Enhancing Understanding of AI-Based Digital Business Through Interactive Seminars for Information Technology Students

Ade Sarah Huzaifah[1], Rossy Nurhasanah[2], Fanindia Purnamasari[3], Dedy Arisandi[4], Ivan Jaya[5]

Department of Information Technology, Faculty of Computer Science and Information Technology, Universitas Sumatera Utara[1,2,3,4,5]

Email Correspondence: adesarah@usu.ac.id

INFO ARTICLE

ABSTRACT

The development of artificial intelligence (AI) technology has become a major driver in the transformation of the digital business world, including in the startup sector. However, a deep understanding of AI integration into business models remains a challenge for students, particularly in the field of Information Technology (IT). This community service activity aims to enhance the knowledge and skills of IT students in designing strategic, ethical, and sustainable AI-based digital businesses. The implementation method involves a one-day educational seminar, including presentations, interactive discussions, simulations of Business Model Canvas (BMC) development, and evaluation through questionnaires. Evaluation results showed significant improvements: understanding of the BMC increased from 41% to 89%, understanding of AI startup concepts from 54% to 92%, ability to draft a business plan from 16% to 78%, and motivation for technology entrepreneurship from 68% to 90%. These findings indicate that an applied and participatory approach in seminars is effective in developing digital entrepreneurship capacity among IT students.

How to cite this article:

INTRODUCTION

The presence of artificial intelligence (AI) has become an integral part of the current digital era. This technology has permeated various aspects of human life, from social interactions to work activities and business operations (Domini et al., 2023; Uriarte et al., 2025). Within the startup ecosystem, AI has evolved from merely a supplementary tool to a strategic partner that drives growth and fosters innovation (Talebi et al., 2025). Thanks to its ability to process information quickly and intelligently, AI enhances business process efficiency and improves the quality of personalised service experiences (Al-Mamary, 2025). Behind these capabilities, AI leverages complex data analysis with an approach that can anticipate market dynamics (Perifanis & Kitsios, 2023). Many startups have demonstrated that integrating AI into their business models yields significant impacts, such as enhancing competitiveness and operational intelligence. Rapid changes in consumer needs can be addressed effectively by companies (Hanifzadeh et al., 2024). Even in sudden changes, companies are not only able to survive but also thrive. In a digital landscape filled with pressure and opportunities, flexibility is a key factor. AI is the primary driver towards that flexibility (Jain & Kanwar, 2025).

Artificial intelligence does indeed have great potential, but behind its capabilities lie challenges that cannot be ignored (Cui & Alias, 2024). Previous research has revealed that many technology startups still face significant structural barriers (Radhakrishnan & Chattopadhyay, 2020). Some of the main challenges include limited access to quality data, high development costs, and market pressure to scale quickly (Kasireddy & Sreenivasu, 2025). These challenges do not only stem from external factors, but internal factors also play a significant role (Gelashvili-Luik et al., 2025). The success of AI integration heavily depends on factors such as the team's ability to build adaptive solutions and their understanding of commercialisation strategies. Without strong support, the AI integration process can stall (Amalia et al., 2024). Therefore, building an AI startup is not sufficient to rely solely on technical aspects; it must be designed through a strategic, contextual, and human-centred approach (Nitsch et al., 2024).

The push for universities to equip students with knowledge about AI-based business models is growing stronger. This is due to the fact that the application of AI in the business world has become a necessity, not just a passing trend. Several studies, such as those by Uriarte et al. (2025) and Font-Cot et al. (2023), emphasise the importance of using the Business Model Canvas (BMC) framework. The BMC provides a systematic structure, enabling students to understand the role of strategic partners, market segmentation, and the added value of AI-based solutions. It is not enough to merely learn theory; activities such as seminars serve as a bridge between the academic realm and the industrial world. Through interactive discussions with practitioners in the digital startup world and real-world case studies, students can gain a more comprehensive understanding of on-the-ground realities. As AI technology advances, higher education institutions are required to adopt more strategic, contextual, and relevant approaches to address the challenges of the times.

Ethics and sustainability are not complementary elements in AI startup development, but rather fundamental pillars. Without clear principles of responsibility, even the most advanced technology has the potential to cause harmful social impacts. Risks such as algorithmic bias and misuse of user data are not merely possibilities but realities that must be taken seriously (Wynsberghe, 2021; Ogundipe & Abaku, 2024). Therefore, AI-based entrepreneurship education cannot focus solely on technical aspects. Discussions on system transparency, product accountability, and their impact on society must be an integral

part of the learning process. Reflective seminars can serve as a platform to instil values of responsibility early on, even before the business idea design phase begins.

In response to this need, this activity was organised to provide practical and relevant learning for students of the Information Technology (IT) study programme. Students are not only equipped with theory, but are also invited to dive into the world of artificial intelligence (AI)-based business first-hand. Through lectures, discussion forums, and intensive mentoring in designing business plans, participants are encouraged to understand AI not merely as a technology but as a strategic component within the digital entrepreneurship ecosystem. AI, which has traditionally been viewed as a tool, is now presented as a potential partner capable of guiding the direction of a business. By emphasising the importance of designing responsible, innovative, and sustainable business models, this seminar goes beyond an academic activity. The seminar serves as a concrete contribution to shaping a resilient generation of AI entrepreneurs ready to tackle global challenges.

METHODS

This activity was designed to provide comprehensive learning experiences for IT students, while allowing them to directly experience its benefits. The main objective of this programme is to introduce and design AI-based digital businesses through an applicable and relevant approach. Over the course of a full day, the activity is conducted in the form of an educational seminar that includes presentations, discussion sessions, and practical exercises in developing a real-world business plan. Each stage of the activity is designed to ensure that participants not only understand the theory behind startups and AI business models but also gain a comprehensive understanding of their application within today's digital ecosystem.

1. Presentation of Materials

   The seminar began with a presentation on the central role of artificial intelligence (AI) in the transformation of the digital business ecosystem. Participants gain insights into global business model changes, where AI is now the primary driver of innovation, process efficiency, personalised services, and data-driven decision-making. Through the Business Model Canvas (BMC) approach, participants learn about the nine business elements and their relevance to current industry needs, including real-world application examples in the local business environment. The session also introduced Generative AI (GenAI) technology, how to integrate it through public APIs, and the ethical principles that must be upheld in its development. The activity continued with a discussion on Conversational AI and GenAI as game-changers in digital business, including their contribution to Indonesia's economic growth. Participants are introduced to a one-page business plan framework, covering market strategy, team strengths, and product advantages, with a focus on exploring vertical sectors and leveraging internal data as a source of innovation. At the end, students are encouraged to design AI-based solutions with broad impact and create transformative user experiences aligned with contemporary demands.

Figure 1. Participants listening to seminar material

2. Questions and Answers

   After the presentation session was over, participants were invited to a question and answer session where they asked a variety of questions that demonstrated their keen interest in business design strategies, technological development challenges, and considerations in applying AI in real life. The interaction between the speakers and participants became a discussion that is expected to continue into future business ideas.

Figure 2. Participants asking questions to the presenter

3. Discussion on Drafting the Business Model Canvas

   After the question and answer session, participants gained a better understanding and began designing AI-based business ideas using the BMC framework, while discussing directly with the speakers, both individually and in groups. The atmosphere was dynamic and full of creativity, as participants were free to explore ideas, develop strategies, and delve into the unique aspects of AI technology. Equipped with practical guidelines, real-world case studies, and casual discussions about digital marketing and business logic, many participants felt more confident in their ideas. With the conceptual understanding provided earlier, this session fostered self-confidence and a spirit of digital entrepreneurship ready to compete in the real world.

Figure 3. Participants begin learning how to design a BMC draft

4. Evaluation and Feedback

Following the series of events and the completion of previous sessions, all participants are expected to have gained new insights and valuable experiences. As the closing activity of the seminar, participants are requested to complete an evaluation questionnaire to assess their understanding of the material, the effectiveness of the presentation, and the potential for developing digital business ideas. This feedback serves as the foundation for the organising team to design follow-up actions, such as business proposal mentoring, identifying students' entrepreneurial potential, and strengthening the technology ecosystem on campus. This evaluation is not merely a conclusion but the beginning of the emergence of competent and relevant digital entrepreneurs.

Enhancing Understanding of AI-Based Digital Business Through Interactive
Seminars for Information Technology Students
(Sarah Huzaifah, et al.**)**

KSI KITA
JURNAL PENGABDIAN KEPADA MASYARAKAT

Figure 4. Participants listening to instructions on how to fill out the activity questionnaire

RESULTS AND DISCUSSIONS

The one-day seminar on AI-based digital startup planning can have a positive impact on improving business and technology knowledge among Information Technology students. Based on observations of the activity, documentation of discussion sessions, and evaluations through questionnaires, participants demonstrated a significant improvement in their understanding of the application of the BMC framework, the integration of AI in business strategy planning, and the systematic development of business plans. This can be seen in the data in Table 1, which illustrates the participants' achievements in this seminar activity.

Table 1. Evaluation before and after the seminar

No.	Evaluation Aspects	Pre-Seminar	Post-Seminar	Changes and Insight
1.	Understanding the Business Model Canvas (BMC)	41%	89%	Significant improvement thanks to interactive materials and live simulations
2.	Understanding the concept of AI-based startups	54%	92%	Case studies and technology strategies drive sharp increases
3.	Ability to draft a simple business plan	16%	78%	Mentoring and practical training successfully built a business plan structure

4.	Motivation to develop technology-based businesses	68%	90%	Discussions and support during the design process sparked high enthusiasm among participants.

The participants' level of understanding showed a significant improvement, as seen from their active participation in discussions and the formulation of initial business plans. The question and answer session was dynamic, opening up space for exploration regarding idea validation, partnership strategies with investors, and the use of AI and big data in sustainable business models. Students who initially hesitated began showing interest and initiative in developing technology-based startups. This enthusiasm became even more evident in subsequent sessions, where several participants were able to design digital solution ideas based on the Business Model Canvas (BMC) for the education, consumer services, and healthcare sectors.

Figure 5. Illustration of AI technology integration in BMC

As shown in Figure 5, Value Proposition, Channels, Customer Relationship, and Key Partnerships, BMC elements are strategically integrated with AI technology to help participants better understand the application of AI-based digital business.

The seminar enhanced the intellectual capacity and honed the strategic competencies of the participants, particularly those from the field of Information Technology. By designing integrated activities that combined conceptual approaches and practical fieldwork, participants had the opportunity to explore the process of developing business plans that were not only aligned with academic frameworks but also relevant to the real needs of the digital industry. Throughout the seminar, participants were highly enthusiastic in participating in every session, from material presentations and case study analyses to business simulations and collaborative discussions. These activities collectively fostered a logical, structured, and innovative mindset in addressing future technology-based entrepreneurial challenges.

CONCLUSION

In a series of interactive activities at the AI startup seminar, participants showed great enthusiasm, from the presentation of material, discussions, to practical exercises in designing business plans. Participants not only gained comprehensive insights into the key elements of BMC, but also began to explore how artificial intelligence (AI) technology can be integrated as a strategic component that enhances competitiveness and strengthens the value offered by businesses. Additionally, this activity played a role in shaping participants' analytical thinking towards various strategic issues, including ethics in technology utilisation, the sustainability of digital innovation, and the challenges faced by startups in a dynamic industry. The high enthusiasm of participants to continue and realise their business ideas is evidence that this seminar has made a tangible contribution from the university in fostering the development of a digital entrepreneurship ecosystem relevant to the needs of a sustainable era.

REFERENCES

Al-Mamary, M. (2025). Artificial intelligence applications in business operations: Enhancing personalization and efficiency. *Journal of Business and Artificial Intelligence*, *1*(2). https://jbai.ai

Amalia, R., Paradita, J., Aini, R. Q., Sudrajat, S., & Mirza, A. D. (2024). Transforming business with AI: Impacts, challenges and opportunities. In *Proceedings of the 7th International Conference of Economics, Business, and Entrepreneurship (ICEBE 2024)*. https://doi.org/10.4108/eai.4-9-2024.2353765

Cui, P., & Alias, B. S. (2024). Opportunities and challenges in higher education arising from AI: A systematic literature review (2020–2024). *Journal of Intelligent Processes and Data*, *8*(11). https://systems.enpress-publisher.com/index.php/jipd/article/view/8390

Domini, F., Giuggioli, G., & Pellegrini, M. M. (2023). Artificial intelligence as an enabler for entrepreneurs: A systematic literature review and an agenda for future research. *International Journal of Entrepreneurial Behavior & Research*, *29*(4), 816–837. https://doi.org/10.1108/IJEBR-05-2021-0426

Font-Cot, J., et al. (2023). Strategic growth of AI startups. *Administrative Sciences*, *14*(1), Article 6. https://www.mdpi.com/2076-3387/14/1/6

Gelashvili-Luik, T., Vihma, P., & Pappel, I. (2025). Navigating the AI revolution: Challenges and opportunities for integrating emerging technologies into knowledge management systems. *Frontiers in Artificial Intelligence*, *8*. https://doi.org/10.3389/frai.2025.1595930

Hanifzadeh, M., Ghasemi, Z., Nobari, N., & Seraj, M. (2024). Artificial intelligence adoption by digital startups in decision-making within uncertain business environments. In *Entrepreneurship – Digital Transformation, Education, Opportunities and Challenges*. https://doi.org/10.5772/intechopen.1007080

Jain, C., & Kanwar, J. (2025). The AI-driven workplace: How automation is reshaping flexible work arrangements. *Journal of Information Systems Engineering and Management*, *10*(25s). https://doi.org/10.52783/jisem.v10i25s.4097

Kasireddy, L. C., & Sreenivasu, M. (2025). Overcoming adoption barriers: Strategies for scalable AI transformation in enterprises. *Journal of Informatics Education and Research, 5*(2). https://doi.org/10.52783/jier.v5i2.2459

Nitsch, V., Rick, V., Kluge, A., & Wilkens, U. (2024). Human-centered approaches to AI-assisted work: The future of work?. *Zeitschrift für Arbeitswissenschaft*, *78*, 261–267. https://doi.org/10.1007/s41449-024-00437-2

Ogundipe, A., & Abaku, M. (2024). AI readiness in emerging markets. *Journal of Artificial Intelligence for Sustainable Development*.

Perifanis, N.-A., & Kitsios, F. (2023). Investigating the influence of artificial intelligence on business value in the digital era of strategy: A literature review. *Information*, *14*(2), 85. https://doi.org/10.3390/info14020085

Radhakrishnan, J., & Chattopadhyay, M. (2020). Determinants and barriers of artificial intelligence adoption – A literature review. In *IFIP Advances in Information and Communication Technology* (Vol. 617, pp. 89–99). https://link.springer.com/chapter/10.1007/978-3-030-64849-7_9

Talebi, K., Ghasemi, Z., Nobari, N., & Seraj, M. (2025). Artificial intelligence adoption by digital startups in decision-making within uncertain business environments. *IntechOpen*. https://doi.org/10.5772/intechopen.1007080

Uriarte, E., et al. (2025). Business model innovation using BMC and AI. *Sustainability*, *17*(7), Article 5373. https://www.mdpi.com/2071-1050/17/7/5373

Uriarte, S., Baier-Fuentes, H., Espinoza-Benavides, J., & Inzunza-Mendoza, W. (2025). Artificial intelligence technologies and entrepreneurship: A hybrid literature review. *Review of Managerial Science*. https://doi.org/10.1007/s11846-025-00839-4

Wynsberghe, A. (2021). Sustainable AI: AI for sustainability and the sustainability of AI. *AI and Ethics*.