needs to explicitly integrate the concept of digital mindset, so that students become accustomed to viewing every business problem from the perspective of digital solutions.

Hasan et al. (2025), Pietsch & Mah (2025), and Shen et al. (2025) explain that a digital mindset in the entrepreneurial learning process involves methods that encourage creativity, innovation, and adaptability. For example, case-based learning that explores the digital transformation of successful companies such as Tokopedia or Shopee can help students understand the application of technology in creating new business models. Research by Nitsche et al. (2023) shows that case-based learning methods can improve students' understanding of digital opportunities and foster motivation to develop technology-based solutions. According to (Bogdány et al., 2024; Forsythe & Rafoth, 2022), PBL has been proven to increase entrepreneurial self-efficacy and strengthen technical skills, making students more confident in starting online businesses. PBL also encourages students to think iteratively—trying, testing, failing, and improving—which is an important part of an adaptive digital mindset.

Santiago & Guo (2018) state that strengthening soft skills that support a digital mindset, such as critical thinking, problem solving, digital communication, and virtual collaboration. In the highly dynamic era of online business, these abilities determine how quickly someone can respond to market changes. According to Cutumisu (2019) and Leonardi & Neeley (2022), students who possess good critical thinking and digital communication skills are better prepared to interact with global consumers, develop data-driven marketing strategies, and innovate products according to market needs. The importance of utilizing cutting-edge technology, particularly Artificial Intelligence (AI) and data analytics, in learning (Cronin, 2024; Dwifani & Fajar Hendarman, 2023). Teaching students how to use AI tools for market research, personalizing promotions, and predicting demand trends will foster evidence-based decision-making skills. Cronin (2024) and Pietsch & Mah (2025) state that the use of AI in digital marketing can significantly increase customer engagement, so students who understand this technology have a competitive advantage in the market. A digital mindset needs to be strengthened through ecosystem collaboration, such as partnerships with industry, the provision of digital business incubators, and access to fintech-based financing (Goldmann et al., 2025; Novita et al., 2023). According to Wahyuni et al. (2022), students who receive guidance from industry mentors and capital support have higher business success rates. With a combination of conceptual learning, practical experience, soft skills reinforcement, technology utilization, and ecosystem support, a digital mindset can be cultivated sustainably so that students and young entrepreneurs are ready to compete in an increasingly competitive online business ecosystem.

Collaboration with industry and the provision of digital business incubators on campus can be catalysts for online business readiness (Bhaktiar et al., 2023; Ispim et al., 2024). Incubators serve as spaces for experimentation and mentoring for students from the ideation stage to commercialization. Studies by Aminoff & Pihlajamaa (2020), Bachnik et al. (2023), Singh et al. (2024), and Zou (2022) mention that students who participate in incubation programs have a 40% higher business success rate than those who do not. Collaboration with digital business practitioners, industry mentors, and fintech-based capital providers will also ensure that the learning process aligns with market needs, accelerates knowledge transfer, and increases students' chances of success in online business (Bashir et al., 2023; Eom et al., 2024).

Previous studies have highlighted the link between digital literacy and online business success, as well as the role of entrepreneurship education in increasing interest in entrepreneurship. However, studies that specifically integrate the concept of digital mindset as a key variable in building online business readiness are still relatively rare. In fact, digital mindset plays an important role in shaping individuals' thinking so that they are able to respond to technological changes, identify digital opportunities, and anticipate business risks more strategically. Therefore, this study attempts to fill the literature gap by presenting a comprehensive knowledge mapping through a Systematic Literature Review (SLR) approach and bibliometric analysis using VOSviewer.

Although much research has been conducted on entrepreneurship education and digital literacy, studies that simultaneously investigate the relationship between entrepreneurship education and digital mindset in influencing online business readiness are still relatively limited, especially in the context of students and MSME actors in developing countries. Most previous studies are descriptive in nature and only highlight one variable separately, thus failing to provide a comprehensive understanding of how these two factors can work synergistically in building digital business readiness. In addition, the integration of the concept of digital mindset into a strong theoretical framework is still rarely found, leaving ample opportunity to develop a more holistic conceptual model. This gap highlights the importance of research that combines these two variables to produce a more in-depth and applicable analytical framework in supporting the development of sustainable digital entrepreneurship.

The novelty of this research lies in its attempt to synthesize literature that comprehensively combines two important perspectives, namely entrepreneurial learning and digital mindset, as catalysts in building online business readiness. Unlike previous studies that tended to discuss these two variables separately, this study integrates them into a more holistic and systematic conceptual framework. In addition to mapping previous research results through a Systematic Literature Review and bibliometric analysis, this study also identifies existing research gaps and offers directions for future research development. Thus, this study provides a theoretical contribution in the form of strengthening the conceptual foundation and a practical contribution in the form of strategic recommendations for the world of education, business actors, and policy makers to improve digital business readiness in the era of technology-based economic transformation.

This research is of high urgency given that the acceleration of global digital transformation has fundamentally changed the way businesses are run, in terms of production, distribution, and customer interaction. Such rapid changes have the potential to create a widening digital divide between businesses that are able to adapt to technology and those that are left behind. If not anticipated, this condition could hamper the optimization of Indonesia's digital economic potential and reduce national competitiveness at the regional and global levels. With the number of internet users continuing to increase and Indonesia's digital economy predicted to reach USD 130 billion by 2025 (Google-Temasek, 2023), the readiness of human resources in facing the digital business era is a determining factor in the success of this transformation. Therefore, research is needed to identify strategies for strengthening online business readiness through the integration of entrepreneurship education and the development of a digital mindset as an effort to prevent inequality, accelerate technology adoption, and enhance national economic competitiveness in a sustainable manner.

2. Theoretical Study

Online Business Readiness

Online business readiness is the ability of individuals or organizations to effectively start and manage a digital-based business, encompassing e-commerce knowledge, technical skills (platforms, social media, digital marketing), mental readiness (motivation, self-confidence, risk-taking), as well as financial support and sound business planning (Miloradovic et al., 2024; Oyekunle & Tihamiyu, 2022; Ping, 2024; Sumiyana & Susilo, 2021). The combination of these elements determines the competitiveness and sustainability of businesses in the digital era.

Digital Mindset

A digital mindset is an adaptive mindset that encourages individuals to utilize technology, innovate, solve digital-based problems, and quickly adapt to change (Teece, 2010; Wardana et al., 2024). This mindset strengthens entrepreneurs' ability to identify opportunities, manage risks, and continuously improve online business performance.

Entrepreneurship Education

Entrepreneurship education serves to prepare students for online business through a combination of theory, hands-on practice, and technology-based learning. Methods such as project-based learning, business simulations, and internships have been proven to improve students' technical skills, creativity, and entrepreneurial motivation (Nursafitri et al., 2023; Putri & Santoso, 2023).

3. Proposed Method

This study uses a Systematic Literature Review (SLR) approach to analyse the relationship between entrepreneurship education, digital mindset, and online business preparedness. The SLR method was chosen because it provides comprehensive, structured, and replicable literature mapping, resulting in accurate knowledge synthesis (Kitchenham et al., 2020). The research process followed the main stages of SLR, namely identification, screening, eligibility, and final inclusivity, which were visualised through the PRISMA Flow Diagram.

Data Source

Data was collected from six reputable academic databases, namely Scopus, Web of Science, Google Scholar, DOAJ, Emerald Insight, and ScienceDirect, to ensure a broad and valid range of literature. The publication year limit was set between 2019 and 2025 to capture the latest research developments related to digitalisation and entrepreneurship. The types of documents analysed included scientific journal articles, international conference proceedings, and review papers relevant to the research topic.

Strategy and Search Keywords

Literature searches were conducted using a combination of keywords in English and Indonesian to improve the relevance of the results. The keywords were as follows:

- English: “online business readiness” OR “e-business readiness” AND “digital mindset” AND “entrepreneurship education”

- Indonesian: “kesiapan bisnis online” AND “mindset digital” AND “pembelajaran kewirausahaan

Inclusion Criteria

The selected literature must meet the following criteria:

- 1) Explicitly discusses online business readiness and/or digital mindset.
- 2) Relevant to entrepreneurship learning or education in the context of students, MSMEs, or young entrepreneurs.
- 3) Uses empirical research design (quantitative, qualitative, or mixed-method).
- 4) Written in English or Indonesian.
- 5) Accessible in full-text for in-depth analysis.

Exclusion Criteria

Articles will be excluded from the analysis if they meet any of the following conditions:

- 1) Discuss technical aspects of e-commerce (e.g., website design, coding, or logistics) without linking them to online business readiness.
- 2) Lack a clear methodology (e.g., editorial, opinion, or popular article).
- 3) Is a duplicate of the same article in another database.
- 4) Was published outside the 2014–2024 period and is therefore not relevant to the latest research developments.

Selection and Analysis Process

The initial stage involves collecting articles from all databases using predetermined keywords. The articles found through the search then undergo a screening stage to remove duplicates and evaluate suitability based on the title and abstract. Articles that pass are further selected at the eligibility stage by reviewing the full text to ensure that they meet the inclusion criteria. All articles that meet the final criteria are analyzed using a content analysis approach and mapped bibliometrically with the help of VOSviewer to identify research trends, keyword correlations, and future research directions

4. Results and Discussion

Literature Identification

The identification process yielded 1,352 articles. The articles were then filtered according to criteria such as access, year, content type, and abstract analysis. As a result, 745 article titles were obtained. From these article titles, they were further filtered based on the suitability of the topics of Entrepreneurship Education, Digital Mindset, and Online Business Readiness through abstract analysis, resulting in 5 articles. The details are shown in the following figure:

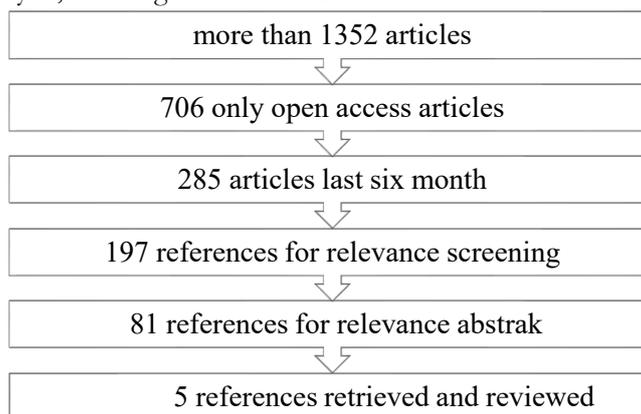


Figure 1. PRISMA Flow Diagram.

Source : processed by researchers, 2025

The results of the selected article review answer the problem formulation regarding the distribution of journals discussing Entrepreneurship Education, Digital Mindset, and Online Business Readiness as follows:

Table 1. Distribution of related journals on entrepreneurship learning and entrepreneurial interest:

No	Journal Name	Journal Link	Indexation	Total
1	Sustainability	Sustainability MDPI	MDPI	2
2	Education + Training	Education + Training Emerald Insight	Emerald Insight	7
3	Journal of Science and Technology Policy Management	Journal of Science and Technology Policy Management Elsevier	Elsevier	4
4	European Research on Management and Business Economics	European Research on Management and Business Economics Elsevier	Elsevier	4
5	Journal of entrepreneurship education	Journal of entrepreneurship education Emerald Insight	Emerald Insight	5

Source : processed by researchers, 2025

The literature review shows that topics related to entrepreneurship education, digital mindset, and online business readiness have been consistently discussed in various reputable international journals. Based on Table 1, it can be seen that the journal Education + Training (Emerald Insight) is the most dominant source with 7 relevant articles. This reflects that the theme of entrepreneurship education is the main focus of the research reviewed, especially in the context of developing the competencies of students and business actors to face digital challenges. In addition, the Journal of Entrepreneurship Education also made a significant contribution with 5 articles, reinforcing the evidence that pedagogical approaches and entrepreneurial learning models have an important influence on entrepreneurial intention and readiness to run an online-based business. The journal Sustainability (MDPI) contributed through its discussion of the relationship between digital entrepreneurship and business sustainability, which is relevant to the context of a sustainable digital economy. Meanwhile, the Journal of Science and Technology Policy Management and European Research on Management and Business Economics (Elsevier) each contributed 4 articles that enriched the perspectives on policy and innovation management. These articles discussed the integration of technology, innovation policy, and its implications for the development of sustainable digital business models.

These findings confirm that there is a growing trend in research toward integrating entrepreneurship education and the use of digital technology as catalysts for online business readiness. However, research that explicitly links digital mindset with online business readiness is still relatively limited, reinforcing the urgency of this study to provide a more integrative conceptual framework. The researchers have also identified articles based on year, keywords, and references using bibliometric visualization through VOSviewer, as follows:

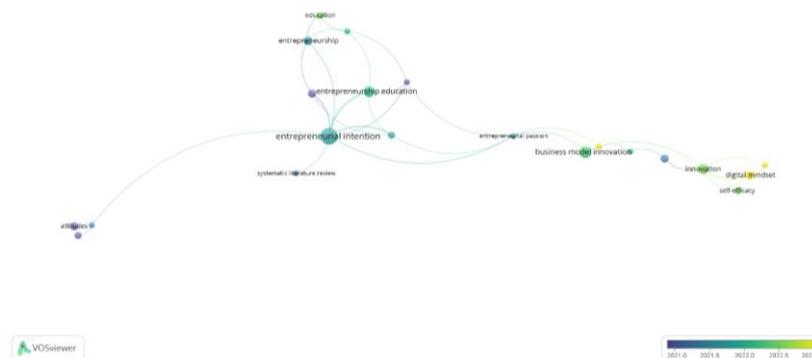


Figure 2. articles 2019-2025

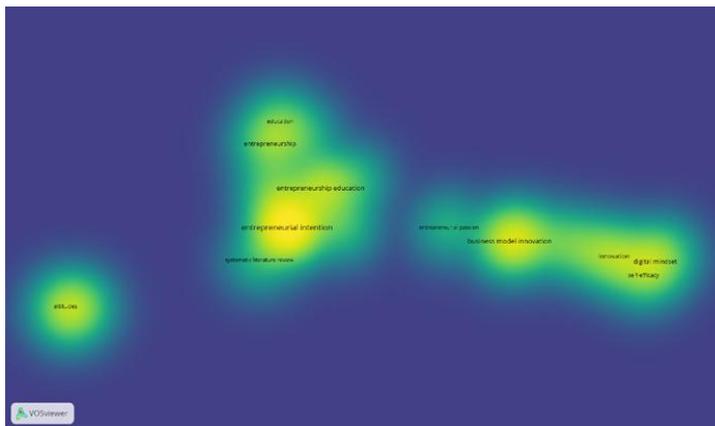


Figure 3. references retrieved and reviewed.

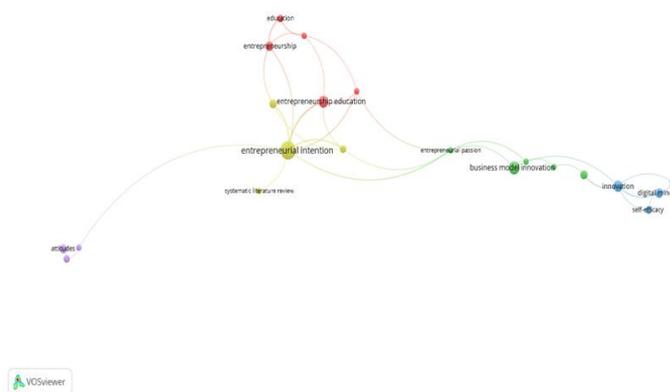


Figure 4. Article Filtering Flow Chart.

The results of bibliometric visualization through VOSviewer show a strong correlation between entrepreneurship education, entrepreneurial intention, and digital mindset as core themes in the literature studied. The main clusters (colored red and yellow) illustrate the dominance of the topics of entrepreneurship education and entrepreneurial intention, confirming that entrepreneurship education is an important theoretical foundation in promoting online business readiness. The close connection between entrepreneurship education and entrepreneurial intention shows that the learning process has a direct influence on the formation of an entrepreneurial mindset and the mental readiness of students to start a digital business.

In the green and blue clusters, there is a connection between business model innovation, innovation, and digital mindset. This indicates that online business readiness is not only influenced by entrepreneurial intention, but also by the ability to adapt to digital changes, develop innovations, and design business models that are suitable for the digital era. A digital mindset connected to self-efficacy signifies the importance of self-confidence in mastering technology as a prerequisite for online business success.

In addition, the presence of systematic literature review and attitudes nodes indicates that previous studies have also focused on how individuals' attitudes toward technology and learning influence their readiness for digital business. The temporal mapping in the second figure shows a growing research trend from 2021 to 2023, indicating that the relevance of this topic has increased after the pandemic, in line with shifts in consumer behavior and business digitalization.

Overall, this analysis supports the research proposition that entrepreneurship education and digital mindset act as catalysts in increasing online business readiness, both through strengthening entrepreneurial intent, innovation capabilities, and technological adaptation. These results provide a solid foundation for researchers to conduct a more in-depth SLR, explore conceptual models that link these three elements, and identify research gaps for future study development.

Discussion

a. The Role of Digital Mindset in Triggering Online Business Readiness

A digital mindset is conceptually understood as a way of thinking that enables individuals to see opportunities arising from technological developments, adapt quickly to digital changes, and think creatively and innovatively in solving problems (Goldmann et al., 2025; Novita et al., 2023). The main components of a digital mindset include the ability to adapt to new technologies, a willingness to engage in continuous learning, creativity in utilizing technology, and digital-based problem-solving skills. (Thesis et al., 2019) show that individuals with a high digital mindset are more likely to adopt digital technologies and actively participate in the digital transformation of organizations, making them a key factor in the successful adaptation of businesses in an era of disruption.

Empirically, several studies have confirmed the link between digital mindset and online business readiness (Allen, 2020; Annisa et al., 2023; Cronin, 2024; Dwifani & Fajar Hendarman, 2023; Rohwer et al., 2023). Krohn & Jantos (2022) revealed that digital mindset plays an important role in building entrepreneurs' confidence, their ability to manage technology-based businesses, and their speed in recognizing digital market opportunities. With a mature digital mindset, business actors are more effective in utilizing social media, optimizing e-commerce, and expanding their customer reach. This indicates that a digital mindset does not merely function as a complementary factor but as a catalyst that accelerates overall online business readiness. Furthermore, a digital mindset encourages technology-based innovation and problem solving. Hasan et al. (2025) and Sarwar et al. (2024) found that entrepreneurs with a digital mindset are able to develop new products that meet market needs, design more personalized marketing strategies, and utilize data analytics for evidence-based decision making. This ability is crucial for maintaining competitiveness in a dynamic market and anticipating changes in consumer behavior.

Based on this literature review, it can be concluded that digital mindset functions as both an enabler and accelerator of online business readiness. In the context of this study, digital mindset is positioned not only as an individual psychological variable, but also as strategic capital that can be honed through entrepreneurial education interventions. Thus, this study emphasizes the importance of building a digital mindset from an early age, especially among students and prospective entrepreneurs, in order to create an innovative, resilient, and globally competitive digital business ecosystem

b. Entrepreneurship Education as a Strengthenener of Readiness

Entrepreneurship education is an educational approach that aims to foster entrepreneurial knowledge, skills, and attitudes through a structured and experience-based learning process (Aminoff & Pihlajamaa, 2020; Bachnik et al., 2023; Eom et al., 2024). According to J. Zhang et al. (2022), entrepreneurship education focuses not only on the transfer of business knowledge but also on the formation of an entrepreneurial mindset, the development of creativity, and the ability to take risks. Learning models such as project-based learning (PBL) and experiential learning are considered effective in improving online business readiness because they provide opportunities for students to be directly involved in the value creation process, such as designing online stores, creating digital marketing campaigns, and analyzing consumer behavior in real time (Al Idrus et al., 2019; Lafuente et al., 2019; Priyono & Hidayat, 2024).

The role of lecturers and facilitators is also a key element in this process (Han et al., 2024). Lecturers serve as mentors and coaches who guide students in integrating theory with practice and provide constructive feedback during the learning process. A study by X. Li et al. (2022) shows that intensive guidance from lecturers and practitioners can increase students' entrepreneurial self-efficacy, which in turn encourages them to start digital businesses. In addition, the use of technology-based learning media such as learning management systems (LMS), digital business simulations, and marketplace projects helps students hone their digital skills and increase their confidence in managing online businesses (Bae & Choi, 2021; Manshoven & Gillabel, 2021; Yang et al., 2022).

Empirically, various previous studies confirm that entrepreneurship education has a positive correlation with entrepreneurial readiness. Research by Wardana et al. (2020) found that students who participated in project-based entrepreneurship education showed a higher level of online business readiness compared to students who only received theoretical education. This is in line with the findings of Iyiola et al. (2023), which emphasize the importance of hands-on experience in developing digital entrepreneurial

competencies, as it provides space for students to try, fail, learn, and innovate in a relatively safe ecosystem.

From the perspective of this study, entrepreneurship education serves as an enabler that strengthens online business readiness through three main channels: (1) improving business and digital literacy, (2) developing practical skills through real projects, and (3) strengthening motivation and confidence through mentoring and hands-on experience. A synthesis of various findings shows that entrepreneurship education integrated with a digital mindset approach will produce young entrepreneurs who not only understand theory but are also ready to compete in a dynamic digital market. Thus, this study emphasizes the importance of designing an adaptive, project-based entrepreneurship curriculum supported by digital technology, thereby producing graduates who are truly ready to face the challenges of online business in the era of digital transformation.

c. Integrating a Digital Mindset into Entrepreneurship Education

The integration of a digital mindset in entrepreneurship education is a strategic step to prepare entrepreneurs who are ready to face the challenges of the digital era (Xiang et al., 2024; Zhao et al., 2021). Digital mindset itself is defined as an adaptive mindset that is open to change and able to utilize technology as an opportunity for innovation (Krohn & Jantos, 2022; Sarwar et al., 2024). In the context of education, this integration means instilling creative, experimental, and data-driven thinking in students so that they are able to see technological developments not as a threat, but as a catalyst for business growth (Hasan et al., 2025; Pietsch & Mah, 2025; Shen et al., 2025). The implementation strategy for this integration can be carried out through structured teaching of digital literacy and technology adaptation (Forsythe & Rafoth, 2022; Nitsche et al., 2023). For example, students are trained to use e-commerce platforms, learn social media-based marketing strategies, and understand the digital customer journey. Research by Bogdány et al. (2024) and Santiago & Guo (2018) confirms that good digital literacy accelerates the adoption of new technologies in business and increases competitiveness. Thus, an entrepreneurship curriculum that integrates a digital mindset must be designed to include modules such as digital marketing analytics, design thinking for innovation, and the use of AI tools for market research.

Collaboration with industry is also an important component in integrating a digital mindset (Cutumisu, 2019; Leonardi & Neeley, 2022). Inviting digital business practitioners, startup founders, or digital strategists as guest lecturers and mentors can provide practical insights into the real challenges and opportunities in the online business world. According to Cronin (2024), industry involvement in education can create more relevant learning, increase employability, and encourage students to create technology-based business solutions. In addition, the provision of digital business incubation facilities on campus is a significant supporting element. Business incubators equipped with technology access, professional guidance, and industry networks help students develop business ideas from the ideation stage to product commercialization (Dwifani & Fajar Hendarman, 2023). A study by Allen (2020) shows that students involved in business incubators have a startup success rate up to 40% higher than those who do not receive guidance.

The synthesis of these findings confirms that integrating a digital mindset into entrepreneurship education is not merely technical training, but a comprehensive transformation of mindset. By instilling the values of adaptability, creativity, and innovation from an early age, as well as facilitating students with real-world experiences and adequate ecosystem support, entrepreneurship education can produce a generation of entrepreneurs who are ready to compete in the digital ecosystem. This is in line with the objective of this study, which is to present a conceptual framework that combines the role of digital mindset and entrepreneurship learning as the main catalysts for online business readiness.

5. Conclusion & Suggestions

Based on a systematic review of relevant literature, this study found that the integration of entrepreneurship education with the strengthening of a digital mindset is consistently examined as one approach that can improve the readiness of students and MSME actors for online business. The literature shows that entrepreneurship education not only provides theoretical understanding of business but also facilitates the mastery of practical skills reinforced by adaptive, creative, and innovative thinking through a digital mindset. In addition, various

studies analyzed highlight the importance of utilizing digital technology, including artificial intelligence (AI) for marketing strategies, the use of data analytics in decision making, and the automation of online store management. However, the literature also shows that the digital literacy gap remains a major challenge, both for students and MSME players. Project-based learning and industry collaboration approaches have emerged as the most frequently proposed recommendations to bridge this gap.

The synthesis of the results of this study emphasizes the need for universities and policymakers to develop an entrepreneurship curriculum that is integrated with digital transformation, based on real-world experience, and prioritizes mastery of the latest technology. In this way, students and MSME players can be prepared more comprehensively to face the dynamics of the digital market, while supporting the growth of an innovation-based and sustainable economic ecosystem.

6. Thank-you note

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