

Stepping Forward in the Digital Era: The Contribution of Business Information Systems in Responding to Global Entrepreneurship Challenges

¹Fitriana Rakhma Dhanias, ²Dinda Amelia Kusumastuti, ³Hapsari Dian Sylvatri, ⁴Zakaria Satrio Darmawan, ⁵Bahtiar Efendi

^{1,2}Program Studi D-III Keuangan dan Perbankan, Universitas Brawijaya Indonesia

³Program Studi D-III Administrasi Bisnis, Universitas Brawijaya, Indonesia

⁴Fakultas Komunikasi & Desain Kreatif, Universitas Budi Luhur, Indonesia

⁵Fakultas Ekonomi dan Bisnis, Universitas Sains Al-Qur'an Jawa Tengah di Wonosobo, Indonesia

¹fitriana.dhanias@ub.ac.id, ²dindaamelia@ub.ac.id, ³sylvahapsari@ub.ac.id,
⁴zakaria.satrio@budiluhur.ac.id, ⁵bahtiarefd@unsiq.ac.id

ABSTRACT

The digital era has brought about fundamental changes in the way businesses are conducted worldwide. Entrepreneurship in the global context demands adaptability and rapid innovation in facing increasingly fierce competition. This research aims to examine the contribution of business information systems in addressing the challenges of global entrepreneurship in the digital era. The research method employed is a literature review with a qualitative approach and descriptive analysis. In this context, descriptive analysis will be used to depict the findings from selected articles from Google Scholar for the period 2004-2024. The study results indicate that in this dynamic and complex digital era, Business Information Systems (BIS) have proven to be key in addressing the challenges of global entrepreneurship. Through the integration of information technology and business processes, BIS enables companies to enhance operational efficiency, respond quickly to market changes, and create innovative products and services that differentiate them from competitors. However, the adoption of BIS is not without challenges. Companies need to pay attention to data security aspects, ensure sustainability in technology usage, and overcome organizational and cultural barriers.

Keywords: Digital Era, Business Information Systems, Global Entrepreneurship

INTRODUCTION

In the digital era, profound transformations are occurring in global business practices. This phenomenon is primarily manifested in the widespread adoption of information technology, such as the internet, cloud computing, data analytics, and artificial intelligence (Kamar et al., 2022; Wahyoedi et al., 2023). The implications of these changes are significantly felt across all aspects of the business landscape, influencing operational strategies, customer interactions, and overall business models.

In a global context, entrepreneurship demands the ability to rapidly adapt and innovate in the face of increasingly fierce competition (Atrup et al., 2023; Ausat, Ayesha, et al., 2023). While globalization opens doors to new opportunities, it also brings significant challenges. These challenges include intensifying competition with international companies operating in various markets and unforeseen fluctuations in the global market that can substantially affect business

performance (Satriadi et al., 2022). Additionally, changes in trade policies also influence the strategies and operations of companies on a global scale.

Business Information Systems (BIS) play a fundamental role in supporting modern and complex business operations. More than just tools for managing data and information, BIS serves as a foundation that enables comprehensive integration among various functions within an organization (Kraus et al., 2021). The ability of BIS to provide fast and accurate access to relevant information facilitates efficient and effective decision-making at all management levels. Moreover, the ability to innovate in business models is also an advantage offered by BIS, allowing companies to adapt quickly to market changes and capitalize on emerging opportunities (Hacklin et al., 2018).

In the realm of global entrepreneurship, there are several multilayered and diverse challenges. These challenges include, but are not limited to, supply chain management complexity, in-depth analysis of the global market to understand heterogeneous market dynamics, and the need to meet the preferences and varied needs of customers in different geographical contexts (Sayed et al., 2017). Furthermore, global entrepreneurship must be prepared to adapt to changes in international regulations that can significantly affect business operations.

Despite facing complex challenges, the digital era offers vast opportunities for innovation within it. The strategic and intelligent implementation of information technology in Business Information Systems (BIS) can be key to efficiently and effectively addressing these challenges (Sivarajah et al., 2017). By leveraging the sophistication of information technology, organizations can optimize their operational processes, enhance responsiveness to market changes, and improve the quality of decision-making. Additionally, well-integrated BIS can also help identify and exploit new opportunities emerging in this digital era, enabling organizations to compete effectively in the ever-changing market.

Therefore, understanding how BIS can contribute to addressing the challenges of global entrepreneurship is crucial for further exploration. Research in this field will not only provide valuable insights for entrepreneurs and business stakeholders but also help guide public policies in supporting sustainable economic growth in this digital era.

LITERATURE REVIEW

Digital Era

The digital era refers to a period in which information and communication technology (ICT) play a central role in human life, encompassing various aspects of human activities ranging from business, education, entertainment, to social interaction (Gadzali et al., 2023). In this era, technology has become the primary driver of change in how humans interact, work, and think. The internet, cloud computing, artificial intelligence, and various other technologies form the foundation for the emergence of the digital era (Sudirjo et al., 2023). These changes have fundamentally altered the business landscape, enabling companies to operate efficiently on a global scale, improving accessibility to information, and changing how consumers shop and interact with brands (Harahap et al., 2023). Moreover, the digital era also presents new challenges, such as data security, online privacy, and the digital divide. In this context, the digital era is not just about the use of technology but also about how technology affects and transforms various aspects of human life comprehensively (Ausat, Azzaakiyyah, et al., 2023).

Business Information Systems (BIS)

Business Information Systems (BIS) are information technology infrastructures designed specifically to manage, analyze, and leverage business information within an organization (Ali, 2019). BIS consists of software, hardware, databases, and integrated procedures to support operational, managerial, and strategic activities of a company. The main objective of BIS is to provide relevant, accurate, and timely data to decision-makers at various organizational levels, enabling them to make better-informed decisions. BIS encompasses various systems such as database management systems, transaction processing systems, data analysis systems, and decision support systems (Qu et al., 2019). Additionally, BIS may also incorporate technologies such as business intelligence, data analytics, and artificial intelligence to enhance understanding of business trends, identify new opportunities, and optimize company performance. With effective BIS, a

company can improve its operational efficiency, optimize decision-making, and respond to market changes more quickly and adaptively (Aydiner et al., 2019).

Global Entrepreneurship

Global entrepreneurship refers to business activities and innovation that transcend national boundaries and operate on an international scale. It includes the establishment, development, and management of companies or business ventures that operate in various countries or global markets (Elam et al., 2019). Global entrepreneurship is not only about geographic expansion but also encompasses aspects such as adaptation to cultural and regulatory diversity, global supply chain management, international market penetration, and competition with competitors from different parts of the world (Mahmudin, 2023). Global entrepreneurs typically have a broad vision and flexible strategies to capitalize on opportunities in global markets while addressing complex challenges such as language differences, customs, and international laws. Global entrepreneurship often involves cross-border partnerships, foreign investment, and global marketing strategies to achieve growth and success in an increasingly interconnected and globally complex business environment (Wijayati et al., 2021).

RESEARCH METHOD

The research method employed is a literature review with a qualitative approach and descriptive analysis. The qualitative approach allows researchers to understand the complexity of the phenomena under study more deeply through the collection and analysis of descriptive data. In this context, descriptive analysis will be used to depict the findings from selected articles from Google Scholar for the period 2004-2024. First, the initial step involves identifying relevant articles through searches on Google Scholar using related keywords such as "business information systems," "global entrepreneurship," and "digital era." Subsequently, a strict selection of the most relevant and high-quality articles is conducted, resulting in 28 articles to be used as data sources in this study. Next, data from these articles will be analyzed descriptively. This includes the identification and mapping of key concepts, explanations of how these concepts are interrelated, and the creation of a clear overview of the findings emerging from the reviewed literature. This descriptive analysis will allow for the presentation of a comprehensive overview of the role of business information systems in responding to the challenges of global entrepreneurship in the digital era. By using this qualitative approach and descriptive analysis, this research will provide an in-depth understanding of the researched topic, offering valuable insights for readers, business practitioners, and academics interested in this field.

RESULTS AND DISCUSSION

In the midst of an increasingly dynamic and complex digital era, challenges in the global entrepreneurial landscape are becoming more prominent. In facing these dynamics, the role of Business Information Systems (BIS) becomes increasingly crucial in fulfilling its role as the primary support for companies in their efforts to remain relevant and competitive in the constantly evolving global market. By combining information technology and business processes, BIS not only facilitates companies in optimizing their operations but also enhances overall productivity levels (Melville et al., 2004). Furthermore, through this integration, companies are able to create significant added value, strengthening their positions in the increasingly competitive global arena.

An essential element in the context of Business Information Systems (BIS) is its ability to enhance the accessibility and visibility of data. Through the implementation of high-level technologies such as big data analytics and business intelligence, companies can quickly and accurately gather, analyze, and decipher information (Chen et al., 2012). This is reflected in the improved ability to make data-driven decisions, enabling more effective responses to the dynamics of the market and ever-changing consumer trends. BIS not only enriches data availability but also turns it into a valuable resource for strategic decision-making in the global business context.

Moreover, Business Information Systems (BIS) also strengthen collaboration and connectivity among companies. By leveraging collaborative platforms and digital communication

tools, companies can efficiently collaborate with partners and suppliers across the globe (de Mattos & Barbin Laurindo, 2015). This step opens the door to global expansion opportunities and breakthroughs into new markets, while also reinforcing reliable and responsive supply chains. The presence of BIS not only optimizes internal company processes but also forms a solid foundation for inter-company collaboration in the increasingly integrated global business realm.

However, in the digital era, one of the main challenges faced by global entrepreneurship is ensuring information security. With the increasing volume of digitally stored and transmitted data, companies are becoming more vulnerable to cyberattacks and security breaches that could potentially cause harm (Li & Liu, 2021). Therefore, data protection and cyber security become primary focuses in the implementation of Business Information Systems (BIS). These protection efforts involve stringent security protocol implementation, the use of advanced data encryption technologies, and employee training on effective cyber security practices. Through these measures, companies can mitigate digital security risks and maintain the integrity and confidentiality of their information in an increasingly digitally connected business environment.

Additionally, sustainability aspects should also be considered by companies in the use of Business Information Systems (BIS). In order to reduce negative impacts on the environment and society, companies can adopt information technologies to monitor and manage their energy consumption efficiently, reduce digital waste, and promote socially and environmentally responsible business practices (Martínez-Peláez et al., 2023). These steps not only reinforce companies' commitment to sustainability but also create added value in the form of sustainable corporate reputations and positive contributions to the environment and society as a whole.

The implication is that Business Information Systems (BIS) serve not only as tools to enhance operational efficiency but also as keys to addressing global entrepreneurial challenges in the digital era. With a holistic and integrated approach to information technology utilization, companies can confidently take steps forward in facing the ever-changing dynamics of the global market. In this context, BIS becomes more than just technological infrastructure; it becomes the foundation that enables companies to adapt and thrive in an increasingly complex and rapidly changing business environment. Through effective BIS utilization, companies can optimize their business processes, strengthen operational performance, and achieve competitive advantages in the midst of increasingly fierce global competition.

In the realm of global entrepreneurship, the role of Business Information Systems (BIS) is not limited to enhancing operational efficiency but also plays a crucial role in facilitating innovation and product differentiation. By leveraging advanced technologies such as the Internet of Things (IoT), artificial intelligence (AI), as well as virtual reality (VR) and augmented reality (AR), companies can deliver unique customer experiences and differentiate themselves from competitors (Hoyer et al., 2020). For example, companies can develop IoT-based solutions to improve operational efficiency, provide more personalized customer services, or even create entirely new digitally connected products. Innovative steps like these not only strengthen companies' positions in global competition but also lay the foundation for sustainable growth and differentiation in a continuously changing and evolving market.

Furthermore, Business Information Systems (BIS) also provide opportunities for companies to adopt new, more innovative business models, such as subscription-based services, the sharing economy, or digital platforms for e-commerce. With the ability to collect, store, and analyze customer data deeply, BIS enables companies to better understand consumer preferences and behaviors (Okorie et al., 2024). This provides a strong foundation for companies to tailor and deliver products and services that better meet market needs and desires. In the context of the evolving digital economy, BIS's ability to generate deep insights about customers is key to creating added value, maintaining competitive advantages, and achieving long-term success in a dynamic and competitive business environment.

However, in implementing Business Information Systems (BIS), companies face organizational and cultural challenges. Digital transformation demands changes not only in technological infrastructure but also in mindset and employee skills (Verhoef et al., 2021). Therefore, companies must prioritize investments in training and developing Human Resources

(HR) to enhance digital literacy and prepare employees to face the rapidly changing dynamics of technology-driven work environments. This step will not only ensure smooth adaptation to technological innovations but also strengthen companies' capabilities in facing challenges and seizing opportunities that arise in the evolving digital era. Thus, investment in HR development becomes not only a necessity but also a key strategy to ensure long-term success in BIS implementation and digital transformation as a whole.

Moreover, the involvement and support provided by company leadership play a vital role in ensuring the success of Business Information Systems (BIS) implementation. Company leaders are expected not only to be the primary drivers in initiating digital transformations but also to lead by example in fulfilling this role. This involves setting a clear vision for the desired direction in adopting BIS and effectively communicating the importance of BIS in achieving long-term business goals. With firm commitment and strong leadership from executives, companies have the opportunity to overcome organizational barriers that may arise and even turn these challenges into opportunities in the journey toward successful BIS adoption (Ausat et al., 2022). This means that active and impactful leadership from company executives is not only the key to ensuring effective BIS implementation but also a catalyst for innovation and sustainable growth in a continuously evolving digital era.

In conclusion, Business Information Systems (BIS) play a crucial role in helping companies address the challenges faced in the context of global entrepreneurship in the digital era. Through efforts to optimize the use of information technology, strengthen data security systems, drive innovation in products and business models, and transform organizational culture, companies can move forward with strong confidence and maximize the opportunities available in the constantly changing global market dynamics. This not only creates a solid foundation for long-term business success but also forms the basis for sustainable growth and competitive advantage in an ever-evolving digital era. Therefore, the effective implementation of BIS becomes not only a priority but also a highly important strategy for companies that want to remain relevant and successful amidst increasingly fierce global competition.

CONCLUSION

In this dynamic and complex digital era, Business Information Systems (BIS) have proven to be the key to overcoming the challenges of global entrepreneurship. Through the integration of information technology and business processes, CBs enable companies to improve operational efficiency, respond quickly to market changes, and create innovative products and services that differentiate them from competitors. However, the adoption of BIS is not without its challenges. Companies need to pay attention to data security aspects, ensure sustainability in the use of technology, and overcome organisational and cultural barriers. Suggestions that can be given for the results of this study include:

1. **Strengthen Data Security:** Companies should implement strict security protocols and conduct regular training for employees on cyber security practices. By doing so, they can reduce the risk of cyberattacks and security breaches.
2. **Encourage Product and Business Model Innovation:** Companies need to invest in technologies such as IoT, AI, and AR/VR to create innovative products and services and differentiate themselves from competitors. In addition, exploration of new business models such as subscription services or the sharing economy can be an effective strategy in the face of market changes.
3. **Organisational Culture Change:** Digital transformation requires a change in the mindset and skills of employees. Therefore, companies should provide sufficient training and support to improve digital literacy and prepare employees for the rapid changes in the technology-driven work environment.
4. **Commitment of company leaders:** Company leaders must provide full support and lead by example in adopting BIS. By setting a clear vision and communicating the importance of BIS in achieving long-term business goals, they can motivate the entire organisation to take steps towards digital transformation.

5. Sustainability Monitoring and Management: Companies should be mindful of the environmental and social impacts of using BIS. Through the use of information technology to monitor and manage energy consumption, reduce digital waste, and encourage responsible business practices, they can contribute to environmental and societal sustainability.

By implementing these suggestions holistically, companies can optimise the benefits of Business Information Systems (BIS) and improve their competitiveness in the ever-changing global marketplace.

REFERENCES

- Ali, Md. M. (2019). Impact of Management Information Systems (MIS) on Decision Making. *Global Disclosure of Economics and Business*, 8(2), 83–90. <https://doi.org/10.18034/gdeb.v8i2.100>
- Atrup, A., Diawati, P., Syamsuri, S., Pramono, S. A., & Ausat, A. M. A. (2023). The Effect of Entrepreneurship Education and Creativity on Students' Entrepreneurial Intention: The Perspective of Effectuation and Cognitive Flexibility Theory. *Jurnal Kependidikan*, 9(2). <https://doi.org/https://doi.org/10.33394/jk.v9i2.7822>
- Ausat, A. M. A., Aysha, I., Rijal, S., & Saranani, F. (2023). The Nature of Entrepreneur in the Perspective of Professor Musa Asy'arie's Philosophy of Existentialism. *International Journal of Professional Business Review*, 8(8), e01364. <https://doi.org/10.26668/businessreview/2023.v8i8.1364>
- Ausat, A. M. A., Azzaakiyyah, H. K., Permana, R. M., Riady, Y., & Suherlan, S. (2023). The Role of ChatGPT in Enabling MSMEs to Compete in the Digital Age. *Innovative: Journal Of Social Science Research*, 3(2), 622–631. <https://doi.org/https://doi.org/10.31004/innovative.v3i2.346>
- Ausat, A. M. A., Suherlan, S., Peirisal, T., & Hirawan, Z. (2022). The Effect of Transformational Leadership on Organizational Commitment and Work Performance. *Journal of Leadership in Organizations*, 4(4), 61–82. <https://doi.org/10.22146/jlo.71846>
- Aydiner, A. S., Tatoglu, E., Bayraktar, E., & Zaim, S. (2019). Information system capabilities and firm performance: Opening the black box through decision-making performance and business-process performance. *International Journal of Information Management*, 47, 168–182. <https://doi.org/10.1016/j.ijinfomgt.2018.12.015>
- Chen, Chiang, & Storey. (2012). Business Intelligence and Analytics: From Big Data to Big Impact. *MIS Quarterly*, 36(4), 1165. <https://doi.org/10.2307/41703503>
- de Mattos, C. A., & Barbin Laurindo, F. J. (2015). Collaborative Platforms for Supply Chain Integration: Trajectory, Assimilation of Platforms and Results. *Journal of Technology Management & Innovation*, 10(2), 79–92. <https://doi.org/10.4067/S0718-27242015000200006>
- Elam, A. B. , B. C. G., Greene, P. G., Baumer, B., Dean, M., & Heavlow, R. (2019). *Global Entrepreneurship Monitor 2018/2019 Women's Entrepreneurship Report*. Global Entrepreneurship Research Association, London Business School, Regents Park, London NW1 4SA.
- Gadzali, S. S., Gazalin, J., Sutrisno, S., Prasetya, Y. B., & Ausat, A. M. A. (2023). Human Resource Management Strategy in Organisational Digital Transformation. *Jurnal Minfo Polgan*, 12(2), 760–770. <https://doi.org/https://doi.org/10.33395/jmp.v12i2.12508>
- Hacklin, F., Björkdahl, J., & Wallin, M. W. (2018). Strategies for business model innovation: How firms reel in migrating value. *Long Range Planning*, 51(1), 82–110. <https://doi.org/10.1016/j.lrp.2017.06.009>
- Harahap, M. A. K., Sutrisno, S., Fauzi, F., Jusman, I. A., & Ausat, A. M. A. (2023). The Impact of Digital Technology on Employee Job Stress: A Business Psychology Review. *Jurnal Pendidikan Tambusai*, 7(1), 3635–3638. <https://jptam.org/index.php/jptam/article/view/5775>
- Hoyer, W. D., Kroschke, M., Schmitt, B., Kraume, K., & Shankar, V. (2020). Transforming the Customer Experience Through New Technologies. *Journal of Interactive Marketing*, 51, 57–71. <https://doi.org/10.1016/j.intmar.2020.04.001>

- Kamar, K., Lewaherilla, N. C., Ausat, A. M. A., Ukar, K., & Gadzali, S. S. (2022). The Influence of Information Technology and Human Resource Management Capabilities on SMEs Performance. *International Journal of Artificial Intelligence Research*, 6(1.2), 1. <https://doi.org/https://doi.org/10.29099/ijair.v6i1.2.676>
- Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital Transformation: An Overview of the Current State of the Art of Research. *SAGE Open*, 11(3), 215824402110475. <https://doi.org/10.1177/21582440211047576>
- Li, Y., & Liu, Q. (2021). A comprehensive review study of cyber-attacks and cyber security; Emerging trends and recent developments. *Energy Reports*, 7, 8176–8186. <https://doi.org/10.1016/j.egy.2021.08.126>
- Mahmudin, T. (2023). The Importance of Entrepreneurship Education in Preparing the Young Generation to Face Global Economic Challenges. *Journal of Contemporary Administration and Management (ADMAN)*, 1(3), 187–192. <https://doi.org/10.61100/adman.v1i3.78>
- Martínez-Peláez, R., Ochoa-Brust, A., Rivera, S., Félix, V. G., Ostos, R., Brito, H., Félix, R. A., & Mena, L. J. (2023). Role of Digital Transformation for Achieving Sustainability: Mediated Role of Stakeholders, Key Capabilities, and Technology. *Sustainability*, 15(14), 11221. <https://doi.org/10.3390/su151411221>
- Melville, Kraemer, & Gurbaxani. (2004). Review: Information Technology and Organizational Performance: An Integrative Model of IT Business Value. *MIS Quarterly*, 28(2), 283. <https://doi.org/10.2307/25148636>
- Okorie, G. N., Zainab Efe Egieya, Uneku Ikwue, Chioma Ann Udeh, Ejuma Martha Adaga, Obinna Donald DaraOjimba, & Osato Itohan Oriekhoe. (2024). Leveraging Big Data for Personalized Marketing Campaigns: A Review. *International Journal of Management & Entrepreneurship Research*, 6(1), 216–242. <https://doi.org/10.51594/ijmer.v6i1.778>
- Qu, Y., Ming, X., Ni, Y., Li, X., Liu, Z., Zhang, X., & Xie, L. (2019). An integrated framework of enterprise information systems in smart manufacturing system via business process reengineering. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 233(11), 2210–2224. <https://doi.org/10.1177/0954405418816846>
- Satriadi, S., Almaududi Ausat, A. M., Heryadi, D. Y., Widjaja, W., & Sari, A. R. (2022). Determinants of Entrepreneurial Intention: A Study on Indonesian Students. *BISNIS & BIROKRASI: Jurnal Ilmu Administrasi Dan Organisasi*, 29(3), 151–165. <https://doi.org/10.20476/jbb.v29i3.1323>
- Sayed, M., Hendry, L. C., & Zorzini Bell, M. (2017). Institutional complexity and sustainable supply chain management practices. *Supply Chain Management: An International Journal*, 22(6), 542–563. <https://doi.org/10.1108/SCM-10-2016-0365>
- Sivarajah, U., Kamal, M. M., Irani, Z., & Weerakkody, V. (2017). Critical analysis of Big Data challenges and analytical methods. *Journal of Business Research*, 70, 263–286. <https://doi.org/10.1016/j.jbusres.2016.08.001>
- Sudirjo, F., Ausat, A. M. A., Rijal, S., Riady, Y., & Suherlan, S. (2023). ChatGPT: Improving Communication Efficiency and Business Management of MSMEs in the Digital Age. *Innovative: Journal Of Social Science Research*, 3(2), 643–652. <https://doi.org/https://doi.org/10.31004/innovative.v3i2.347>
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889–901. <https://doi.org/10.1016/j.jbusres.2019.09.022>
- Wahyoedi, S., Suherlan, S., Rijal, S., Azzaakiyyah, H. K., & Ausat, A. M. A. (2023). Implementation of Information Technology in Human Resource Management. *Al-Buhuts*, 19(1), 300–318. <https://doi.org/https://doi.org/10.30603/ab.v19i1.3407>
- Wijayati, D. T., Fazlurrahman, H., Hadi, H. K., & Arifah, I. D. C. (2021). The effect of entrepreneurship education on entrepreneurial intention through planned behavioural control, subjective norm, and entrepreneurial attitude. *Journal of Global Entrepreneurship Research*, 11(1), 505–518. <https://doi.org/10.1007/s40497-021-00298-7>