Digital Innovation in E-Commerce Education Towards Industry 5.0: Improving Student Competencies and Insights A Systematic Literature Review

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Abstract: The systematic literature review article on digital innovation in e-commerce education towards Industry 5.0 has the aim of; (1) digital innovation can be applied in the context of e-commerce education in Industry 5.0, (2) Students are prepared from university to face changes in the e-commerce business environment in Industry 5.0, and (3) students' competencies and insights need to be expanded from university. to new developments in the e-commerce business. Increasing e-commerce competence and insight for students is very important for increasing economic income and being able to compete in the global market. The method for writing a systematic literature review (SLR) article is the library research method sourced from Scopus, Emerald Publishing, and Sage Journal databases. The results of this literature review research are increasing student competence and insight in the e-commerce business through the ability to read customer behavior, the ability to minimize risks, the ability to read opportunities, and digital communication skills. These four components are students' strengths in running an e-commerce business in a dynamic digital innovation environment.

Introduction

E-commerce education plays an important role in improving outcomes and growing digital businesses (Kim, 2023). The Chinese government has proven a significant increase in digital economic output from e-commerce. China experienced economic growth from \$7.7 M in 2011 to \$90.9 in 2019 (Feng Wang, 2019). E-commerce is an electronic marketing tool that not only increases economic income but can prevent poverty and underdevelopment. People can adapt, participate, and have digital business capabilities (Huang, 2021). In addition,

people have keen insight in identifying business opportunities, are optimistic, risk-taking, and motivated to realize new ideas (Bernardus, 2022).

People need to be aware of the importance of e-commerce education during life changes towards industry 5.0. E-commerce is a business system that is inseparable from entrepreneurial life in Industry 5.0 (Xi Yang, 2020). E-commerce has become a necessity for the public in improving the quality of business and life (Marisa, 2021). Society in Industry 5.0 utilizes the Internet of Things (IoT), Big Data, Cloud Computing, Blockchain, and Artificial Intelligence (AI) technologies to improve and develop businesses (Borovik, 2017). The increasingly sophisticated technology in Industry 5.0 can reach a wider product sales market than conventional sales (Marcel Goic, 2021). According to Skobelev and Borovik (2017), the technology can be used in various business services, health, education, and other activities of interest.

Business education needs to lead students to have the view that digital businesses such as e-commerce are constantly changing, highly volatile, and increasingly competitive (Naomi Haefner, 2021). Indonesian students must have extensive e-commerce technical skills from university to compete in the global marketplace (Cavallo, 2018). Students have sufficient skills in digital business development, training in the use of new technologies, and understanding the changing digital work paradigm (Rina Agustina, 2023). Skeldon's research explains that more than 90% of new entrepreneurs fail due to inadequate e-commerce technical skills (Dag Håkon Haneberg, 2022). Students with inadequate technical skills will find it very difficult to innovate in e-commerce digital businesses.

Students are one of the potential individuals in developing e-commerce digital businesses in the future (Febrianto, 2020). Students need to understand the market and consumer desires in e-commerce. The ability of students to read the market is very helpful in developing innovations that fit the changing times in e-commerce digital businesses (Reinaldy Achmad Pradana, 2023). E-commerce platforms that dominate export services internationally such as Amazon, Alibaba, and eBay are still dominated by America and China (Magno, 2022). Amazon earned 14,905 trillion in e-commerce revenue in 2023 and Alibaba came in second at 4,594 trillion in 2023 (Naurah, 2023). Meanwhile, the results of a research report from a research firm and venture builder for all e-commerce platform revenues in Indonesia amounted to 773.7 trillion in 2022 (Pertiwi, 2023).

The novelty offered by this research is increasing the competence and insight of digital innovation of students in learning e-commerce towards industry 5.0. Students in higher education need to have practical skills and an innovative understanding of e-commerce. Increased digital innovation makes students able to compete with countries that are testing innovations, such as drones, parcel lockers, and autonomous vehicle delivery (Yulia Vakulenko, 2019). Increased insight into digital innovation is also a key parameter for engaging in international trade and economic improvement through e-commerce platforms in Industry 5.0. (Vallina, 2020). Therefore, this research will come up with an explanation of the competencies and insights of digital innovation in e-commerce education that students need to have.

Students' digital innovation competencies and insights are essential to compete in the ever-changing and evolving e-commerce business in industry 5.0. Digital innovation is a skill that needs to be developed in Industry 5.0 to modify the e-commerce business model according to a dynamic environment (Cavallo, 2018). With that, the main objectives of this research are: (a) identifying student competencies in e-commerce business, (b) identifying student insights in e-commerce business, (c) key attributes in industry 5.0, and (d) improving student competencies and insights in digital innovation.

E-commerce is an electronic media used to conduct transactions between sellers and buyers using the internet network (Erlinda, 2019). Sellers and buyers who are remotely separated can conduct buying and selling transactions quickly, efficiently, and easily. This certainly brings convenience from the difficulties found in traditional businesses. Buyers do not have to come directly to the store to buy goods. The transaction process between the seller and the buyer also does not have to meet in person. E-commerce brings a new symbiotic, coordinated, and organized business model supported by internet networks and digital media (Shuyu Hu, 2021). Service transactions such as finance, logistics, and so on can be done digitally.

E-commerce as a digital trading medium has been conceptualized in Norman's (1988) affordability theory. The theory of affordance is formulated based on the realization of the interaction of the subject (human) with the object (computer) (Sarah Bayer, 2021). Humans use computers to interact in improving business. According to research from Jacopo, Dennis, and Alberto (2023) found 7 (seven) e-commerce affordances related to consumers, such as electronic transactions, interdependence, online platforms, information transparency, social interaction, service, and proactivity (Jacopo Ballerini, 2023). The theory of affordability certainly provides benefits not only for an entrepreneur but also for consumers. Consumers can find out product information and more product choices through e-commerce platforms.

Digital innovation in e-commerce education is essential for students to face the ever-dynamic business environment. Innovation is a skill that needs to be developed by entrepreneurs in modifying and adapting products according to the times. Innovation helps entrepreneurs solve problems and identify business opportunities according to customer needs (Kohli, 2018). Customers are usually always in need of the latest innovations that suit their environment. Entrepreneurs need to understand and analyze the situation from time to time.

Research by Antonio Ghezzi & Angelo Cavalla (2018) with the title "Agile Business Model Innovation in Digital Entrepreneurship: Lean Startup Approaches" said two digital innovation methods that need to be developed in e-commerce, namely Business Model Innovation (BMI) and Lean Startup Approaches (LSA). Business Model Innovation (BMI) emphasizes the importance of value development in a product. The main emphasis in BMI is to add value, namely increasing iteration in e-commerce. Iteration is very important to produce products that meet the needs and desires of customers. Meanwhile, the Lean Startup approach (LSA) method is used to answer customer needs that are evolving towards higher value and increasingly diverse startup offers. Laen Startup Approaches is a method of customer-

centered approach and value to create a continuous flow of activities to generate value for customers and eliminate activities that do not add value.

Yuko Harayama became the first figure to initiate human life toward Industry 5.0 in the 21st century. People's lives in Industry 5.0 have always been synonymous with the lives of super-smart people with behavior patterns that utilize the Internet of Things (IoT), Big Data, and Artificial Intelligence (AI) (TEDxRome, 2019). Digital innovation in Industry 5.0 is the solution for entrepreneurs towards a better e-commerce business in this century. With that, according to Ce Wang & Moon Hong Kim's research (2023) with the title "Impact of Education and Its Importance on E-commerce Platforms Influencing College Students Abilities and Performance-based Results." E-commerce is an education that is in high demand by students in Industry 5.0 because e-commerce education can provide accessibility, convenience, and flexibility in learning. Students can easily access various educational resources for business development both personally and collaboratively. Application-oriented e-commerce education and training are necessary to develop business in Industry 5.0 (Yang, 2020).

Researchers Xi Yang & Ming Luo (2020) with the title "Research on the Talent Training Mode of Application-oriented Undergraduate Cross-border E-commerce Innovation and Entrepreneurship Education" said that e-commerce breaks down national borders and makes international trade move towards borderless trade in industry 5.0. Products from various countries can be accessed by anyone without any restrictions in buying and selling transactions. With that, e-commerce provides the benefits of expanding the marketing and transaction of goods, businesses are more open to the public, employment is increasing, and new economic growth points in Industry 5.0 (2020).

Metode

Research Design

This research uses a systematic literature review (SLR) to understand innovation factors in e-commerce education towards industry 5.0. A systematic literature review (SLR) is very useful in integrating findings from several studies relevant to the research topic (Cipto Wardoyo, 2023). The integration of relevant findings occurs by using the prism method in a systematic literature review (SLR). The prism method will provide a methodological framework for searching, assessing, and synthesizing relevant literature to comprehensively understand current research results (2023). In addition, this research will determine the objectives, always relevant literature, use appropriate literature, synthesize, and analyze the results, and present the discussion.

Data and Literature Search

The first stage carried out by the researcher is determining the aspects observed or analyzed based on the research topic. Then the researcher will conduct a review of the relevant literature separately on the aspects to be observed or analyzed in the study. The relevant literature was collected from the most reputable and comprehensive databases, such as Scopus, Emerald Publishing, and Sage Journal. The following relevant literature was collected from comprehensive databases, namely "Digital Innovation," "E-commerce

Education," and "Life in Industry 5.0." Relevant literature collected in English in digital, economic, business, management, and social fields.

Table 1. Search strings in Scopus, Emerald Publishing, and Sage Journal

Databases	Keywords
Scopus	TITLE-ABS-KEY "digital innovation" OR "e-commerce education" AND "society in industry 5.0"
Emerald Publishing	(("digital innovation" OR "e-commerce education" AND "society in industry 5.0"))
Sage Journal	"digital innovation" AND "e-commerce education" AND "society in industry 5.0"

Literature Filtering Criteria

The researcher used inclusion and exclusion criteria in selecting the literature that would be the source of the paper. The literature that met the inclusion criteria were as follows, (1) literature related to digital innovation, (2) literature related to e-commerce, (3) literature related to life in industry 5.0, and (4) literature written in English. The literature that meets the exclusion criteria, such as (1) literature from books, (2) literature that is not written in English, (3) literature that cannot be accessed, and (4), literature that is not part of the research topic. All literature will be reviewed by the researcher starting from the title, abstract, content, and conclusion.

Result and Discussion

Literature Identification

We collected articles published from 2019 to March 2024 as relevant literature for inclusion in the analysis. A search of the Scopus database resulted in 165 articles, the Emerald database resulted in 823 articles, and the Sage database resulted in 49 articles. The total search results from the 3 databases amounted to 1035, but after identification that was following the research article, there were 832 articles. 832 articles were filtered based on 4 criteria in the inclusion process, there were 78 research articles. The 78 research articles will be selected again based on the title and abstract and only 58 articles remain. In the last stage, 58 research articles will be selected based on relevant research objectives following the title. The results of this selection are 11 research articles that are very relevant to the researcher's objectives.
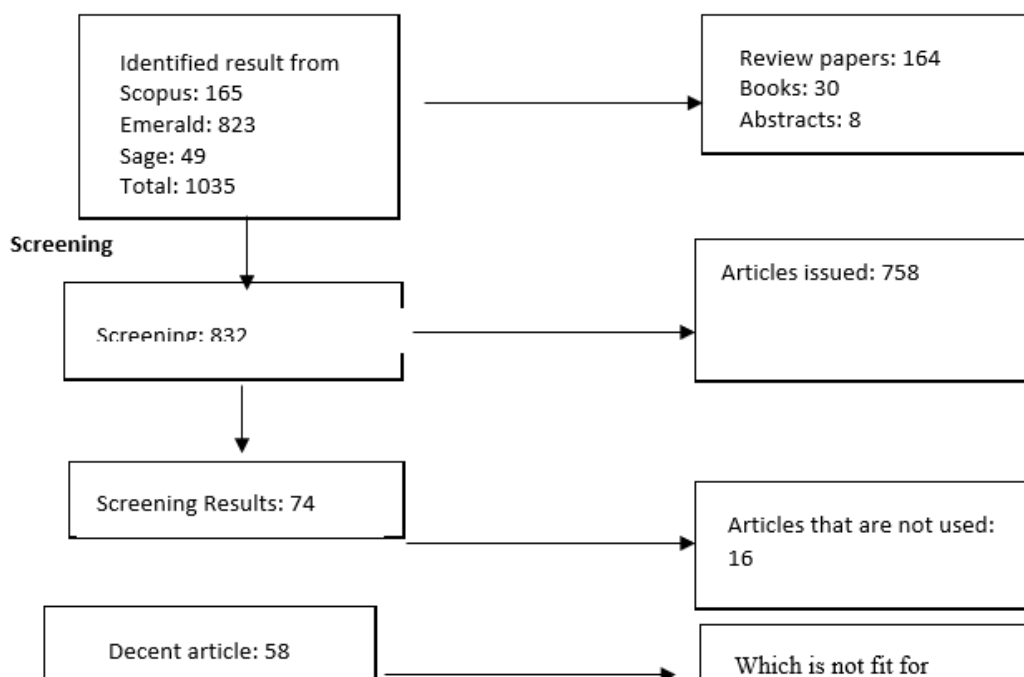

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Figure 1. Literature Identification through Scopus, Emerald, and Sage Databases

Table 2. Resume of Research Articles Related to This Research

Years	Author (s)	Objective
2019	Yulian, Poja, Daniel, & Khas	To provide insight into how digital innovation services in business affect customer behavior.
2019	Feng Wang & Ting Chen	Universities that implement e-commerce education can alleviate poverty in China
2020	Yan Wang & Bin Tang	Innovation development is essential in entrepreneurship to reduce social pressure.
2021	Shuyu Hu & Ming	E-commerce education can improve the digital communication ratio
2021	Enrique, Esteban, Angeles, & Eloy	The higher the digital capability, the greater the urge to buy online and the higher the risk tolerance.
2021	Frantisek, Michal, & Deniss	To describe the changing behaviors of e-commerce marketers during the Covid-19 pandemic.
2022	Mischachuk, & Riabykina	Industry 5.0 is the key capital that shapes the economic security of companies.
2023	Shaolong, Qinyi, Fazli, Yiyang, & Ling	To determine the relationship between logistics density and scale proportion of customer behavior in e-commerce transactions.
2023	Ce Wang & Bulan Hong Kim	To understand how e-commerce education and value affect customer attitudes and performance in business.
2023	Martin, Doddy, Desi, Iman & Mulyo	To examine the effect of e-commerce on the behavior of micro and macro industries (MSIs) in digital era business.
2023	Saarah & Samwel	To understand digital-based business through e-commerce in developing countries.

E-Commerce Education

Of the eleven journals that have been identified as appropriate and relevant to the research, seven journals talk about the importance of e-commerce education in improving students' competencies and insights. The seven journals are (Ce Wang, 2023), (Shuyu Hu, 2021), (Sarah Bayer, 2021), (František Pollák, 2021), (Martini, 2023), (Shaolong Zeng, 2023), and (Feng Wang, 2019). The seven journals show the role of e-commerce education in shaping students to adapt to a dynamic environment and will ensure students' well-being in an

increasingly digitalized world. Students are prepared with various competencies and insights to run an e-commerce business. Five of the journals are (Feng Wang, 2019), (František Pollák, 2021), (Sarah Bayer, 2021), (Shaolong Zeng, 2023), and (Martini, 2023) which explains the changes in economic income from e-commerce business activities. While two journals, which are (Ce Wang, 2023) and (Shuyu Hu, 2021) explain the results of e-commerce education that shape the mindset and attitude changes of students such as communication in e-commerce business.

The seven journals also explain that e-commerce education can break down national borders and make international trade move towards borderless trade (Xi Yang, 2020). Products from various countries can be accessed by anyone without any restrictions in buying and selling transactions. With that, e-commerce provides the benefits of expanding the marketing and transaction of goods, businesses are more open to the public, more jobs are created, and new economic growth points are created (2020). Therefore, e-commerce education is an education that is in great demand by students because e-commerce education can provide accessibility, convenience, and flexibility in learning. Students can easily access various educational resources for business development both personally and collaboratively. The e-commerce learning system is also not confined to a certain time and space and does not only understand e-commerce concepts and theories. Students are given plenty of space to practice market creation and transactions through digital media to develop digital business skills.

Digital Innovation

Three research articles specifically discuss digital innovation. The three articles are (Yulia Vakulenko, 2019), (Enrique Jim´enez-Rodr´ıguez, 2021), and (Yan Wang, 2020). Yulia Vakulenko, et. al (2019) emphasizes the importance of digital innovation in influencing customer behavior. Digital innovations that will be created by e-commerce certainly provide benefits to customers such as convenience, accessibility to the best products, and more competitive prices. While two journals (Enrique Jim´enez-Rodr´ıguez, 2021) and (Yan Wang, 2020) outline the benefits of digital innovation in reducing risk in e-commerce businesses. Digital innovation will provide a better understanding of changes in customer behavior and provide a faster response to market changes.

Industry

Based on the identification results, there is only one journal that discusses Industry 5.0, which is (Mishachuk Levgeniia, 2022). Mischachuk explained that students' understanding of the pattern of life in Industry 5.0 is a key asset in creating jobs for economic growth. Students can utilize the Internet of Things (IoT), Big Data, and Artificial Intelligence (AI) to run e-commerce businesses. (Skobelev, 2017). All three are digital innovations that facilitate human business work today. Companies can easily conduct transactions with customers and calculations quickly. In addition, industry 5.0 with the growth of highly sophisticated digital innovations contributes to improving product quality and expanding the customer base in e-commerce businesses.

Discussion

From the eleven research articles analyzed, researchers found 4 digital innovation competencies and insights that students need to have in Industry 5.0. (a) Competence and insight of students in dealing with customer behavior. (b) Competence and insight of students in reading opportunities to create jobs. (c) Competence and insight of students in establishing communication or marketing through digital media. (d) Competence and insight of students in minimizing risks in a business. This is supported by the digital competency framework designed by Carretero (2021) for university students in Spain. According to Carretero, the five digital competencies and insights of students in developing e-commerce businesses are information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving (Enrique Jim´enez-Rodr´ıguez, 2021). The five competencies and insights of students preparing for e-commerce business are in line with the four competencies found by researchers.

The analysis of eleven research articles found that customer behavior patterns have become significantly influenced by digital innovation in Industry 5.0. Customers tend to adopt products from e-commerce companies that are suitable for the environmental situation. Then followed by the ability to minimize the risk of company loss and distrust from customers. Meanwhile, the ability of e-commerce in reading business opportunities to get customers and product marketing is not very significant. Thus, the implications of these eleven articles provide awareness to universities in Indonesia that there are changes in behavior patterns in the e-commerce business in Industry 5.0. With that, e-commerce education has a big role in preparing students to face a dynamic digital environment in Industry 5.0. Students need to develop competencies and insights in terms of reading changes in consumer behavior, creating jobs, digital communication, and being able to minimize risks in e-commerce businesses in Industry 5.0.

Conclusion

This research aims to improve students' competencies and insights through e-commerce education. E-commerce education is very important to prepare students for Industry 5.0. Because of the demands on students in Industry 5.0, namely the ability to carry out digital innovation following changes in the online business market environment. From this research, there are 4 main components and insights that students have, namely the ability to read customer behavior, the ability to minimize risk, the ability to read opportunities, and the ability to communicate digitally. These four components are very important for students to have since they are in college. Because this becomes a forum for student strength in developing business through e-commerce. These four components also encourage students to compete in business globally. This research certainly has limitations because it only produces 4 components that students must innovate in the e-commerce business during industry 5.0. Researchers did not further explain the elements of each component in developing an e-commerce business. The explanation of the elements of each component is certainly a recommendation for future research.

References

Bernardus, D. (2022). Psychometric Properties of the Indonesian Adaptation of the Entrepreneurial Mindset Scale . *Richman Publishing*, 1-25.

Borovik, S. &. (2017). On the Way from Industry 4.0 to Industry 5.0: from Digital Manufactoring to Digital Society . *Intenational Scientific Journal "Industry 4.0"*, 1-5.

Cavallo, A. G. (2018). Agile Business Model Innovation in Digital Entrepreneurship: Lean Startup. *Journal of Business Research*, 1-5.

Cavallo, A. G. (2018). Agile Business Model Innovation in Digital Entrepreneurship: Lean Startup Approaches. *Journal of Business Research*, 1-8.

Cavallo, A. G. (2018). Agile Business Model Innovation in Digital Entrepreneurship: Lean Startup Approaches. *Journal of Business Research*, 1-2.

Ce Wang, &. M. (2023). Impact of Education and Its Importance on E-Commerce Platforms Influencing College Students' Abilities and Performance-based Results. *Educational Administration: Theory and Practice*, 95.

Cipto Wardoyo, B. S. (2023). Determinant factors of entrepreneurial ideation among university students: A systematic literature review. *Heliyon*, 4.

Dag Håkon Haneberg, L. A. (2022). Teaching and Facilitating Action-based Entrepreneurship Education: Addressing Challenges towards a Research Agenda. *The International Journal of Management Education*, 1-10.

Enrique Jim´enez-Rodr´ıguez, E. V.-C.-H.-M. (2021). Influence of Computer Knowledge and Level of Education on Spanish Citizens' Propensity to Use E-Commerce. *Social Science Computer Review*, 1-5.

Erlinda, &. A. (2019). Pengaruh E-Commerce terhadap Minat Berwirausaha yang Dimoderasi oleh Pendidikan Kewirausahaan: Studi Kasus pada Mahasiswa Fakultas Ekonomi Universitas Muhammadiyah Aceh. *Jurnal Ilmiah Manajemen Muhammadiyah Aceh*, 101-114.

Febrianto, A. K. (2020). Pengaruh Kemajuan Teknologi Informasi dan Pengetahuan Investasi terhadap Minat Investasi Generasi Milenial di Pasar Modal. *Business Management Journal*, 82.

Feng Wang, &. T. (2019). The Key Role of Applied University Education in Poverty Alleviation by e-Commerce: A Case Study of Rural Taobao in China. *Association for Computing Machinery*, 1-5.

František Pollák, M. K. (2021). Innovations in the Management of E-Commerce: Analysis of Customer Interactions during the COVID-19 Pandemic. *Sustainability*, 1-22.

Huang, S. H. (2021). Design and Implementation of Vocational Education Cross Border E-Commerce Comprehensive Training System Based On Big Data Analysis. *Journal of Physics*, 1-8.

Jacopo Ballerini, D. H. (2023). How commitment and platform adoption drive the e-commerce performance of SMEs: A mixed-method inquiry into e-commerce affordances. *International Journal of Information Management*, 1-16.

Kim, C. W. (2023). Impact of Education and Its Importance on e-Commerce Platforms Influencing College Students' Abilities and Performance-based Results. *Educational Administration: Theory and Practice*, 1-8.

Kohli, R. &. (2018). Digital innovation: A Review and Synthesis. *Research Artikel*, 1-9.

Luo, X. Y. (2020). Research on the talent training mode of application-oriented undergraduate cross-border e-commerce innovation and entrepreneurship education. *2020*

International Conference on Big Data and Informatization Education (ICBDIE) (pp. 1-4). China: ICBDIE.

Luo, X. Y. (2020). Research on the Talent Training Mode of Application-oriented Undergraduate Cross-border E-commerce Innovation and Entrepreneurship Education. *International Conference on Big Data and Informatization Education (ICBDIE)* (pp. 1-4). China: Cornell University Library.

Magno, F. C. (2022). Data-driven use of cross-border e-commerce platforms and export performance: The mediating role of foreign market knowledge acquisition. *Sinergie (Journal of Management)*, 132.

Marcel Goic, A. R. (2021). The Effectiveness of Triggered Email Marketing in Addressing Browse Abandonments. *Journal of Interactive Marketing*, 1.

Marisa, M. (2021). Curriculum Innovation "Independent Learning" in the Era of Society 5.0. *Jurnal Sejarah, Pendidikan, dan Humaniora*, 1-8.

Martini, D. S. (2023). E-commerce and micro and small industries performance: The role of firm size as a moderator. *Journal of Open Innovation: Technology, Market, and Complexity*, 1-8.

Mishachuk Levgeniia, R. Y. (2022). Intellectual Capital as a Factor Forming Economic Security of Enterprises in Society 5. 0. *WSEAS TRANSACTIONS on BUSINESS and ECONOMICS*, 1-9.

Naomi Haefner, J. W. (2021). Artificial Intelligence and Innovation Management: A Review, Framework, and Research Agenda. *Technological Forecasting & Social Change*, 1-3.

Naurah, N. (2023). *Daftar 5 E-commerce Terbesar di Dunia 2023, China Mendominasi Pasar.* Jakarta: GoodStats.

Pertiwi, G. P. (2023). *Pendapatan Bisnis E-commerce di Indonesia Tembus Rp 773 Triliun, Tertinggi Se-Asia Tenggara.* Jakarta: Kompas.com.

Reinaldy Achmad Pradana, D. P. (2023). Manajemen Sumber Daya Manusia Berbasis Digital: Keterampilan dan Peran di Era Digital. *Jurnal Penelitian dan Pengabdian Masyarakat*, 1807.

Rina Agustina, S. N. (2023). Era Digital: Tantangan dan Peluang dalam Dunia Kerja. *Journal of Economics and Business*, 6.

Rodr'igues, E. J.-C. (2021). Influence of Computer Knowledge and Level of Education on Spanish Citizens' Propensity to Use E-Commerce. *Social Science Computer Review*, 3-4.

Sarah Bayer, H. G. (2021). IoT-commerce - opportunities for customers through an affordance lens. *Electronic Markets*, 27-50.

Shaolong Zeng, Q. F. (2023). Logistics density, E-commerce and high-quality economic development: An empirical analysis based on provincial panel data in China. *Journal of Cleaner Production*, 1-10.

Shuyu Hu, &. M. (2021). Design and Implementation of Vocational Education Cross Border E-Commerce Comprehensive Training System Based On Big Data Analysis. *Journal of Physics: Conference Series*, 4.

Skobelev, &. B. (2017). On the Way from Industry 4.0 to Industry 5.0: from Digital Manufacturing to Digital Society. *INTERNATIONAL SCIENTIFIC JOURNAL "INDUSTRY 4.0"*, 308.

TEDxRome (2019). Why Society 5.0 [Recorded by Y. Harayama]. Roma, Roma, Roma .

Vakulenkoa, Y. P. (2019). Service Innovation in E-commerce Last Mile Delivery: Mapping the Ecustomer Journey. *Journal of Business Research*, 1-8.

Vallina, A. (2020). International Trade and Innovation: Delving in Latin American Commerce. *International Trade and Innovation*, 3.

Xi Yang, &. L. (2020). Research on the talent training mode of Application-oriented Undergraduate Cross-border e-commerce Innovation and Entrepreneurship Education. *International Conference on Big Data and Informatization Education (ICBDIE)*, 119-120.

Yan Wang, &. B. (2020). Research and Practice on the Collaborative Education System for the Innovation and Entrepreneurship of E-commerce Major. *International Conference on Big Data and Informatization Education (ICBDIE)*, 1-4.

Yang, X. &. (2020). Research on the talent training mode of Application-oriented Undergraduate Cross-border e-commerce Innovation and Entrepreneurship Education. *2020 International Conference on Big Data and Informatization Education*, 1-4.

Yulia Vakulenko, P. S. (2019). Service Innovation in E-commerce Last Mile Delivery: Mapping the E-customer Journey. *Journal of Business Research*, 1-2.