МАРКЕТИНГ

BUSINESS MODELS AND OPPORTUNITIES OF ARTIFICAL INTELLIGENCE

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Methods. The theoretical and methodological approaches presented in the publications of foreign authors on the problems of artificial intelligence and its use in business processes served as the information base of the research. The methods included analysis of case studies and surveys, expert interviews, as well as a systematic approach and modeling.

Results. The article examines the impact of artificial intelligence on business operations. The capabilities of artificial intelligence to solve economic problems of business structures are characterized and the challenges faced by companies that use it in the course of their business activities are demonstrated. Research results show that artificial intelligence has the potential to significantly improve business operations, in particular, increase labor productivity, save resources and improve the process of management decision-making. The introduction of artificial intelligence through the coordination of digital data has been shown to help incrementally improve business.

Novelty. The benefit of the use of artificial intelligence (AI) and machine learning (ML) technology in the innovation and dynamics of the business model of the corporate digital platform is highlighted.

Practical value. Enterprises that effectively use artificial intelligence can revolutionize exciting new digital business models and practices that empower them to transform the global economic business landscape.

Keywords: Artificial Intelligence, Business model, Opportunities, machine learning (ML) algorithms, Hologram technology.

Statement of problem. Artificial Intelligence has emerged as a transformative technology that is changing how businesses operate. Artificial intelligence refers to the use of algorithms and machine learning techniques to automate tasks traditionally performed by humans. The potential benefits of AI are significant, including increased productivity, cost savings and enhanced decision-making [1, pp. 54-62].

However, the adoption of artificial intelligence also poses several challenges, including data privacy and security, ethical considerations, and potential job displacement.

Analyses of recent papers. According to Fountaine et al., AI can support three important business solutions [2, pp. 62-73]: automated business process computerization from office business activities, Gaining intuition through data inspection, analysis, data analysis and performance metrics, and interact with customers and workforce.

Artificial Intelligence is changing the business as evidenced by Airbnb, Ola, Uber, Flipkart, e-Bay, Amazon, Mantra etc. and other enterprises incorporating its use in the tool of latest business models. This rapidly advancing technology is influencing digital platform business model innovation, although many businesses are exposed to new approaches armed with technology. Develops artificial intelligence technology as a promoter of digital business model innovation.

According to Alhashmi et al, artificial intelligence and machine learning models are computational and mathematical algorithmic models that process data and take into account humanoid experience to make a decision that

an expert would make given the same information [3, pp. 393-405].

This study is based on the issues affecting digital business model innovation through emerging technologies [4, pp. 26-33]. AI in Business aims to take the latest research in artificial intelligence and machine learning, as well as related fields such as cryptography, cryptocurrency and innovation, to develop solutions that will have the greatest business impact.

Aim of the paper. The purpose of the article is to study the possibilities of artificial intelligence to influence the efficiency of business processes in the modern economy.

Materials and methods. *AI opportunities in business.* One of the most important benefits of artificial intelligence in business is increased productivity. By automating repetitive tasks, employees can focus on higher value-added activities. Additionally, AI can help businesses make more informed decisions by analyzing large amounts of data and identifying patterns and trends. This can lead to improved forecasting and better allocation of resources.

Another potential benefit of AI in business is cost savings. By automating tasks, businesses can reduce the need for human labor, which can lead to lower labor costs. In addition, AI optimizes supply chains, reduces inventory costs and improves delivery times.

Despite the potential benefits of artificial intelligence, its adoption also creates several challenges for businesses. One of the most important challenges is data privacy and security. As businesses collect and analyze more data, there is a risk of data breaches and cyberattacks. Finally, the potential for job displacement is also a concern, as AI can automate many tasks traditionally performed by humans.

According to a survey conducted by McKinsey & Company, the adoption of artificial intelligence is still in its early stages in most businesses. Only 8% of respondents said their organizations have used AI at scale, while 23% said their organizations are piloting or experimenting with AI. The survey also found that the most significant barrier to AI adoption is a lack of understanding of the technology and its potential applications [5, p.19].

Despite the low adoption rate of AI in business, there are several examples of successful AI implementations. For example, General Electric (GE) has implemented AI in its gas turbines manufacturing process. By using artificial intelligence to predict potential problems in the manufacturing process, GE was able to reduce lead times and increase productivity. Another example is JPMorgan Chase, which has implemented an AI-powered system to review legal contracts. The system was able to review contracts in seconds, a task that would take lawyers thousands of hours to complete.

Innovations in the AI business model. According to Armour & Sako, business intelligence and artificial intelligence are some of the latest methods and tools for automated systems for business innovation. These cutting-edge tools are useful for designing, inventing and advertising, soft promotion, marketing and sales that are almost in sync with the business model of the platform. Artificial intelligence and data intelligence tools are growing during this period [6, pp. 27-46]. The exponential growth of artificial intelligence and cloud computing enhances the connotations of design, innovation, reasoning, cognition and appreciation [7, pp. 62-73]. Therefore, the opportunity to grow AI business models over the years is becoming more and more through data and business intelligence.

Nowadays, companies use data intelligence to develop their business along with artificial intelligence. Data intelligence (DI) is a dynamic part of any institution's energy to reinvent amenities and revolutionize the modern policies they implement. By using data mining techniques to collect shopping preferences, buying behaviors, pricing preferences, color preferences, style preferences, online trends, and other individual information, businesses can better tailor their services.

Artificial intelligence is now competent enough to reconstruct business strategy and trade worldwide. Industrialization and increasing growth of technological innovation, synchronization of various communication channels with 4G LTE, 5G technology is strengthening the business culture.

According to Ferrario et al., since the last few decades, artificial intelligence (AI) and machine learning (ML) algorithms have become

widespread in the business arena and solve many of the latest business applications and create a knowledge-based portfolio for future businesses [8, pp. 523-539]. Regarding the results, AI has helped many businesses to improve production cost, productivity, technological synchronization and automatic renewal and solve the global business economy on earth.

Artificial intelligence is moving out of the R&D labs and into the business world. Millions of industries around the world and top companies are harnessing the power of artificial intelligence and applied artificial intelligence (AAI). Most business industries detect fraud using machine learning algorithms in nanoseconds to improve customer satisfaction. The remarkable growth of machine learning tools, business platforms and application-based tools creates business efficiency.

Most of the top companies like Microsoft, Facebook, Apple, Google, Amazon, Myntra, Flipkart and IBM are funding the research and development of applied intelligence and artificial intelligence for the benefit of the company and customers. Some traits and attributes can be predicted using artificial intelligence and machine learning algorithms from digital recordings of human behavior. [9, p.76] (Fig. 1).
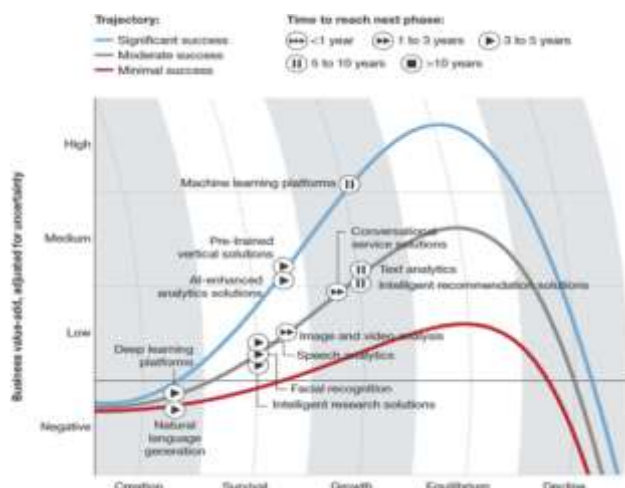

Fig. 1. Ecosystem phase (León et al., 2020)

AI jobs with deep learning knowledge are growing faster. Deep learning is a type of machine learning that develops algorithms known as artificial neural networks that work by modeling the structure and functions of the human brain and cognition [10, p.144].

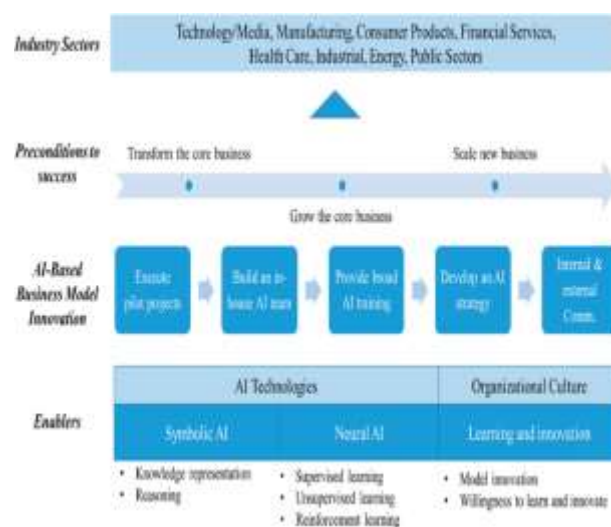The general AI-based business model can be depicted as below (Fig. 2):

Fig. 2. AI business model

Although, the developed countries like USA, UK, European countries, and some of the Asian countries like China, Japan, Korea, India, and many more are having good infrastructure for AI-based business [11, pp. 157-169]. They have competent enough software developers to apply cutting-edge decision-making technology. The Hologram technology (HT) with artificial intelligence (AI) is now new innovative trends for business and marketing [12, p. 602]. Samsung in their white paper address the concept of hologram technology and its impact on next-generation business. Samsung white papers address the issues of 5G vs 6G technology appearance and its appropriate influence on cutting edge business and explained the following Hologram technology.

According to Samsung, the hologram technology takes the truly immersive XR, a high-precision mobile hologram and a digital replica. Pictorial perspectives are shown below [13, p.234]. (Fig. 3).

Artificial intelligence is bringing phenomenal changes to the business framework and transforming the business culture of how to work in the digital age [14, pp. 108-116].

Functionality, fabrication, requirements, automated and robotic help center and other important environments will lead to even more attractive economic revolutions [15, pp. 27-78].

According to Chan et al., technology-driven business leads to an important

conclusion: because the integration of the Internet of Things (IoT) allows us to improve the business environment [16, pp. 1-8].

Fig. 3. Hologram technology (Samsung White Paper, 2020)

Conclusions. The adoption of artificial intelligence presents both opportunities and challenges for businesses.

This study provides an ephemeral impression of AI in modern AI development and describes how it is changing digital platform business models.

How AI and hologram technology are transforming the business model and changing business dynamics are presented through many discussions. The article presents AI technology as a digital and algorithmic catalyst for business model innovation. Also, these studies focus on the dynamics affecting digital business model innovation driven by emerging technology.

According to Daugherty & Wilson, the development of artificial intelligence technologies and big data analytics will remain to open supply systems and create experiments [17, p.278].

References

1. Brynjolfsson, E., & McAfee, A. (2017). The business of artificial intelligence. Harvard Business Review, 95(1), pp. 54-62;

2. Fountaine, T., McCarthy, B., & Saleh, T. (2019). Building the AI-powered organization. *Harvard Business Review, 97*(4), pp. 62-73;

3. Alhashmi, S. F., Salloum, S. A., & Abdallah, S. (2019, October). Critical success factors for implementing artificial intelligence (AI) projects in Dubai government United Arab Emirates (UAE) health sector: Applying the extended technology acceptance model (TAM). In *International Conference on Advanced Intelligent Systems and Informatics*, (pp. 393-405). Springer;

4. González-González, I., & Jiménez-Zarco, A. I. (2014). The MOOC phenomenon: The current situation and an alternative business model. In *eLearn Center Research Paper Series*, (pp. 26-33);

5. Manyika, J., Chui, M., Brown, B., Bughin, J., Dobbs, R., Roxburgh, C., & Byers, A. H. (2017). Artificial intelligence: The next digital frontier?. McKinsey Global Institute, p.19;

6. Armour, J., & Sako, M. (2020). AI-enabled business models in legal services: from traditional law firms to next-generation law companies? *Journal of Professions and Organization*, 7(1), pp. 27-46;

7. Fountaine, T., McCarthy, B., & Saleh, T. (2019). Building the AI-powered organization. *Harvard Business Review*, *97*(4), pp. 62–73.

8. Ferrario, A., Loi, M. & Viganò, E (2020). In AI We Trust Incrementally: a Multi-layer Model of Trust to Analyze Human-Artificial Intelligence Interactions. Philos. Technol. 33, pp. 523-539. https://doi.org/10.1007/s13347-019-00378-3.

9. Morley, J., Floridi, L., Kinsey, L., & Elhalal, A. (2019). From what to how. An overview of AI ethics tools, methods and research to translate principles into practices. P.76.
https://doi.org/10.2139/ssrn.3830348

10. León, M. C., Nieto-Hipólito, J. I., Garibaldi-Beltrán, J., Amaya-Parra, G., Luque-Morales, P., Magaña-Espinoza, P., & Aguilar-Velazco, J. (2016). Designing a model of a digital ecosystem for healthcare and wellness using the business model canvas. Journal of medical systems, 40(6), p.144.
https://doi.org/10.1007/s10916-016-0488-3

11. Gursoy, D., Chi, O. H., Lu, L., & Nunkoo, R. (2019). Consumer's acceptance of artificially intelligence (AI) device use in service delivery. International Journal of Information Management, 49, pp. 157–169.
https://doi.org/10.1016/j.ijinfomgt.2019.03.008

12. Ghoreishi, M., & Happonen, A. (2020). New promises AI brings into circular economy accelerated product design: A review on supporting literature. In E3S Web of Conferences, (vol. 158, p.602). EDP Sciences;

13. Samsung White Paper (July 14, 2020):https://research.samsung.com/next-generation-communications ; pp.234.

14. Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world: Don't be fooled by the hype. Harvard Business Review, 96(1), pp. 108-116.

15. Gentsch, P. (2019). AI Business: Framework and maturity model. In AI in Marketing, Sales and Service, (pp. 27–78). Palgrave Macmillan.
https://doi.org/10.1007/978-3-319-89957-2_316.

16. Chan, L., Morgan, I., Simon, H., Alshabanat, F., Ober, D., Gentry, J., … Cao, R. (2019, June). Survey of AI in cybersecurity for information technology management. In *2019 IEEE Technology & Engineering Management Conference (TEMSCON)*, (pp. 1–8). IEEE;

17. Daugherty, P. R., & Wilson, H. J. (2018). *Human+ machine: Reimagining work in the age of AI*. Harvard Business Press, p.278.

БІЗНЕС-МОДЕЛІ ТА МОЖЛИВОСТІ ШТУЧНОГО ІНТЕЛЕКТУ

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Методологія дослідження. Інформаційною базою дослідження послугували теоретико-методологічні підходи, представлені в публікаціях зарубіжних авторів з проблем штучного інтелекту та його використання в бізнес-процесах. У якості методів було аналіз тематичних досліджень та опитувань, експертні інтерв'ю, а також системний підхід та моделювання.

Результати. У статті досліджується вплив штучного інтелекту на функціонування бізнесу. Охарактеризовано можливості штучного інтелекту вирішувати економічні проблеми підприємницьких структур та продемонстровано ті виклики, перед якими постають компанії, які його застосовують під час провадження своєї господарської діяльності. Результати досліджень показують, що штучний інтелект має потенціал для значного покращення бізнес-операцій, зокрема, підвищення продуктивності праці, економії ресурсів і покращення процесу прийняття управлінських рішень. Продемонстровано, що впровадження штучного інтелекту через координацію цифрових даних допомагає поступово покращувати бізнес.

Новизна. Виокремлено профілактичний бік використання штучного інтелекту (ШІ) та технології машинного навчання (ML) в інноваціях та динаміці бізнес-моделі корпоративної цифрової платформи.

Практична значимість. Підприємства, які ефективно використовують штучний інтелект, можуть революціонізувати нові захоплюючі цифрові бізнес-моделі та практики, які дають їм можливість змінити глобальний економічний бізнес-ландшафт.

Ключові слова: штучний інтелект (ШІ), бізнес-модель, можливості, алгоритми машинного навчання (ML), технологія голограм.