



A Study of Artificial Intelligence and E-Commerce Economy

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ABSTRACT

Artificial intelligence (AI) is a cutting-edge design and interaction technology aiding organizations in the competitive international e-commerce landscape. Research on AI in this field remains incomplete, as few papers have examined the evolution of knowledge infrastructure. AI's development will influence international trade in various ways, including macroeconomic impacts and related trade effects. For example, if AI boosts productivity growth, it could spur economic growth and create new international trade opportunities. Currently, global productivity growth rates are low, with multiple proposed causes. Low productivity growth is crucial in understanding AI's potential impact since economies take time to effectively integrate and utilize new technologies, especially complex ones like AI. AI is already influencing the development and management of global value chains (GVCs). It enhances predictions of future trends, such as shifts in consumer demand, and improves risk management across supply chains. By enabling businesses to manage complex, dispersed production units more effectively, AI tools can increase the overall efficiency of GVCs. This research highlights that international e-commerce innovation has revolutionized shopping, allowing consumers to purchase goods and services from anywhere in the world with a few clicks. Technological advancements have propelled international e-commerce beyond simple online transactions. Future changes in international e-commerce payments will be driven by technological advances and evolving consumer preferences. To succeed in this fast-paced environment, businesses must adapt by integrating cutting-edge payment methods and prioritizing secure, seamless experiences. Finally, the continuous growth of technical intelligence has spurred innovations and updates that simplify business operations and accelerate progress.

1. Introduction

Artificial intelligence usually refers to the artificial fabrication of human minds that can learn natural language, plan it, perceive it or process it. It is the theory and development of computer systems that can generally carry out activities requiring human intelligence, such as visual perception, recognition of speech, decisionmaking and language translation. International e-

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commerce refers to a business model permitting governments, businesses, and individuals to engage in activities related to trading over the Internet by applying certain technologies to exchange information and manage knowledge-facilitating activities within and across value chains, as well as decision-making processes underpinning these tasks (Holsapple& Singh, 2000).AI is the most representative of such technologies. Accurately analyzing complex and ambiguous external information, making sense of such data, and leveraging those lessons to accomplish business goals (Kaplan &Haenlein, 2019) have driven the intelligent development of international e-commerce companies.



Figure 1: Artificial intelligence and emerging technologies in the international electronic commerce economy.

Depending on the specific application scenario, AI can be conceived as a system, an algorithm, or a paradigm (Bawack et al., 2022). Artificial intelligence is an IT industry that mostly works with machines which are built to operate like a human being. John McCarthy (AI's dad) described AI as “the scientific and technical knowledge of developing smart computer programs in particular. In actuality, artificial knowledge increases accountability and sustainable performance (Di Vaio et al., 2023b), improves purchasing capacity and process integration (Ordanini&Rubera, 2008), and provides consumers with personalized and convenient services, especially by enhancing interactivity through voice assistants and virtual reality (see Figure 1).

AI has transformative impacts on international trade. Moreover, specific applications in areas such as data analytics and translation services are reducing trade barriers. At the same time, there are challenges in the development of AI that international trade rules could address, such as improving global access to data to train AI systems. The following provides an overview of some of the critical AI opportunities for trade and areas where trade rules can help support AI development. AI, which is sometimes called machine intelligence, refers to the intelligence shown by machines in various situations, which is in contrast to natural intelligence in humans; in other words, AI refers to systems that can react similarly to intelligent human behaviors, including understanding complex situations, simulating human thinking processes and reasoning methods and successfully responding to them, learning and having the ability to acquire knowledge and reason to solve problems. AI is the latest design and interaction technology to support organizations in competitive electronic commerce (international e-commerce). Electronic commerce (international e-commerce) refers to a business model permitting governments, businesses, and individuals to engage in activities related to trading over the Internet by applying certain technologies to exchange information and manage knowledge, facilitating activities within and across value chains, as well as decision-making processes underpinning these tasks. AI is the most representative of such technologies. Accurately analyzing complex and ambiguous external information, making sense of such data, and leveraging those lessons to accomplish business goals has driven the intelligent development of international e-commerce companies. Depending on the specific application scenario, AI can be conceived as a system, an algorithm, or a paradigm. Artificial knowledge increases accountability and sustainable performance, improves purchasing capacity and process integration, and provides consumers with personalized and convenient service, especially by enhancing interactivity through voice assistants and virtual reality. In international e-commerce, AI inherently refers to adopting AI systems, tools, techniques, or algorithms to support business activities associated with online purchasing and selling products or services. It is reshaping international commerce by correctly comprehending and interpreting external information, acquiring knowledge from such data, and applying these insights to accomplish particular goals through flexible adjustments (Chandra et al., 2022; Glikson & Woolley, 2020).

2. Literature Review

Machine learning and profound learning are two of the most often utilized AI methods. These models learn from data and are used for predicting by individuals, firms and government organizations. Machine learning models for the complexity and diversity of data in the food business are nowadays being developed. AI studies human intelligence phenomena and develops computer systems capable of emulating behavioral patterns and generating problem-solving knowledge. With the promise of surmounting the cognitive and physical boundaries of humans, it unlocks many application possibilities, especially in enhancing the performance and productivity of organizations (Dwivedi et al., 2019). In e-commerce and financial industries with a major aim to design standard, reliable product quality control methods and the search for new ways of reaching and serving customers, while at the same time maintaining low cost, has required deployed AI in order to achieve better customer experience, efficient management of the supply chain, improved operational efficiency, reduced mate size. The anticipated business benefits include optimizing decision-making and internal business processes, refining and innovating existing products or services, liberating employees for more creative tasks, and expanding into new markets (Davenport & Ronanki, 2018). AI in international e-commerce refers to the adoption of AI systems tools, techniques, or algorithms to support business activities associated with the online purchase and sale of products or services. AI is reshaping international e-commerce by correctly comprehending and interpreting external information, acquiring knowledge from such data, and applying these insights to accomplish particular goals through flexible adjustments (Bawacket al., 2022). This article presents applications of machine learning and artificial intelligence in e-commerce, business management and finance. Major applications include sales increase, profit maximization, sales prediction, inventory management, security, fraud detection and portfolio management. The latent advantages of implementing AI in international commerce have been substantiated. For example, Chen et al. (2022) examined the impact of the technical benefits of AI on firm performance, including the rate of market share expansion, the introduction of novel products or services, and the likelihood of encountering financial difficulties. The empirical results indicated that the contribution of building, integrating, and utilizing AI-related resources is positively correlated with firm performance, thereby supporting international e-commerce companies in achieving competitive advantages. Di Vaio et al. (2023b) demonstrated that artificial knowledge and digitalization drive transformation

in supply chain management by increasing accountability and sustainable performance. Thus, integrating AI-related resources into the enterprise business model is an effective strategy for overcoming the challenges associated with rapidly changing customer demand and stiff homogeneous competition. However, many individual organizations are grappling with one formidable task: adapting their business models to ensure alignment between AI and organizational goals from a strategic and operational perspective to drive transformative changes with far-reaching implications for the economic and social fabric. Indeed, many challenges exist in applying AI-related resources in e-business practices. In terms of online retail sales gains, many international e-commerce companies still need to meet expectations, primarily because managers often struggle with effectively integrating AI with existing processes and systems.



Figure 2: Artificial intelligence as a new technology.

Thus, conducting more synthesizing research on AI in international e-commerce is necessary to provide a background to describe, comprehend, or decipher phenomena and inform academic and technical orientations in this area of research (Cram et al.,2020). AI, as a new technology (see Figure 2), has the potential to revolutionize various aspects of marketing operations. This technology can analyze demand-related data and forecasts, optimize logistics and transportation routes, and identify supply chain inefficiencies. Agents active in the marketing network, such as

companies active in production and e-commerce, continuously use new technology to solve their supply chain problems. In today's world, customers want a supply chain with personalized and reliable solutions. AI has provided a system for companies to identify each customer's profile and offer customized products without compromising people's security or privacy (Azizi., 2024). Resource-Based Theory (RBT) provides a managerial framework that supports business organizations in identifying strategic resources that can be leveraged to achieve and maintain competitive advantages. In light of RBT, Sirmon et al. (2011) proposed the resource orchestration perspective to elucidate how a company achieves competitive advantages by dynamically allocating and organizing its resources. There are two main research streams. One stream center around the influence of resource orchestration on outcomes, such as innovation (Cui et al., 2017), performance (Wales et al., 2013), and value creation (Wang et al., 2012). The other stream aims to determine resource-focused activities in distinct contexts (Pan et al., 2020). Based on RBT, AI-related resources are increasingly deemed pivotal and intangible assets for advancing business performance (Lou & Wu, 2021) and may provide businesses with competitive advantages.

Meanwhile, the capabilities related to organizing AI in international commerce are also considered particularly valuable from the perspective of resource orchestration. Efficient and effective implementation requires significant infrastructure, including technical support, software and hardware devices, and data resources. Most of the businesses of International-Commerce firms are carried out online, which gives them a natural advantage in accessing data resources (Wang & Fan, 2021). Despite possessing this advantage, the ability of companies to orchestrate AI is more crucial (Denicolai et al., 2021).

The international e-commerce industry has grown significantly in revenue and market share. This development has been attributed to several factors, including increased disposable income, improved internet infrastructure, and supportive government regulations (Bhuyan et al., 2021). A few major players, including domestic and foreign companies, dominate the international e-commerce market. These companies compete for market share in various industries, including grocery, fashion, and electronics (Pan et al., 2020). Online purchasing has surged due to changing consumer behavior brought about by rising digital literacy and smartphone adoption. Customers of all ages increasingly choose e-commerce platforms because of their accessibility and convenience (Raju, 2020). For international e-commerce to flourish, infrastructure

improvements in the logistics sector are essential. The effectiveness and speed of product delivery have increased due to investments in supply chain optimization, instant delivery, and warehousing (Venkatesh, 2021).

International e-commerce is transforming due to AI, which makes tailored experiences, sophisticated search features, and focused marketing efforts possible. Chatbots, virtual assistants, and recommendation engines driven by AI are improving consumer satisfaction and engagement (Bhardwaj et al., 2021). The use of AI in international e-commerce operations will increase. AI-powered tools such as voice assistants, augmented reality, and predictive analytics will improve supply chain management, customer service, and personalization (Shah et al., 2021). The smooth merging of online and offline channels, known as omni-channel retailing, is expected to increase in the international e-commerce market. Retailers are concentrating on offering a consistent purchasing experience over various touchpoints, such as physical locations and online and mobile applications (Pandey et al., 2021). One of the critical issues in international business is risk control and risk management. AI can provide the necessary information and strategies for operational risk management through dynamic analysis of risk sources. AI in international business optimizes risk management by considering interoperability, data reliability, social impacts, and environmental and safety concerns (Azizi., 2021). Many of India's rural communities have unrealized international e-commerce for rural consumers, facilitated by enhanced internet connectivity, infrastructure development, and customized services, creating new markets (Verma& Singh, 2021). Improving customer ease and encouraging cashless transactions require improving the digital payment environment. International e-commerce growth will be fueled by investments in mobile wallets, secure payment gateways, and innovative technologies (Pan et al., 2020). Fast delivery infrastructure must be improved to guarantee prompt and effective order fulfillment. Many issues are being addressed by creative solutions such as real-time tracking systems, drone deliveries, and alliances with neighborhood merchants (Dutta et al., 2021).

3. Research Methodology

The study is conceptual and exploratory. Researchers have explored various studies conducted on international e-commerce.

Research Objectives: The objectives of the study are as follows:

To explore the emerging technologies and innovations in the field of international e-commerce.

-To examine the application and impact of AI on international e-commerce.

Data collection: The study used secondary data from research articles, magazines, websites, journals, etc. (see Figure 3).

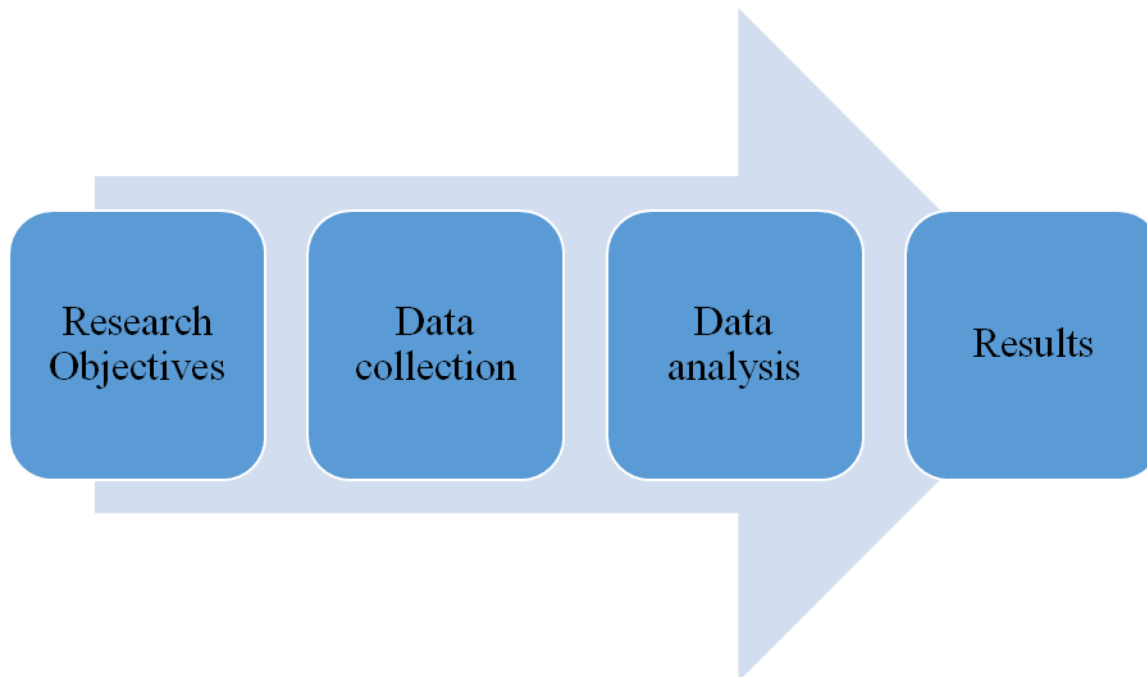


Figure 3:Research methodology.

4. Artificial intelligence and business

The act of transforming an input collection of instances P into a unique collection of characteristics Q , also known as target attributes or labels, is known as classification. Classification techniques such as decision tree classifiers, bayesian classifiers, and artificial neural networks, nearest neighbor classifiers, random forest, and support vector machines are used in a variety of applications. We'll go through each of them briefly. Each strategy is based on the learning algorithm that it utilizes. A decision tree is one of the most basic and simple classifiers used to solve classification issues. A decision tree is a graph in which occurrences are classified by sorting them depending on their feature values. The decision tree is composed of nodes and branches, with each node representing a classification instance and each branch representing a value that the node might take on. In decision, instance categorization starts at the root node, and instance sorting is done based on feature values. Predicting the class label for a given collection of input qualities can be challenging in some situations. Furthermore, even when utilizing the specified input attributes set values to match some of the attributes in the training

data set, class variables are nondeterministic. This is possible due to the presence of some noisy data and perplexing features that are not considered during analysis. For example, projecting the possibility of heart disease in a given person based on that individual's daily activity.

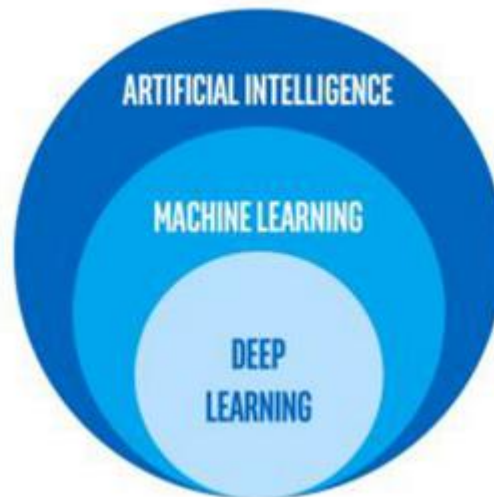


Figure 4: Relationship between Artificial Intelligence and Machine Learning.

Before proceeding to the impact of AI on trade, it is essential to clarify what AI means. More specifically, there is a critical difference between narrow AI, such as translation services, chatbots, and autonomous vehicles, and general AI— “self-learning systems that can learn from experience with humanlike breadth and surpass human performance on all ”tasks.” General AI raises broader existential concerns, such as how to align the goals of such a system with our own to prevent catastrophic outcomes. However, general AI remains a technology that will be developed soon (See et al., 2018).

To understand the potential significance of narrow AI for trade, briefly considering its core parts is also essential. In particular, narrow AI is based on machine learning, which uses large amounts of data and powerful algorithms to develop increasingly robust predictions (Stuart et al., 2015). The data used for machine learning can be either supervised—data with associated facts, such as labels—or unsupervised—raw data that require the identification of patterns without prior prompting (Kevin., 2007). This includes reinforcement learning—in which machine learning algorithms actively choose and generate their training data.

Another critical development underpinning narrow AI is the Deep Neural Network (DNN). DNNs are composed of layers of nonlinear transformation node functions, where the output of each layer becomes an input to the next layer in the network. Each layer is highly modular,

making it possible to use a layer optimized for one type of data (e.g., images) and to combine it with other layers for other kinds of data (e.g., text)(Matt., 2018). Deep neural networks combine multiple machine learning tasks—creating what is referred to as general purpose machine learning (GPML)—which allows AI to effectively live on top of the types of chaotic data that humans can digest, such as video, audio, and text. Narrow AI also includes specific tools such as out-of-sample validation to validate models, stochastic gradient descent for training models on streams of data, and graphical processing units (GPUs)—initially developed for video games but which have proven well-suited to support the types of massively parallel computations needed to train DNNs. Applying these developments in a real-world context requires large data sets to initialize AI systems. Here, quantity matters because machine learning needs to incorporate as many possible past outcomes into future predictions as possible. This means that access to the tails of data—less usual and irregular data—matters (Remes et al., 2018).

4.1 The impact of AI on economic growth and international trade

The development of AI will affect international trade in several ways. One is the macroeconomic impacts of AI and the related trade effects. For instance, should AI increase productivity growth, boost economic growth, and provide new opportunities for international trade? Current rates of productivity growth globally are low, and various suggested causes exist. Low productivity growth is particularly relevant for understanding the potential link with AI. It takes time for an economy to incorporate and effectively use new technologies, particularly complex ones with economy-wide impacts such as AI (Erik et al., 2017). This includes time to build a large enough capital stock to have an aggregate effect and the complementary investments needed to take full advantage of AI investments, including access to skilled people and business practices, which will also affect the type and quality of economic growth, with international trade implications. For instance, AI will likely accelerate the transition toward service economies and affect the type and quality of economic growth, with international trade implications. For example, AI is likely to accelerate the transition toward service economies. This is a corollary to concerns about the impact of AI on jobs, as AI is expected to expand automation and speed up job losses for low-skill, blue-collar workers in manufacturing fields (Arent et al., 2016). In parallel, AI will also emphasize particular worker skills, as they are used to add value to production and products. This should further expand the share of services in production and international trade.

4.2 Specific AI applications to international trade

AI is already impacting the development and management of global value chains. It can improve predictions of future trends, such as changes in consumer demand, and better manage risk along the supply chain. By allowing businesses to manage complex and dispersed production units better, such tools can improve the overall efficiency of GVCs. For example, companies can use AI to improve warehouse management, demand prediction, and the accuracy of just-in-time manufacturing and delivery. Robotics can increase productivity and efficiency in packing and inventory inspection. Businesses can also use AI to enhance physical inspection and maintenance of assets along supply chains. The development of GVCs will be affected by broader trends toward using AI to develop innovative manufacturing. For instance, the German-led conception of Industry 4.0 is based on sensors, the IoT, and cyber-physical systems that connect machines, materials, supplies, and customers. This will include capacity at the factory level of predictive machines and self-maintenance, complete communications between companies along the supply chain, and the ability to manufacture according to customer specifications, even in small or single batches (Dani.,2015). Such developments could strengthen and extend GVCs. For example, smart manufacturing, emphasizing connectivity, could open GVCs to more specific participation by specialized service suppliers in areas such as R&D, design, robotics, and data analytics tailored to discrete tasks in the supply chain. However, AI could also create trends toward production on-shoring. Broader automation opportunities and the scaling of 3D printing could reduce the need for extended supply chains—particularly those that rely on large pools of low-cost labor. The results could accelerate the process described by DaniRodrik as “premature industrialization” in developing countries (Qin et al., 2016).

4.3 Platforms and International Trade Negotiations

Another area where AI is already deployed is digital platforms such as eBay. For small businesses, in particular, digital platforms have provided unprecedented opportunities to go global. In the U.S., for instance, 97 percent of small businesses on eBay export, compared to just 4 percent of offline peers. In particular, for small companies, digital platforms have provided unprecedented opportunities to go global. AI-developed translation services further enable digital platforms to drive international trade. For example, because of eBay’s machine translation service, eBay-based exports to Spanish-speaking Latin America increased by 17. 5% (a 13.1% increase). To contextualize this growth, a 10 percent reduction The distance between countries is

correlated with increased trade revenue of 3.51%, so a 13. A 1% increase in revenue from eBay's machine translation is equivalent to reducing the distance between countries by more than 35%. AI also has the potential to improve outcomes from international trade negotiations. For instance, AI could be used to better analyze the economic trajectories of each negotiating partner under different assumptions, including outcomes contingent on trade negotiation (growth pathways under various forms of trade liberalization), how these outcomes are affected in a multiplayer scenario where trade barriers are adjusted at different rates, and how to predict the trade response from countries not party to the negotiation. Brazil has already established an Intelligent Tech & Trade Initiative using AI to improve trade negotiations. (Brynjolfsson et al., 2018).

4.5 Artificial intelligence and the importance of data

In addition to the impact of AI on international trade patterns, trade rules, as reflected in the WTO and FTAs, can also play a role in supporting the development of AI. The following section outlines some key areas where trade rules will matter for AI development and deployment globally. Data localization measures that restrict the ability to move data globally will reduce the capacity to develop tailored AI capabilities. Trade commitments to the free flow of data globally, as reflected in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and, more recently, in the United States-Mexico-Canada Agreement (USMCA), will support the development of AI. As outlined above, access to large amounts of data is needed to train AI systems. Building AI systems that can respond to diverse challenges and different population groups requires access to global data. To take a relatively straightforward example, the development of speech-recognition AI needs access to large amounts of speech data that can capture local slang and intonation and less commonly used words.

As a result, data localization measures that restrict the ability to move data globally will reduce the capacity to develop tailored AI capabilities.

Moreover, the development and use of AI are built on other digital technologies, the key being cloud computing, big data, and the Internet of Things. These digital technologies also rely on cross-border data flows. This means that data localization measures that restrict global data transfers will hit AI directly by providing less training data and indirectly by undercutting the building blocks on which AI is built. Restrictions on cross-border data flows will likely impact smaller (often developing) countries the most significant impact. With extensive internal

populations, the U.S. and China rely less on access to data from third countries to develop AI capabilities tailored to their domestic markets. However, countries with smaller populations will require access to global health data to build AI in areas such as health care. Limitations on access to such data will reduce the accuracy and relevance of AI systems for developing countries. Improving access to data for AI development will also require governments, as repositories of large data sets, to make such data publicly available. Here, the USMCA has made progress, including recognition by the parties of the importance of access to government information for economic and social development and, to the extent possible, making government data accessible in machine-readable and open formats (AadityaandJushua., 2018).

4.6 Privacy and AI

Commitments to cross-border data flows in trade agreements are balanced with the scope for governments to restrict data flows to achieve legitimate public policy objectives. Maintaining domestic privacy standards is crucial for the government to reduce personal data flow across borders. For instance, the E.U. General Data Protection Regulation (GDPR) prohibits transfers of personal data to countries that have not been deemed “adequate” by the European Commission. GDPR limits the processing and use of personal data, which could adversely impact the development of AI capabilities. For instance, under the GDPR, personal data can only be used for the purpose they were collected. This means personal data collected during a transaction cannot be used to train AI to improve service delivery. The GDPR requirement that companies minimize the amount of data they collect and how long the data are kept is also at odds with developing data sets for training AI. GDPR limits the processing and use of personal data, which could adversely impact the development of AI capabilities. Applications of Artificial Intelligence and Machine Learning in Business management, e-commerce and finance are discussed in this section.

Chatbots: Most of the E-commerce and financial web sites are using chatbots to improve customer satisfaction and provide enhanced services to customers. These chatbots are developed using artificial intelligence and machine learning techniques. They are capable of behaving like humans. These chatbots have learning capability; on the basis of availability of past data they are capable of providing best recommendation to customers. **Image search:** Image search on e-commerce web site is implemented using artificial intelligence. It is based on image processing algorithms. It helps in improving customer services. Customers are able to search item by images

it. There is no need to search item using the keywords. Handling Customer Data: E-commerce has a large amount of associated data. Machine learning algorithms are capable of performing analytical study on past data related to sales, human resources, marketing, and customer purchase pattern. This analytical result can help in profit maximization, sales maximization, resources optimization. This helps ecommerce and fintech companies to finaliz their products for a particular type of customer.

Recommendation Systems: Machine learning algorithms are able to perform analysis of customer past data related to customers choice, behavior. They can predict customer choices effectively and can suggest or recommend most suitable products to customer. It helps e-commerce and financial companies in increasing sales and customer satisfaction. Inventory Management: Artificial intelligence algorithms help e-commerce companies in managing inventory. These algorithms perform analytical study on past sales data and they find a correlation between the current sales and future sales. It helps managers in predicting future sales and maintain inventory accordingly. Cybersecurity: Machine learning algorithms are capable of detecting vulnerabilities in system and provide suitable security solutions to keep e-commerce platform secure. Financial companies also find machine learning algorithms suitable for fraud detection and prevention. CRM: In the past, CRM used the employees to gather a vast quantity of data to collect the data and to service the customers. Today, however, artificial intelligence is able to forecast which clients will buy and how we can better deal with them. Artificial intelligence applications may be used to assist determine trends and plan activities based on the newest trends. Advanced CRM may learn and improve over time with the aid of machine learning techniques.

Credit Scoring, Loan Underwriting, Portfolio management: Machine learning algorithms are able to classify past data and can predict future data on the basis of analysis of past data. These algorithms help up to a great extent in Credit Scoring, Loan Underwriting and Portfolio management. It helps companies in cutting down risk. Human Resources: The proper source to obtain the candidate is identified by AI Engines. NLP may also assist select applicants using screen resumes. Today, AI bots are utilized for video interviews, even for first-tier screening. This can save time and enhance the process of recruiting. But after recruiting and selection, the work of an HR does not cease. The commitment of employees is also an important part that AI can improve. Machine learning can propose innovative training techniques. Sales: Sales begin

with customer acquisition. AI can assess your company goals together with multiple data sources and then propose the most relevant client acquisition possibilities. Price optimization with the aid of AI and ML may also be achieved to maximize profit. AI and ML may also contribute to the improvement of consumer suggestions and market basket analysis for improved sales.

On the other hand, strong privacy will be required if people can trust living their lives online, including providing immense amounts of personal data for AI learning. From this perspective, there is no inherent trade-off between developing AI and privacy. The critical challenge will be designing privacy rules that do not create unnecessary data access and use restrictions. Trade rules can assist by including commitments on data-importing nations to protect personal data privacy from the data-exporting country. This could be achieved by encouraging the mutual recognition of privacy systems and developing common regional and global privacy principles (Musleh AlSartawi, 2021).

4.7 Applications of artificial intelligence in economics

AI in the economy has been considered a vital and critical technology for improving economic development. The applications of AI in the economy are as follows:

1. Predicting market behavior

AI can help predict market changes by analyzing market data and information related to stocks, currencies, goods, and services. This analysis can help investors, investment managers, and others make decisions. Other critical applications of AI include the following:

2. Improving risk management, 3. Improving financial management, 4. Improving financial forecasts, 5. Improving supply chain management.

4.8 Block-Chain-Based Supply Chain and Securing the Future of Transactions

An international e-commerce supply chain can be made more efficient with the help of blockchain technology. Its open and decentralized architecture makes it possible to trace products safely and effectively from production to distribution. Businesses may increase supply chain visibility, lower fraud, and foster customer trust by using blockchain technology to guarantee product authenticity and traceability. Cryptocurrency-related blockchain technology has the potential to completely transform international e-commerce by ensuring safe and open transactions. Beyond its connection to virtual currency, blockchain offers a tamper-proof ledger that improves supply chain transparency and confidence. Blockchains have a wide range of applications in the future of e-commerce, from product accountability to contract automation.

Companies using this technology will increase customer trust while strengthening transaction security (Bhardwaj et al., 2021).

4.9 AI and trade in goods

While much AI development focuses on data access, standards, and I.P., access to goods will also affect AI development globally. In particular, and as noted above, CPUs are critical hardware used in deep neural networks. Trade in CPUs is therefore needed for the development of AI globally. This underscores the ongoing role of reducing tariffs in supporting access to the technologies needed for AI development. The report's author, Joshua Meltzer, gratefully acknowledges the support he received from the Hinrich Foundation for a related Digital Economy and Trade Project. Brookings recognizes that the value it provides is in its absolute commitment to quality, independence, and impact. Activities supported by donors reflect this commitment (Denicolai et al., 2021).

4.10 The Application and Impact of AI in International E-commerce

The use of AI globally influences software development. These technologies are gaining momentum in the business sector, and many businesses use them (Musleh AlSartawi, 2021). Numerous companies have developed strategies in this field, hoping AI applications will produce more than billions of dollars in economic value in the coming years (Jiao, 2018). Software development can significantly benefit from advanced analytics and AI algorithms (Luo et al., 2019). This facilitates large-scale and seamless decision-making in real-time. The foundation of international e-commerce is that some or all commercial organizations and their clients of all sizes can combine economic activity by using communication and computing technologies. AI technologies are starting to permeate several international e-commerce industries, including trade and business (Yao-Zhi et al., 2019). The process of choosing products is made more accessible by AI, which also provides recommendations for them (Khrais, 2020). Apart from directing trade negotiations and discussions, solving issues with product scheduling and enhancing service providers' competencies. The availability of a (robotic) system for determining how much to charge for commodities listed on the international market (Musleh Al-Sartawi, 2021). The supply chain management and organization department use AI to grow its operations and boost the profitability of the resources attained (Cockburn, 2019).

Businesses face several challenges in determining how much to charge for their goods based on current market rates and what prices to provide when many products are sold together (Kolodin

et al., 2020). Having intelligent technologies that can effectively automate responses helps reduce the need for highly experienced staff to respond to consumer inquiries (Luo et al., 2019). The client must clearly understand the type of items the manufacturer may provide for the producer to guarantee customer pleasure, how the product assortment is positioned, the presentation style, and the maximum prices for every one of its cases (Kumar and Trakru, 2019). The e-commerce industry has experienced significant growth in recent years, primarily due to data analytics. Currently, some businesses provide advertisers with a restricted range of consumer behavior, interests, and data to make the money spent on advertising worthwhile (Hannoon, 2021). Companies are putting much effort into determining the best marketing plan because dealing with so much data has difficulties. This brings us to the significance of AI. Currently, numerous platforms enable paid marketing campaigns and direct users toward the most pertinent one for their needs (Kolodinet al., 2020). One of the most well-known platforms is an AI application designed to make automating and managing marketing campaigns easier without human participation (Di Vaio et al., 2020).

5. Conclusion

International e-commerce innovation has completely changed how we shop, enabling quick clicks to purchase goods and services from anywhere globally. Technology breakthroughs have allowed international e-commerce to grow beyond simple online buying. Both customers and companies must remain updated and adjust to the latest trends and developments as the e-commerce market evolves. Staying ahead of the competition and adopting cutting-edge strategies and technology can put you in a solid position to compete in the ever-evolving international e-commerce industry. Technologies such as AR, VR, AI, blockchain, and sustainability are causing rapid changes in the international e-commerce sector. These developments improve consumer experiences, lower return rates, and customize the purchasing experience. In the quickly developing field of international e-commerce, companies can improve consumer satisfaction and increase revenue by adopting these advances. Customers' trust can be increased by ecommerce businesses, which provide better deals and services, replacement guarantees, logistical solutions, numerous payment systems, real-time customer support, and the resolution of online payment fraud by building trust. A growing number of companies are actively investing in AI to address the challenges of product expansion, such as securing genuine product reviews, cutting operating costs, and making room for more accurate product matching. AI

technology has become a dominant force in the digital era, driving exponential growth across many platforms such as Facebook, Snapchat, and online shopping apps. Advances in technology and changing consumer preferences will bring about significant changes in the future of international e-commerce payments. Businesses must adapt, incorporate cutting-edge payment methods, and prioritize secure and frictionless experiences to prosper in this fast-paced world. Finally, the use of technical intelligence continues to increase because it has led to innovations and updates that make life easier for businesses and speed up our ascent to the top.

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