E-ISSN : 2181-4341
https://wordlyknowledge.uz
IMPACT FACTOR(SJIF) : 3,934

Artificial Intelligence and its positive and negative impact on international trade

Crossref Doi : https://doi.org/10.37547/iqro-volume04-issue01-26

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Annotation

This article discusses how international trade is an essential component of the global economy, and the import/export industry is benefiting from technological advancements and automation processes, including the integration of artificial intelligence (AI). AI is being used to streamline trade administration portals, assess risk, optimize supply chain management, and detect fraud in trade transactions. However, the article also highlights some potential negative effects of AI on international trade, such as job displacement, dependence on technology, data security, unequal access, and bias. To address these concerns, the article suggests investing in training and education programs, ensuring trade infrastructure is resilient to disruptions, implementing strong data security measures, and developing AI in a fair and unbiased way that promotes open and inclusive trade. Overall, AI has brought significant improvements to the import/export industry, facilitating trade and making it more efficient.

Key words

Artificial Intelligence (AI), international trade, digitalization, automation, single window system, machine learning, data.

Introduction

The global economy heavily relies on world trade as a key component of the continuous operations of businesses, governments, and NGOs worldwide. International trade has the potential to boost economic growth, increase productivity, and enhance the quality of life for citizens in nations that are open to global trade. Despite the challenges posed by the COVID-19 pandemic in 2020, the value of global trade has been consistently increasing this year, with the import/export industry surpassing the obstacles it faced. According to the UNCTAD Global Trade Update, global trade value amounted to US$7.7 trillion in Q1 2022, marking a rise of approximately US$1 trillion compared to Q1 2021.

To maintain this positive trend, it is crucial for the import/export industry to address any factors that may disrupt the stability of global supply chains, including transportation failures, price increases, geopolitical turmoil, and others. The smooth and uninterrupted flow of goods, products, and services between nations is fundamental to sustaining the value of international trade and the vast benefits that come with it.

The import/export sector has significantly benefited from technological advancements and automation processes, which have streamlined trade administration portals. These portals have simplified the documentation and classification, manual checks, and risk assessment processes,

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which were previously time-consuming. The automation technology has not only facilitated the import and export of goods and services quickly and efficiently by Customs officials and governments, but it has also provided an advantage for businesses that rely on the movement of goods and services for their operations and consumers. This trade facilitation means government officials can process compliant traders faster and more securely.

The integration of artificial intelligence (AI) across the digitalization of the trade ecosystem is a promising development that can augment the optimization and automation of existing operating models, thereby driving growth and efficiency in global value chains. An example of this is the Single Window system that uses AI to take automation to the next level. The Single Window AI applies machine learning to deal with external factors that may affect supply chains beyond administration, such as capturing data from scanned documents, applying HS Classification codes from commercial descriptions, assessing risks, flagging discrepancies, and facilitating payments, among others.

By using the standardized processes (SAFE Framework of Standards provided by the World Customs Organization - WCO) that most trading nations follow as a baseline, AI can apply localized and geographical legislation into its processes and configurable parameters for the country where the system is being used. This includes national requirements, as well as regional and international agreements, such as international trade treaties. The AI can also respond and pivot to dynamic changes, such as a nation exiting a trade agreement, a rise in goods taxation, or geopolitical unrest. In such instances, its acquired knowledge can help customs navigate rising prices, reroute goods through new avenues (due to port or border closures), or apply new risk assessments based on the goods' point of origin or destination. In extreme instances, data and margins can be manually applied, which then becomes part of the AI's machine learning data bank from which it can draw.

The AI development process is a dynamic activity that works in the background to provide all the resources needed to produce solutions. AI is already powering trade today and will undoubtedly continue to drive growth and efficiency in global value chains through the optimization and automation of existing operating models. The evolution of AI-based trade will continue to support countries and firms engaged in trade as they reduce the time, cost, and complexities of trade opportunities.

Some examples of how AI has improved the import/export industry are listed in the following paragraphs:

1. Trade administration portals: Automation technology has streamlined the documentation and classification, manual checks, and risk assessment processes, which were previously time-consuming. This automation technology not only helps Customs officials and governments allow for the importing and exporting easily, quickly, and efficiently, but they are also an advantage for businesses who depend on moving goods and services for their operations and consumers.

2. Single Window system: The Single Window system uses AI to take automation to the next level. Beyond targeting and managing all areas of import/export processes that used to rely on human interaction – such as capturing data from scanned documents, applying HS Classification codes from commercial descriptions, assessing risks, flagging discrepancies,

facilitating payments, and more – the Single Window AI applies machine learning to deal with outside factors that may affect supply chains above and beyond administration.

3. Risk assessment: AI is being used to assess risk and identify potential issues with imports and exports. For example, AI can be used to analyze data from shipping manifests, customs declarations, and other sources to identify patterns that may indicate smuggling or other illicit activities.

4. Supply chain optimization: AI can be used to optimize supply chain management, including inventory management, transportation planning, and route optimization. For example, AI can analyze data on past shipments to identify the most efficient routes and transportation modes for future shipments.

5. Fraud detection: AI can be used to detect fraud in trade transactions. For example, AI can analyze data on trade transactions to identify patterns that may indicate fraudulent activity, such as mismatched invoicing or unusual payment patterns.

Some further explanations of the potential negative effects of artificial intelligence (AI) on international trade is given below:

1. Job displacement: The automation of many tasks in the import/export industry could lead to job losses, particularly in areas such as customs clearance, documentation, and data entry. This could have a significant impact on workers in these industries, particularly in developing countries where employment opportunities may be limited.

2. Dependence on technology: The increasing reliance on technology and automation could create a situation where trade transactions are vulnerable to disruptions if the technology fails. For example, if the Single Window system experiences a technical issue, it could cause significant delays in the processing of trade transactions, which could have a ripple effect on the global economy.

3. Data security: As AI requires vast amounts of data to operate effectively, there is a risk of data breaches and cyber attacks. If sensitive trade data is compromised, it could have serious implications for international trade and national security, particularly if it falls into the hands of malicious actors.

4. Unequal access: The development and implementation of AI requires significant resources and expertise, which could create an uneven playing field for businesses and countries that lack the resources to invest in AI. This could lead to a situation where some countries and businesses are more competitive in the global marketplace than others, which could exacerbate existing inequalities.

5. Bias: AI algorithms are only as unbiased as the data they are trained on. If the data used to train AI models is biased, it could lead to discriminatory practices in trade, such as unfairly denying certain goods or services from entering certain countries. This could have significant implications for international trade and could undermine efforts to promote fair and open trade.

Conclusion

To conclude, AI has brought significant improvements to the import/export industry, facilitating trade and making it more efficient. By automating many of the processes involved in trade, AI has reduced the time and cost associated with importing and exporting goods and services, making it easier for businesses to participate in global trade .To address above provided

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potential negative effects of AI on international trade, it is important to ensure that the benefits of AI are shared equitably among all stakeholders. This could include investing in training and education programs to help workers transition to new roles, ensuring that trade infrastructure is resilient to disruptions, and implementing strong data security measures to protect sensitive trade data. Additionally, efforts should be made to ensure that AI is developed and implemented in a way that is fair and unbiased, and that promotes open and inclusive trade.

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KNOWLEDGE