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Training curriculum needs for entrepreneurship literacy of higher education in society 5.0

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ABSTRACT

The Society 5.0 era requires a holistic integration of entrepreneurial literacy, striking a balance between technological competencies and humanistic values. However, higher education curricula remain fragmented, failing to address these needs comprehensively. This study aims to analyze the requirements for designing an entrepreneurship literacy training curriculum responsive to the challenges of Society 5.0 by employing a phenomenological method. In-depth interviews were conducted with five students to explore their experiences in three key areas: mastering disruptive technology, developing collaborative soft skills, and understanding digital ethics. Results indicate that students underutilize advanced digital marketing features (e.g., paid ads, Reels) despite familiarity with platforms like WhatsApp and Instagram. Collaborative efforts are hindered by low trust and ineffective partnership strategies, while awareness of digital ethics, particularly regarding consumer privacy and sustainability, remains limited. The study highlights the urgent need for curricula that systematically integrate disruptive technology, collaborative approaches, and digital ethics. These findings serve as a foundation for developing training modules tailored to students' real-world needs, fostering adaptive, collaborative, and ethical entrepreneurial competencies in the Society 5.0 era.

ABSTRAK

Era Society 5.0 menuntut integrasi holistik literasi kewirausahaan yang seimbang antara kompetensi teknologi dan nilai-nilai humanistik. Namun, kurikulum pendidikan tinggi masih terfragmentasi dan belum memenuhi kebutuhan ini secara komprehensif. Penelitian ini bertujuan untuk menganalisis kebutuhan dalam merancang kurikulum pelatihan literasi kewirausahaan yang responsif terhadap tantangan Society 5.0 dengan menggunakan metode fenomenologi, wawancara mendalam dilakukan terhadap lima mahasiswa untuk mengeksplorasi pengalaman mereka dalam tiga aspek utama yaitu penguasaan teknologi disruptif, pengembangan keterampilan kolaboratif, dan pemahaman etika digital. Hasil penelitian menunjukkan bahwa mahasiswa kurang memanfaatkan fitur pemasaran digital canggih (misalnya iklan berbayar, Reels) meskipun familiar dengan platform seperti WhatsApp dan Instagram. Upaya kolaborasi terhambat oleh rendahnya kepercayaan dan strategi kemitraan yang tidak efektif, sementara kesadaran akan etika digital, khususnya terkait privasi konsumen dan keberlanjutan, masih terbatas. Studi ini menggarisbawahi perlunya kurikulum yang secara sistematis mengintegrasikan teknologi disruptif, pendekatan kolaboratif, dan etika digital. Temuan ini menjadi landasan untuk mengembangkan modul pelatihan yang sesuai dengan kebutuhan nyata mahasiswa, guna membentuk kompetensi kewirausahaan yang adaptif, kolaboratif, dan beretika di era Society 5.0.

Kata Kunci: *fenomenologi; kurikulum pelatihan; literasi kewirausahaan; society 5.0*

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INTRODUCTION

The Society 5.0 era necessitates a shift in the higher education paradigm to prepare human resources who can adapt to the complexities of technological and social change (Carayannis & Morawska-Jancelewicz, 2022; Tavares et al., 2022). Research shows that this transformation is crucial, as institutions that fail to adapt risk producing graduates who are unprepared for future challenges. Studies demonstrate a notable increase in adaptability among graduates from programs aligned with the principles of Society 5.0. In response to the Fourth Industrial Revolution, Society 5.0 emphasizes not only automation and digitalization but also the integration of technology with humanistic values to foster inclusive and sustainable community-based solutions (Kasinathan et al., 2022; Setiasih et al., 2023). Empirical evidence highlights the transformative potential of integrating entrepreneurship literacy into education, particularly in addressing contemporary socio-economic challenges such as digital inequality, labor market disruption, and unmet basic needs (Akter et al., 2024; Grimaldi et al., 2025). This competency equips students with the skills to innovate and create opportunities, fostering a generation capable of driving sustainable solutions (Wang & Ma, 2022).

The broader discourse on entrepreneurship education underscores its universal relevance, emphasizing collaborative and data-driven approaches to prepare learners for the complexities of a rapidly evolving global landscape. Therefore, the dynamics of Society 5.0 require students to master human-machine interaction management, comprehend technology ethics, and develop adaptive business models that respond effectively to rapid socio-technical changes (Nair et al., 2024). This suggests that graduates with skills in the field tend to secure higher-level positions in technology-based industries. Higher education systems worldwide, including Indonesia, primarily emphasize technical skills such as digital literacy and programming. However, a significant gap exists in the integration of holistic entrepreneurial literacy within these curricula (Luis-Rico et al., 2020; Yulastri et al., 2023). Specifically, entrepreneurial courses frequently lack interconnection with cutting-edge technologies, resulting in fragmented knowledge (Cammarano et al., 2024; Ray & Ray, 2024). This misalignment hinders students' abilities to effectively merge business ideas with technological innovations and consider the societal implications of their work (Aithal & Maiya, 2023). As we advance towards Society 5.0, it becomes crucial to design educational programs that integrate technical competencies with entrepreneurial skills grounded in human values, collaboration, and sustainability (Apostu et al., 2022; De Villiers, 2024).

Addressing these challenges is crucial for equipping graduates to thrive in a complex landscape where technological advancements and human factors must coexist. In previous research, the integration of entrepreneurship literacy as a vital component of educational curricula has been emphasized, particularly concerning enhancing students' entrepreneurial intentions in a rapidly evolving economic landscape. For instance, it has been established that a solid understanding of economic literacy significantly influences students' aspirations toward entrepreneurship, thereby laying a foundational argument for the necessity of incorporating broader entrepreneurial education into higher education frameworks (Setiawan et al., 2020). Financial and digital literacy are essential for fostering entrepreneurial intentions among students, emphasizing the multifaceted nature of literacy that extends

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beyond traditional boundaries (Nguyen & Nguyen, 2024). Moreover, it emphasizes the increasing imperative for higher education institutions in Indonesia to align their programs with the Sustainable Development Goals, reflecting a shift in the educational paradigm towards inclusivity and relevance in the face of globalization and technological disruption (Ul Hassan et al., 2024).

This article presents novelty in three key aspects. First, it integrates the concept of entrepreneurial literacy with the principles of Society 5.0, which emphasizes the balance between technological and humanistic competencies. Second, it addresses a gap in the literature by analyzing curriculum training needs based on real-world phenomena. Third, it employs a phenomenological method to deeply explore students' experiences, resulting in contextual and participatory curriculum recommendations. This approach has not been used in similar studies, particularly within the context of higher education in Indonesia. Higher education faces significant challenges in aligning entrepreneurship literacy curricula with the demands of Society 5.0. Students often struggle to integrate disruptive technologies, such as AI and big data, into practical business solutions. Furthermore, collaborative soft skills crucial for socio-technical innovation remain underdeveloped due to the fragmented nature of training methods. Compounding this, digital ethics, particularly concerning privacy and sustainability, are insufficiently addressed in current programs. These gaps hinder graduates from navigating the symbiotic relationship between technology and human-centric values.

Addressing these issues requires a curriculum redesign that systematically integrates technical expertise, collaborative skill-building, and ethical frameworks to prepare students for the complexities of a rapidly evolving digital society. The purpose of this article is to analyze the design needs of an entrepreneurial literacy training curriculum for higher education students that is responsive to the principles of Society 5.0. Specifically, this study is designed to identify the key competencies required for entrepreneurship development in the Society 5.0 era, explore the gaps between the existing curriculum and the real needs of students, and formulate a conceptual framework for a training curriculum based on phenomenological findings. The research results are expected to serve as a foundation for developing training modules that are not only technologically adaptive but also oriented toward human values and sustainable economic growth.

LITERATURE REVIEW

The Era of Society 5.0 and the Demands of Higher Education

The emergence of Society 5.0 necessitates a paradigm shift in higher education, calling for curricula that integrate technological expertise with human-centric competencies. Central to this integration is the established theory of Social Constructivism, which posits that knowledge construction is fundamentally collaborative and contextual, thereby fostering an environment conducive to active engagement with both technological advancements and pressing social issues (Bovill, 2020). This theoretical framework supports the inclusion of entrepreneurial education, emphasizing the need for creativity and critical systemic thinking skills to prepare students for a rapidly evolving job market (Adeoye et al., 2024a; Robandi et al., 2025). Furthermore, aligning with the United Nations Sustainable Development Goals (SDGs) underscores the role of education in addressing global challenges and promoting

ethical, sustainable practices among graduates (Finnveden et al., 2020). Comprehensive curriculum designs that blend digital literacy with entrepreneurship will equip students to contribute meaningfully to societal demands, reinforcing their relevance in an increasingly interconnected world (Setiawati et al., 2022).

The Importance of Entrepreneurial Literacy

Entrepreneurial literacy is vital in modern educational settings, as it equips students with an entrepreneurial mindset and essential soft skills that are crucial for innovation and adaptability in dynamic markets. The Theory of Planned Behavior (TPB) emphasizes the importance of perceived behavioral control, suggesting that enhancing entrepreneurial literacy can increase students' confidence and willingness to engage in entrepreneurial activities (Galvão et al., 2025; Anwar & Herayono, 2024). Additionally, cultivating entrepreneurial competencies, including knowledge and skills in opportunity recognition and risk management, not only strengthens students' intentions to start businesses but also enhances their overall entrepreneurial self-efficacy, enabling them to navigate uncertainty effectively (Ghouse et al., 2024; Ou & Kim, 2024). Recent research demonstrates that integrating entrepreneurial education into curricula can systematically increase students' entrepreneurial intentions, ultimately preparing them for challenges in both entrepreneurship and employment (Su et al., 2021). Therefore, a comprehensive educational framework that emphasizes entrepreneurial literacy is crucial for developing resilient graduates who can contribute to economic growth (Hasan et al., 2024; Wolf et al., 2024).

Fragmented Education Curriculum

The current higher education curriculum is increasingly criticized for its fragmentation, emphasizing technical skills at the expense of essential soft skills and digital ethics. Previous research underscores the ongoing debate about integrating soft and hard skills in business education, suggesting models that promote the holistic development of students (Maulana, 2023). This fragmentation leaves graduates less prepared for the rapidly evolving job market, where both hard and soft skills are equally valued (Mwita et al., 2023). Moreover, educators are encouraged to foster soft skills through creative pedagogical approaches, as traditional methods often fail to address the complexities of 21st-century workplace dynamics (Adeoye et al., 2024b; Canavesi & Ravarini, 2024). Bridging this skills gap effectively requires a paradigm shift toward an integrated curriculum that develops both technical abilities and interpersonal competencies, thereby better equipping graduates to meet contemporary professional challenges (Patra & Basantia, 2021; Pereira et al., 2019).

The Gap Between the Curriculum and Real-World Needs

The gap between entrepreneurship education curricula and the ever-evolving needs of the labor market is becoming increasingly significant within the context of Society 5.0. Existing research suggests that a responsive curriculum should integrate both theoretical knowledge and practical experience to cultivate essential entrepreneurial skills (Wang et al., 2024). For instance, the transition from a predominantly theory-based approach to one that emphasizes

hands-on learning and real-world application is crucial for developing entrepreneurial competencies (Cai et al., 2022). Additionally, a well-designed curriculum that incorporates digital transformation and innovative thinking is vital for enhancing students' readiness to meet market demands (Robandi et al., 2025). Alongside a strong focus on ethics in the digital economy, entrepreneurship education must also provide students with the moral framework needed to navigate the complexities of digital business. While practical application in entrepreneurship education increases student satisfaction, its direct relationship with ethics in the digital environment is less pronounced (Cai et al., 2022; Huang et al., 2022). Therefore, a comprehensive approach that combines practical experience, ethical considerations, and adaptability to technological advancements is essential for preparing future entrepreneurs to thrive in an increasingly dynamic environment (Usman et al., 2024).

METHODS

This study employs a qualitative research method, which centers on analyzing and describing individuals' experiences with phenomena encountered in their daily lives. The primary focus of this study is to examine the nature and structure of experiences within human consciousness. Therefore, phenomenology, as a qualitative methodology, allows researchers to apply their subjectivity and interpersonal skills during the research process, facilitating a deeper understanding of human experiences.

In qualitative research, particularly when employing the phenomenological approach, several important aspects must be considered. Some contemporary researchers claim to use phenomenology but do not always align their methods with the foundational principles of phenomenological philosophy. Phenomenology is an approach that requires adherence to key characteristics, referencing reality, understanding the meaning of events within the context of relationships between individuals, and beginning with a period of silence that allows for deep reflection. Additionally, the phenomenological approach is distinct because it seeks to understand others' experiences from an in-depth perspective. In this study, data were collected through in-depth interviews with five students from Darul Ma'arif University, using an instrument consisting of questions formulated based on the research problems and objectives. Through this approach, the researcher can thoroughly explore the experiences of the research subjects, thereby enriching the understanding of the phenomenon under study.

RESULTS AND DISCUSSION

Results

The research results yielded the following data: mastery of disruptive technology, development of soft skills based on collaborative values, and understanding of digital ethics in the context of entrepreneurship.

Mastery of Disruptive Technology

This research reveals that students possess a basic understanding of digital entrepreneurship tools, primarily through the use of familiar platforms such as Facebook, WhatsApp,

Instagram, Shopee, and TikTok for marketing purposes. While these platforms are popular due to their accessibility and alignment with target markets, students show limitations in leveraging advanced features that could improve their marketing effectiveness. For example, although they frequently post product images or share links, the use of tools like Instagram Reels, paid advertisements, or Shopee store optimization remains minimal. This highlights a gap between basic platform usage and the strategic application of disruptive technologies for business growth. Another key finding is students' preference for traditional or face-to-face sales methods, motivated by the desire for direct customer interaction and comfort with conventional business models. This preference highlights their reluctance to fully adopt digital platforms fully, despite recognizing their potential benefits.

Additionally, while students acknowledge the inspirational role of social media in entrepreneurship, they often lack the practical knowledge needed to turn this inspiration into actionable strategies. For instance, many express interest in using TikTok as a sales channel but are unsure how to operate it effectively. In the context of Society 5.0, which emphasizes the synergy between advanced technology and human-centered values, these findings reveal a critical misalignment. Students have basic technological literacy but struggle to integrate these tools into innovative and sustainable business practices. The challenges identified, such as underutilization of platform features, reliance on traditional methods, and limited strategic insight, indicate the need for a structured curriculum to bridge this gap. This study recommends developing an entrepreneurship curriculum that incorporates advanced technical mastery (SEO, digital advertising, content creation). Enhanced analytical and creative skills for platform optimization. The integration of soft skills (collaboration, adaptability) with digital ethics. This approach aims to transform students from passive users into innovative entrepreneurs prepared to tackle the challenges of Society 5.0.

Development of Soft Skills Grounded in Collaborative Values

The research data indicates that students recognize the value of participating in entrepreneurial learning communities, yet their engagement remains confined mainly to familiar platforms such as TikTok, Instagram, and Shopee. While they actively seek out entrepreneurship-related content or groups on these platforms, their participation is primarily passive, focusing on watching short tutorials or sharing products without delving deeper into how collaboration can foster business growth. A notable finding is that students often prefer to manage their businesses independently. This preference stems from the belief that working alone provides greater control over outcomes and profits, as well as concerns about potential conflicts or incompatibility with partners. Although some students express interest in collaboration after observing the success of their peers, difficulties in building trust and finding like-minded partners present significant obstacles.

Additionally, students turn to platforms like Facebook and WhatsApp to seek business connections, but these efforts rarely develop into effective partnerships. The main barriers to collaboration are a lack of experience in building trust and challenges in managing team dynamics. Research findings underscore the need for a comprehensive approach to entrepreneurship education that integrates technical expertise with the development of collaborative skills, including communication, negotiation, and conflict resolution. The curriculum should promote active engagement in diverse business communities, both online

and offline, to expand networks and perspectives. Additionally, it is crucial to instill Society 5.0 values, emphasizing digital synergy and interdependence. By integrating these components, educational institutions can help students overcome psychological barriers to collaboration and develop adaptive entrepreneurs equipped for an era where collaboration is essential for success.

Understanding Digital Ethics in Entrepreneurship

This research shows that students' understanding of digital ethics in entrepreneurship remains limited. While they are starting to recognize the importance of issues like consumer privacy, environmental impact, and digital sustainability, in practice, business profit often remains their primary focus. For instance, many students admit to neglecting consumer data protection, such as sharing contact information without consent, and frequently overlook environmental factors when choosing products to sell. Furthermore, the concept of digital sustainability, encompassing the ecological impacts of technology use, is not yet fully understood and is rarely incorporated into business strategies. This finding suggests that students are becoming more aware of the importance of digital ethics in entrepreneurship, though their practical understanding remains limited. To address this, an educational approach is needed that reinforces the principles of digital ethics (such as data privacy and environmental responsibility), offers practical training in responsible data management, and cultivates critical awareness of the socio-ecological impacts of business. Integrating these three elements into the curriculum will help shape entrepreneurs who are not only technically proficient but also ethical and prepared to meet the challenges of Society 5.0.

Discussion

In the context of this research, the results reveal three key aspects of student entrepreneurial literacy: mastery of disruptive technology, development of soft skills grounded in collaborative values, and an understanding of digital ethics.

Mastery of disruptive technology

The research found that students possess a basic understanding of digital entrepreneurship tools, including the use of Facebook and WhatsApp for sales activities. However, despite their experience with platforms like Shopee, students still encounter challenges in building effective online stores. These findings are consistent with entrepreneurial education theories that highlight the importance of practical learning and the exploration of modern technological features within the context of entrepreneurship (Mhlongo et al., 2024; Wibowo & Narmaditya, 2022). The results suggest that integrating a deeper understanding of how to utilize digital tools optimally is necessary to prepare students for increasingly complex market dynamics (Setiasih et al., 2024; White & Wagner, 2021). Therefore, educational institutions need to adapt their entrepreneurship curricula to include technology components, emphasizing the exploration and mastery of various digital platform features.

Furthermore, the practical implications of this research include developing curricula that emphasize not only theoretical knowledge but also practical applications and ethical

understanding in the digital space. Students who perceive TikTok solely as an entertainment platform often lack awareness of its marketing potential. Therefore, educational institutions should design programs that help students master digital content creation and marketing strategies tailored to each platform's unique characteristics (Huang et al., 2022). Within the Society 5.0 framework, entrepreneurial education must actively integrate disruptive technologies into the curriculum to optimize students' ability to market products and services (Hashim et al., 2024). Additionally, adopting a project-based approach that utilizes social media and digital tools can foster the development of relevant skills and enhance students' readiness to meet workplace challenges (Rohm et al., 2021). Thus, this research provides valuable insights for developing a more responsive entrepreneurship education curriculum that meets the demands of the current digital era.

Development of Soft Skills Based on Collaborative Values

The era of Society 5.0 highlights the importance of integrating collaborative learning into entrepreneurship education. This study shows that while students recognize the advantages of joining entrepreneurial learning communities, their participation is often limited to familiar platforms, which poses challenges in building effective working relationships. These findings suggest that collaboration can drive innovation and expand business perspectives, both of which are crucial for generating new ideas and achieving business success (Lei, 2023). Adopting a more interactive learning approach, characterized by active student collaboration, can help address these challenges and improve students' skills. Research indicates that cooperation between universities and businesses can accelerate entrepreneurial learning (Joensuu-Salo et al., 2020). By implementing project-based learning strategies and encouraging peer-to-peer interaction, students can experience the benefits of collaboration, significantly boosting their confidence and entrepreneurial abilities (Li et al., 2020).

The results of this study have practical implications for the development of entrepreneurship education curricula in higher education institutions. To enhance these curricula, educational institutions should explore ways to boost students' confidence in collaboration and provide sufficient support (Wang et al., 2021). By cultivating an environment that encourages cooperation, students can develop the essential soft skills necessary for success in the digital business era, such as critical thinking and effective communication (Setiawardani et al., 2021; Waghid, 2019). In this regard, entrepreneurship education theory, which emphasizes experiential learning and social interaction, should be incorporated into curriculum design, enabling students to not only understand entrepreneurship theory but also apply it practically in collaborative contexts (Motta & Galina, 2023; Seikkula-Leino et al., 2021). Thus, this study offers valuable insights for developing more integrated entrepreneurship programs that are responsive to changing social and technological dynamics.

Understanding Digital Ethics in Entrepreneurship

The research findings underscore the need to enhance university students' understanding of digital ethics. While the study reveals that students recognize the importance of applying ethical principles in business, they still lack a comprehensive understanding of issues such as consumer privacy and product sustainability (Dziubaniuk & Nyholm, 2021). This gap can

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be addressed by integrating digital ethics courses into entrepreneurship education curricula, aiming to raise students' awareness of ethical principles that influence the reputation and sustainability of their ventures (Kesa et al., 2024). Within entrepreneurship education, developing this understanding should be reinforced through interactive and project-based teaching methods, enabling students to directly engage with ethical situations in digital entrepreneurship contexts (Zeng et al., 2024). Therefore, it is essential to integrate the teaching of ethical concepts into existing entrepreneurship programs, ensuring that students are not only equipped to address business challenges but also motivated to contribute positively to society.

The practical implications of these findings are highly significant for designing entrepreneurship education curricula. Education should establish a curriculum framework that emphasizes not only technical and business skills but also the development of soft skills, technological understanding, and business ethics (Akhter et al., 2022; Ani et al., 2024). Implementing an intensive educational strategy with a strong digital ethics perspective will enrich students' learning experiences and enhance their ability to navigate complex entrepreneurial challenges in a digital environment (Anurogo et al., 2023). Therefore, educational institutions should regularly evaluate their curricula to ensure the relevance and sustainability of digital ethics instruction, positioning ethics as a core pillar of entrepreneurship education, in line with the business world's growing demands for social and environmental responsibility from entrepreneurs (da Costa & da Xonceicao Freitas, 2025; Mansouri, 2025). As digital development accelerates, entrepreneurship education must adapt and respond to emerging challenges to produce ethical entrepreneurs capable of driving positive change in society.

CONCLUSION

This phenomenological study aims to analyze the curriculum design needs for entrepreneurship literacy training among higher education students in addressing the challenges of Society 5.0. The research findings highlight three main aspects is mastery of disruptive technology, where students have utilized digital platforms such as Facebook, WhatsApp, and Shopee for business, but have not yet fully leveraged advanced features like paid advertising, TikTok, or SEO; development of collaborative soft skills, where students acknowledge the importance of collaboration but are still constrained by distrust, limited effective interaction, and a tendency to work independently; and understanding of digital ethics, where students often prioritize business profits over considerations such as consumer privacy, product sustainability, or environmental impact. These findings underscore the need for a comprehensive training curriculum that integrates mastery of technology, the value of collaboration, and digital ethics to prepare students as adaptive and ethical innovators in the era of Society 5.0.

AUTHOR'S NOTE

The author hereby declares that there are no conflicts of interest that could influence the publication of this article. Additionally, the author affirms the integrity of the data and the originality of this manuscript, ensuring that all content is free from plagiarism. The author

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