



THE ROLE OF E-COMMERCE PLATFORMS IN ENHANCING DIGITAL LITERACY FOR 21ST-CENTURY LEARNING AMONG UNIVERSITY STUDENTS*

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Abstract

The rapid development of digital technology has brought significant changes across various aspects of life, including education and economic activities. One manifestation of this technological advancement is the emergence of e-commerce platforms, which facilitate online buying and selling. Among university students, e-commerce is used not only to meet daily needs but also to enhance digital literacy.

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This study aims to examine the role of e-commerce platforms in improving students' digital literacy as part of 21st-century learning. The research employs a library research method by collecting and analyzing various literature sources, including scientific journals, books, and relevant articles. The findings indicate that e-commerce usage helps students develop critical thinking skills, particularly in searching for, evaluating, and selecting accurate and reliable information. In addition, e-commerce encourages students to be more creative, communicate effectively in digital spaces, and collaborate through online interactions. Therefore, e-commerce platforms play a vital role in enhancing students' digital literacy and developing 21st-century skills, especially critical thinking, creativity, collaboration, and communication (4C).

Keywords: E-commerce; Digital Literacy; 21st-Century Learning; University Students

A. INTRODUCTION

The current digital development is progressing rapidly and has brought significant impacts on various aspects of human life. This is evident in the emergence of technologies that facilitate people in performing many activities, including buying and selling. At present, this is widely known as e-commerce, a platform that enables flexible online transactions that can be conducted anywhere without the need to visit a physical store or own a shop⁷. In life, humans, as social beings who live together and are guided by dynamic moral, ethical, and aesthetic values, are highly dependent on the role of education as well as the legal system⁸. Education, law, and government policies are directed toward facilitating diversity, emphasizing the principles of tolerance, harmony, and mutual respect among individuals⁹. The rapidly changing dynamics of the modern era demand that the younger generation possess critical thinking skills and the ability to respond effectively to challenges across various fields¹⁰.

E-commerce, short for electronic commerce, refers to the process of buying and selling goods or services between businesses and consumers without direct physical interaction and without the need for a physical store.¹¹ With the

⁷ Safitri, D., Nusantara, D. A., Khoerani, A., Afifah, S. H., & Sulistiyani, A. (2025). Peran Social Commerce Dan M-Commerce Terhadap Perubahan Perilaku Belanja Konsumen. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(4), 329–339.

⁸ Supriyono, S., Rahim, A., & Rohmah, S. N. (2025). Tinjauan Peraturan Ma'had Al-Zaytun dalam Pengembangan Pendidikan Muatan Lokal Perspektif Peraturan Daerah Nomor 8 Tahun 2015 dan Siyash Dusturiyah. *JIIP-Jurnal Ilmiah Ilmu Pendidikan*, 8(4), 4075–4086.

⁹ Taryono, T., Rahim, A., & Rohmah, S. N. (2024). Peran Ma'had Al-Zaytun dalam Pengembangan Budaya Toleransi Berdasarkan Undang-Undang Nomor 5 Tahun 2017 dan Fiqh Siyash. *JIIP-Jurnal Ilmiah Ilmu Pendidikan*, 7(10), 12006–12016.

¹⁰ Hakim, L., Rohmah, S. N., & Rahim, A. (2025). Peran Ma'had Al-Zaytun Dalam Pendidikan Politik Bagi Pemilih Pemula: Tinjauan Undang-Undang Nomor 15 Tahun 2011 Dan Siyash Dusturiyah. *El-Siyasa: Journal of Constitutional Law*, 2(2), 73–83.

¹¹ Setyadarma, B., Poernomo, T. T., & Putri, H. I. W. (2022). Peranan E-Commerce terhadap

advancement of technology, many aspects of daily life including buying and selling, payments, and learning have become significantly easier, as technological tools are now widely available. Mobile-accessible technology allows users to interact through smartphones or other electronic devices, providing easy access to information and services. Consequently, online transactions, including shopping, can be conducted conveniently via smartphones. E-commerce differs from marketplaces in that it typically utilizes a business's own website to attract consumers and increase product sales. Furthermore, e-commerce platforms offer a wide variety of products and services beyond just one or two items, ranging from fashion, food, and educational services to public services, technological devices, and many other goods¹².

According to Sartika et al. (2024), a survey conducted by We Are Social in April 2021 indicated that Indonesia is among the countries with the highest e-commerce usage worldwide, with 88.1% of internet users in the country utilizing e-commerce services. This demonstrates that the Indonesian population has widely adopted new technologies that facilitate daily activities¹³.

The emergence of these conveniences allows consumers to easily purchase products and services from various sellers worldwide with just a few clicks on their devices. E-commerce users vary in demographics, with the majority being teenagers, young adults, and adults. University students fall into the young adult category and represent a group that frequently utilizes e-commerce in their daily lives¹⁴. In daily life, university students need to possess critical thinking skills to obtain and evaluate information accurately, ensuring that the information they receive is reliable and not false. Similarly, in online transactions, students should be able to make informed decisions by assessing the credibility of sellers, considering factors such as trustworthiness and customer reviews before making a purchase.

Pengembangan model proses rekrutmen murid baru maupun akselerasi pembelajaran kelompok bermain & Taman Kanak-kanak Delta Asih Pertiwi, Waru Sidoarjo. *Dedikasi Sains dan Teknologi*, 2(1), 39–47. <https://doi.org/10.47709/dst.v2i1.1460>

¹² Setyadarma, B., Poernomo, T. T., & Putri, H. I. W. (2022). Peranan E-Commerce terhadap Pengembangan model proses rekrutmen murid baru maupun akselerasi pembelajaran kelompok bermain & Taman Kanak-kanak Delta Asih Pertiwi, Waru Sidoarjo. *Dedikasi Sains dan Teknologi*, 2(1), 39–47. <https://doi.org/10.47709/dst.v2i1.1460>

¹³ Sartika, D., Ulya, M., Azzahra, F. F., Irnawati, Hidayati, F. N., & Pramono, D. (2024). Fenomena Penggunaan E-Commerce terhadap Perilaku Konsumsi Mahasiswa. *WISSEN : Jurnal Ilmu Sosial dan Humaniora*, 2(3), 335–350. <https://doi.org/10.62383/wissen.v2i3.287>

¹⁴ Sartika, D., Ulya, M., Azzahra, F. F., Irnawati, Hidayati, F. N., & Pramono, D. (2024). Fenomena Penggunaan E-Commerce terhadap Perilaku Konsumsi Mahasiswa. *WISSEN : Jurnal Ilmu Sosial dan Humaniora*, 2(3), 335–350. <https://doi.org/10.62383/wissen.v2i3.287>

As responsible and discerning consumers, students are expected to have strong digital literacy, which encompasses the ability to effectively and wisely utilize technology. Digital literacy is particularly essential for students, who often act as both consumers and entrepreneurs, as it enables them to respond appropriately to technological advancements and leverage digital media to enhance reading skills, cultivate a culture of literacy, and acquire knowledge¹⁵.

Digital literacy is defined as the ability to locate, evaluate, use, create, and communicate digital information effectively, critically, and ethically. This competence is essential in navigating advanced technologies and forms a core component of 21st-century learning, which aims to prepare students and university students to meet the demands of the digital era. The framework of 21st-century education emphasizes the development of the so-called 4C skills: Critical Thinking, Creativity, Collaboration, and Communication. The rapid advancement of digital technology in the 21st century has brought fundamental changes across various sectors, including education. The Fourth Industrial Revolution (Industry 4.0) has introduced the integration of physical and digital technologies, such as the Internet of Things (IoT), Artificial Intelligence (AI), big data, machine learning, and mobile computing, significantly transforming the ways people learn, work, and interact¹⁶. According to Sahidah and Sulistiyani (2022) as cited in Hidayat et al., a defining characteristic of the 21st century is the rapid advancement across various sectors, including communication, information, technology, and transportation. Additionally, these developments have brought significant changes to societal lifestyles and daily practices¹⁷.

Thus, e-commerce represents a technological advancement that individuals must engage with, guided by the competencies emphasized in 21st-century learning, particularly the 4C skills. Digital literacy, as part of these competencies, is essential for individuals to navigate new technologies effectively, preventing technological illiteracy, commonly referred to as “digital gap” or “gaptek.”

¹⁵ Supriyanto, E., Ismail, K., & Sinta, V. (2024). Pengaruh Literasi Digital Dan Penggunaan E-Commerce Terhadap Minat Berwirausaha Mahasiswa Pendidikan Ekonomi Universitas Nurul Huda. *JECO : Journal of Economic Education and Eco-Technopreneurship*, 3(2), 69–75.

¹⁶ Umar, Sulistiyani, A., Darmadi, E., Arifin, J., Manalu, S., Al-Fajr, R., Khairani, P. D., & Rohana. (2025). Analisis Peran Teknologi Digital Dalam Meningkatkan Kualitas Pendidikan Bahasa Arab Di Abad 2. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, 10(4), 212–224.

¹⁷ Sahidah, M., & Sulistiyani, A. (2022). Penerapan Keterampilan Abad Ke-21 Dalam Pembelajaran Masa Pandemi Covid-19 Siswa Kelas V Sekolah Dasar Persatuan Umat Islam Haurgeulis. *SALAM: Jurnal Sosial dan Budaya Syar-i*, 9(1), 111–120. <https://doi.org/10.15408/sjsbs.v9i1.24612>

B. METHODS

This study employs a **library research method**, also known as a literature review. Its purpose is to collect, analyze, and synthesize secondary data from various sources related to the role of e-commerce platforms in enhancing university students' digital literacy within 21st-century learning. This approach was chosen for its qualitative descriptive nature, which allows the researcher to explore the phenomenon in depth through literature review without involving primary data collection in the field. It is efficient for identifying both theoretical and empirical perspectives from previous studies. This method is particularly appropriate for topics that rely on the development of digital technology and education, where historical data and literature analysis serve as the primary basis for building a comprehensive understanding.¹⁸

The study began with the determination of the research topic, focusing on the impact of e-commerce on university students' digital literacy. This was followed by a systematic search for relevant literature, including scientific journals, books, articles, and previous research findings. The next stage involved data collection through literature review techniques, which included critical reading, note-taking, classifying, and analyzing information to identify gaps and patterns within the sources. The researcher ensured that selected sources met credibility criteria, such as indexed journals and recent publications from 2020 to 2025.¹⁹

Data analysis was conducted through information reduction and the organization of key themes, such as the 4C skills (critical thinking, creativity, collaboration, and communication), followed by synthesis to conclude the relationship between e-commerce usage and the enhancement of digital literacy. Data validity was reinforced through source triangulation, comparing findings across multiple journals to prevent bias and to integrate expert perspectives in education.²⁰

C. RESULTS AND DISCUSSION

Writing skills are a fundamental aspect of language proficiency and play a crucial role in various academic and professional contexts.²¹ The rapid

¹⁸ Booth, A., Sutton, A., & Papaioannou, D. (2016). *Systematic approaches to a successful literature review* (2nd ed.). SAGE Publications

¹⁹ Ridley, D. (2012). *The literature review: A step-by-step guide for students* (2nd ed.). SAGE Publications.

²⁰ Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications

²¹ Richards, J. C., & Renandya, W. A. (Eds.). (2002). *Methodology in language teaching: An*

advancement of digital technology today has significantly impacted many aspects of human life, including facilitating buying and selling processes through e-commerce platforms²². E-commerce (electronic commerce) is defined as the range of processes involved in buying and selling between businesses and consumers without the need for face-to-face interaction or a physical store²³. These platforms offer a wide range of products and services, including fashion, food, and educational services. In Indonesia, e-commerce usage is remarkably high, with 88.1% of internet users engaging in e-commerce activities according to a survey conducted in April 2021, indicating that the population has widely adopted this technology for daily activities.²⁴

University students, as part of the younger age group, frequently use e-commerce in their daily lives. In navigating technological advancements such as e-commerce, students are required to possess strong critical thinking skills and digital literacy. Digital literacy encompasses the ability to skillfully and responsibly use technology. This competence, which enables individuals to respond effectively to technological progress and leverage digital media to enhance reading skills and knowledge acquisition, is essential for students both as consumers and as potential entrepreneurs²⁵. Digital literacy is an integral component of 21st-century learning, emphasizing the development of 4C skills: Critical Thinking, Creativity, Collaboration, and Communication. These competencies aim to equip individuals to navigate the demands of the digital era while avoiding technological illiteracy (commonly referred to as “gaptek”). Consequently, the use of e-commerce as a technological advancement necessitates a level of digital literacy that aligns with the framework of 21st-century education²⁶.

The utilization of e-commerce platforms by students not only facilitates buying and selling transactions but also contributes to enhancing digital literacy as part of 21st-century learning²⁷. Based on a review of various literatures, the use

anthology of current practice. Cambridge University Press.

²² Laudon, K. C., & Traver, C. G. (2021). *E-commerce 2021: Business, technology, society* (16th ed.). Pearson.

²³ Turban, E., King, D., Lee, J. K., Liang, T.-P., & Turban, D. C. (2018). *Electronic commerce 2018: A managerial and social networks perspective*. Springer.

²⁴ We Are Social & Hootsuite. (2021). *Digital 2021: Indonesia*. <https://datareportal.com>.

²⁵ Leu, D. J., Forzani, E., Rhoads, C., Maykel, C., Kennedy, C., & Timbrell, N. (2015). *The new literacies of online research and comprehension*. In L. M. Morrow & L. B. Gambrell (Eds.), *Best practices in literacy instruction* (5th ed., pp. 116–134). Guilford Press.

²⁶ OECD. (2018). *Preparing our youth for an inclusive and sustainable world: The OECD PISA global competence framework*. OECD Publishing.

²⁷ Ng, W. (2012). *Can we teach digital natives digital literacy?* Computers & Education, 59(3),

of e-commerce encourages students to become accustomed to searching for, evaluating, and comparing digital information critically, such as reading product descriptions, assessing customer reviews, and selecting trustworthy sellers. High intensity use of e-commerce without adequate digital literacy skills can potentially lead to consumptive behavior, technology dependence, and a lack of critical attitude in processing information. Therefore, educators and educational institutions play an important role in guiding the educational use of e-commerce, so that students do not merely become passive users but are able to utilize technology productively and reflectively. This activity indirectly trains students' critical thinking skills in filtering valid information and avoiding false information.

In addition, e-commerce provides a space for students to develop creativity, particularly for those involved as sellers or digital entrepreneurs. Students are required to develop marketing strategies, create engaging promotional content, and manage product presentation to compete in the digital marketplace. This aligns with the findings of Supriyanto et al. (2024), which state that digital literacy and e-commerce usage influence students' entrepreneurial interest. Thus, e-commerce not only functions as a consumption medium but also serves as a contextual learning tool that fosters creativity and innovation²⁸.

From the collaboration aspect, e-commerce platforms enable interactions and cooperation between students and various parties, such as fellow users, sellers, buyers, and digital service providers. This collaboration is reflected through review systems, product discussions, and digitally-based business partnerships. Such interactions train students to adapt to a dynamic digital environment and understand communication ethics in digital spaces, which is an essential part of digital literacy²⁹. Meanwhile, communication skills also develop through the use of e-commerce. Students' utilization of e-commerce not only focuses on transaction convenience but also promotes the development of effective digital communication skills. Students learn to craft clear messages, ask questions to sellers, provide constructive product reviews, and convey complaints or suggestions through digital platforms. These activities train them to communicate information accurately and professionally, a skill that is an

1065–1078.

²⁸ Supriyanto, E., Ismail, K., & Sinta, V. (2024). Pengaruh Literasi Digital Dan Penggunaan E-Commerce Terhadap Minat Berwirausaha Mahasiswa Pendidikan Ekonomi Universitas Nurul Huda. *JECO : Journal of Economic Education and Eco-Technopreneurship*, 3(2), 69–75.

²⁹ Pellegrino, J. W., & Hilton, M. L. (Eds.). (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. National Academies Press.

essential part of digital literacy in 21st-century learning, where interactions are no longer limited to physical spaces but also occur virtually³⁰.

Furthermore, the use of e-commerce also contributes to the development of ethical attitudes and responsibility in digital media. Students not only need technical proficiency but also must possess digital ethical awareness, such as honesty in evaluating and writing reviews, caution in sharing information, and responsibility in conducting online transactions. This aspect is an integral part of digital literacy, emphasizing the critical, safe, and ethical use of technology in accordance with the demands of 21st-century learning³¹.

Based on a review of the literature, it can be concluded that e-commerce plays a strategic role in strengthening students' digital literacy. Digital activities related to e-commerce help develop the 4C skills—critical thinking, creativity, collaboration, and communication—so that students not only understand the technical aspects of using technology but are also able to utilize digital platforms productively, reflectively, and ethically. Thus, e-commerce is not merely a technological innovation in the economic sector but also serves as a relevant learning medium that supports the development of students' competencies in the digital era.

D. CONCLUSION

Based on the discussion presented, it can be concluded that e-commerce platforms have a significant role in enhancing students' digital literacy in 21st-century learning. Through e-commerce activities, students become accustomed to searching for and evaluating information critically, making them less likely to accept false or misleading information. In addition, students are encouraged to develop creativity, particularly for those who use e-commerce as a means of digital entrepreneurship. In terms of communication and collaboration, e-commerce provides a space for students to interact, exchange information, and cooperate online with various parties. This indirectly trains digital communication skills and fosters a collaborative attitude. The digital literacy developed through e-commerce aligns with 21st-century learning skills, emphasizing mastery of the 4C competencies. Therefore, e-commerce functions not only as a medium for buying and selling transactions but can also be utilized

³⁰ Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st-century competencies. *Journal of Curriculum Studies*, 44(3), 299–321.

³¹ Pew Research Center. (2019). *Mobile technology and home broadband 2019*. <https://www.pewresearch.org>.

as a learning support tool that helps students become more skilled, wise, and prepared to face challenges in the digital era.

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