

TECHNOLOGY-DRIVEN INTERNATIONAL TRADE: A LITERATURE REVIEW

Md. Zahangir Alam¹, Md. Mamun Habib² and Md. Abu Issa Gazi³

¹The University of World Economy and Diplomacy, Uzbekistan. E-mail: mzalams3@gmail.com

²School of Business & Entrepreneurship, Independent University, Bangladesh. E-mail: mamunhabib@inh.edu.bd

³School of E-Commerce, Jiujiang University, China. E-mail: dr.issa@jju.edu.cn

Received: 24 July 2021

Revised: 17 August 2021

Accepted: 3 September 2021

Publication: 30 December 2021

Abstract: *In the pandemic situation, trading transforms into a new paradigm. Traders choose to use technology instead of face-to-face e-trading. This study uses 129 publications linked to the survey of technology-related trade published in Asia and globally between 2016 and 2021 and literature sources. A core framework for a technology-driven international trade research classification has been developed. Briefly describe technology-driven global trade developments, research restrictions, and potential development tendencies. This study, according to research, is more non-systematic and lacks a certain level of research depth. Technology-driven trade and the risk of trade technology research will be the subject of future research. This study focuses on specific data and details, such as articles globally. In order to complete the secondary, secondary data was used. Prior studies on technology-driven international trade in Asia were reviewed as part of this study. Apart from that, meta-analysis is a statistical assessment of data from related primary studies. Therefore, this study used meta theory-building despite its importance. The outcomes of this study provide valuable insights into the realities of the situation. This study concludes the essential observations from the technology-driven international trade in Asia. Also, this study discovered that technology-driven international trade comprehension is widespread in the Asian economy, therefore, this study would contribution towards the international traders.*

Keywords: *Technology-driven, international trade, meta-analysis, Asian trade*

1. INTRODUCTION

The benefits of the 21st century include faster sales, lower service fees, and lower costs for merchants and businesses (Karagoz & Saray, 2022). The way of global trade is because modern transportation has made it possible to fly over and transit around them (Fang *et al.*, 2022). These services are in high demand but are not frequently used (Bakar & Rosbi, 2017). The IT industry is integral to trading securities such as stocks and stock-trading activities (Urata & Doan, 2022). It has only been possible to improve the trade activity of these organizations by using the technologies that support the practitioners (Kumar, 2020).

As a result, most of the work done on e-commerce deployment is analytical (Xi, 2022). Another study reveals the individuals interested in trading online and the barriers and incentives holding them back from pursuing their goals (Baruch, May, & Yu, 2016). For example, spending money is partially psychological and primarily influenced by diverse reactions to international traders (Farahmand, 2022). As a result, this factor can positively or negatively impact behavior in several different ways. Besides, attitude, subjective norm, trust, facilitating conditions, risk, price value, behavioral intention, and trade adoption might influence international commerce uptake.

2. LITERATURE REVIEW

Bangladesh is considered one of the world's most remarkable development countries (Siddiky, 2022). Bangladesh is also making several efforts to boost its economy. Also, National and international trade is a significant source of revenue (Tudoroiu, 2022) (Miraz & Habib, 2016). Besides that, the Bangladeshi government is also introducing a new trade doctrine (Miraz, Hasan, & Sharif, 2018). In addition, a new international trade relationship was established between Bangladesh and Uzbekistan following the global trade plan (Sen, 2022). International trade is a new avenue for Bangladesh and Uzbekistan to establish a trading relationship (Kirk & Rifkin, 2020). As a result, the international trade sector needs to be more digital (Axmedjanov, 2020). Several factors influence the trade relationship between these countries (Roni, Lamers, & Hoefnagels, 2018). Various factors affect digital services, including confidence, money, and security (Verter, 2017). Consequently, it is necessary to improve the digital infrastructure of international trade (Kumar, 2020).

The researcher's efforts are also directed at identifying new aspects of the international trade that is occurring online (Kramarz, Martin, & Mejean, 2020). Using the Internet, it has access to ways for installing and administering, disbursing, and financing (Huang, Nie, Zhu, & Du, 2020). Online international trade in India is encouraged by the country's valued and organized classifications (Kumar, 2020). Increasingly, internet trading is considered important to improving international trade in India's digital industry, according to studies (Kumar, 2020). En outre allowed the entire banking industry to become familiar with the experiments and keep a close eye on how they played out in practice (Dwivedi, Rana, Tamilmani, & Raman, 2020). As all participants make online trading a reality, the rewards become apparent to everyone (Ganne, 2018). Further, the paper emphasizes India's role as an essential player in regulating online international trade (Gruszczynski, 2020). Also, the global trade business

and India's role in it will be examined (Wang, Zhao, & Wiedmann, 2019). Several of the identified characteristics in this study had a significant impact on India's adoption of online foreign trade and were interconnected (Mantri *et al.*, 2019).

Due to its economic policy implications, international trade valuation will also be affected by international trade's pricing value (Halder, 2020). It should also be assumed that there are enough financial tools to account for the investors' feelings in the computation (Rose *et al.*, 2018). Asymmetry in currency markets can be detected if domestic equity-related price movements have changed over time (Fang *et al.*, 2022). United States government and financial community have the most significant impact on worldwide online trade (Liu *et al.*, 2020). Singapore plays a secondary role in online trade. This study demonstrated a more nuanced relationship between economic volatility and international trade prices and values (Kumar, Mishra, & Banerjee, 2022). Besides, price deflators, currency rates, liquidity, interest, and general inflation showed significant deviations from their previously estimated values (Wang & Liu, 2021). Those variables influence global trade, a comfortable regulatory framework, and compelling motivation to increase international e-trade (Birudavolu & Nag, 2019).

In the subsection, this study describes the various categories of articles that have been chosen for analysis.

2.1. International Trade

International trade is a trading system that occurs between different countries (Banga, 2019). It has a significant role in the economy (Sukanya, Rajeev, & Premlata, 2019). This research shows that the trade and international links open a new idea and understanding between two countries (Hidayat & Musari, 2022). Another researcher studied the impact of international trade on the economic growth and development of the country. Also, it will provide a variety of financing products to the investors that small and medium-sized businesses need (Hajdukiewicz & Pera, 2020). The banker would have the opportunity to bring financial resources because of their businesses dealings. Now, international trade lets the trading more effective business and product availability to the consumer needs.

2.2. Finance

Financial enhancement depends on international trade. International trade plays a significant role in finance. Also, it holds substantial economic funds. To

enhance finance, it needs more focus, so many researchers and academicians focus on finance. One hundred twenty-four articles consider financing the underlying protocol, comprising 18.6% of all the papers. Few researchers provided the three basic concept assumptions for e-trade and finance, trade finance, and international trade enhancing Asian trade (Yonghong, Wensheng, & Xiao, 2022). Finally, the researcher responded to monetary policies and financial regulations to international trade using technology.

2.3. Business

The expansion of a company is dependent on foreign trade. International trade is extremely important in the world of business. It also has a significant amount of financial resources. In order to improve business, it is necessary to narrow the focus, which is why many researchers and academicians are concentrating on finance. Most of the literature in Asia deals with business. Another academic explained that technology-driven would help improve business performance and lower the costs associated with international trade (Elsenhans, 2022). Besides, individual companies have started designing peer dealings programs to liberate fundamental shifts in the corporate model (Shanafelt & Perrings, 2017). Some have simultaneously started developing technology-driven companies.

2.4. Big data

The management of large amounts of data is essential for a company's growth. International trade is incredibly crucial in the age of big data, and it is becoming increasingly so. A substantial number of big data resources are also available to the company. It is vital to enhance the scope of big data in order to improve it, which is why many researchers and academics are working on big data. Extensive data management and international trade have been seen in literary studies (Zhong, Oh, & Moon, 2021). Big Data predicted that everyone would take responsibility for their data while gaining data access to reduced prices.

2.5. Internet & ICT

The internet and information and communications technology (ICT) is essential for a company's growth. International trade is tremendously essential in the internet and information and communications technology (ICT) world. It also has a substantial number of internet and information and communications

technology (ICT) resources. It is vital to enhance the emphasis to improve the internet and information and communications technology, which is why many researchers and academics are working on the internet and information and communications technology. The majority of Asian literature is concerned with the internet and information and communications technology (ICT). Another academic noted that a technology-driven approach would aid in improving the performance of the internet and information and communication technologies (ICTs) and lower the expenses involved with international trade. The researcher points out that IT and internet integration are a better fit for the technology-driven trade structure. Nonetheless, some issues persist, such as inefficiency and facilitating conditions.

2.6. Trade Risks

International commerce is incredibly significant in trade and risk because it allows companies to expand their reach. It also possesses a substantial quantity of trading and risk resources, as well. It is vital to concentrate on improving trade and risk management, which is why many researchers and academics are working on trade and risk management. The majority of Asian literature is concerned with trade and danger. Another professor noted that technology-driven trade and risk management would help to increase trade and risk performance while simultaneously lowering the expenses associated with international commerce. Technology-driven literature, upcoming issues, and vulnerabilities represent the risk landscape. The researcher discusses the financial services applications, public sector, SME industry, healthcare, and many other fields and draws attention to the significant consequences to international trade and alternative business models (Gruszczynski, 2020).

2.7. Others

Much research has been focused on international trade. It is challenging to categorize them into several parts. This paper includes a few literary works and cannot be put into either of the above groups. The researcher also addressed three possible military trade technology, which provides for use in technology-driven trade.

3. METHOD AND ANALYSIS

This study is based on secondary data. Also focused on quantitative or qualitative articles. Social phenomena, the intensity of social ties, and fluctuations in

amount are among the tools and strategies employed in quantitative research. Experimental methods and accurate statistics support the theory. Qualitative forecasting primarily depends on the experience and judgment of events based on their opinions and course of action.

Figure 1: Classification of Secondary Data



Table 2 indicates that qualitative research can provide better results than quantitative research. In Asia, people concentrate on the qualitative parts of studying, preventing the technology-driven international trade expansion. We recommend utilizing international trade technologies to get to quantitative findings as quickly as feasible in this scenario.

In order to examine the current situation of trade, we used “technology & trade” as a keyword in google scholar, Research Gate, academia.edu, Emerald search engine, Elsevier search engine, etc., in order to explore the conference proceedings, journals, book chapters/books. Finally, 129 items of literature have been decided. These criteria include:

1. The selected article from January 2016 to December 2021.
2. Literature on technology, trade, and international business.

Our current journal classification is based on society’s existing library classification system. As for the social sciences in Asia, as many as 129 journals will be sorted. According to the Scientific Citation Database, 50% of popular science can be organized into many groups. These groups include journals in international trade, technology, management, international business, and

science journals. Table 1 illustrates that there are many aspects of the research that are focused on technology-driven trade.

Table 1
Literature sources

<i>Journal Classification</i>	<i>Classification Subtotal</i>	<i>Proportion</i>
International trade	57	44.20%
Technology	27	20.94%
Management	23	17.83 %
International business	18	13.96 %
Science journals	4	3.1%
Total	129	100%

There is a positive trend in academic research on technology-driven trade, motivating more scholars to investigate other areas of knowledge.

4. DISCUSSION

The 129 articles would be broken into seven categories, including international business, banking, big data, Internet energy, threats, and potential. The categories are illustrated in Table 2.

Table 2
Analysis and Types of Manuscripts

<i>No.</i>	<i>Research Subjects</i>	<i>Qualitative</i>	<i>Quantitative</i>	
1	International trade	35	16	47.4%
2	Finance	19	5	18.6%
3	Business	11	9	15.5%
4	Big Data	7	6	10%
5	Internet & ICT	5	4	6.98%
6	Trade risk	5	2	5.43%
7	Others	3	2	3.88%
	Total	85	44	100 %

While Asia researchers favour quantitative science, technology-driven analysis has been qualitative when it comes to scholarly interest. It is seen in figure 1 to be 60% more common in Asian literature. The principal application of mathematical modelling and simulation is quantitative analysis. A rigorous

quantitative analysis supports our case, but we have to put more effort into qualitative research.

5. CONCLUSION

The following findings are drawn based on our assessment of technology-driven trade and market potential. The number of academic research articles relating to technology-driven trade expanded exponentially between 2016 and 2021. Due to the expansion of technology trade, the media's interest in domestic scholars has increased. Technology base trade is a significant proportion of trading. The Economics and Technology course is also responsible for the financial magazines found in libraries. Technical papers and publications are two different things. Most of them deal with the concept of e-trade, while others focus on its business application. Ideation: Over 129 articles appears to have a distinct advantage over other trade-related topics. In the journal's final category, the research's current subject is also discussed in depth.

As a result, many organizations worldwide are trying to understand and explore how to trade that might help them reduce their international trade and straightforward dealings. Researchers globally can then work to increase the number of studies to fulfil their role in influencing public policy decisions. The international business theory should be the focus of future research by Asian and international experts. Though this study is based on secondary data, it unlocks recent improvements and policies of international trade.

References

- Axmedjanov, K. (2020). Akhmedjanov Kb International Experience: Issues And Propects For The Development Of Internal Audit In Uzbekistan. *Архив научных исследований*, 1(4).
- Bakar, N. A., & Rosbi, S. (2017). Autoregressive integrated moving average (ARIMA) model for forecasting cryptocurrency exchange rate in high volatility environment: A new insight of bitcoin transaction. *International Journal of Advanced Engineering Research and Science*, 4(11), 237311.
- Banga, R. (2019). Is India Digitally Prepared for International Trade? *Economic and Political Weekly*, 54(5), 2.
- Birudavolu, S., & Nag, B. (2019). India's Regulatory Environment and Response to International Trade Issues. In *Business Innovation and ICT Strategies* (pp. 275-312): Springer.

- Dwivedi, Y. K., Rana, N. P., Tamilmani, K., & Raman, R. (2020). A meta-analysis based modified unified theory of acceptance and use of technology (meta-UTAUT): a review of emerging literature. *Current Opinion in Psychology*, *36*, 13-18.
- Elsenhans, H. (2022). *Capitalism, Development and Empowerment of Labour: A Heterodox Political Economy*: Routledge.
- Fang, K., Wang, S., He, J., Song, J., Fang, C., & Jia, X. (2022). Overview of Footprint Family for Environmental Management in the Belt and Road Initiative. In *Advances of Footprint Family for Sustainable Energy and Industrial Systems* (pp. 215-239): Springer.
- Farahmand, S. (2022). Relationship between Economic Growth, Urban Concentration and Trade: Evidence from the Asia-Pacific. *International Economics Studies*, *36*(1), 47-56.
- Ganne, E. (2018). *Can Blockchain revolutionize international trade?* : World Trade Organization Geneva.
- Gruszczynski, L. (2020). The COVID-19 pandemic and international trade: Temporary turbulence or paradigm shift? *European Journal of Risk Regulation*, *11*(2), 337-342.
- Hajdukiewicz, A., & Pera, B. (2020). International trade disputes over renewable energy—the case of the solar photovoltaic sector. *Energies*, *13*(2), 500.
- Halder, T. (2020). *Cross Border Electricity Trading Policy of Power India for Humanity & Amity*. Paper presented at the 2020 IEEE 17th India Council International Conference (INDICON).
- Hidayat, S. E., & Musari, K. (2022). ASEAN Towards a Global Halal Logistics Through the Digitally Enabled Community. *International Journal of Asian Business and Information Management (IJABIM)*, *13*(2), 1-15.
- Huang, R., Nie, T., Zhu, Y., & Du, S. (2020). Forecasting Trade Potential Between China and the Five Central Asian Countries: Under the Background of Belt and Road Initiative. *Computational Economics*, *55*(4).
- Karagoz, K., & Saray, M. O. (2022). Trade potential of Turkey with Asia-Pacific countries: Evidence from panel gravity model. *International Economics Studies*, *36*(1), 19-26.
- Kirk, C. P., & Rifkin, L. S. (2020). I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 pandemic. *Journal of Business Research*, *117*, 124-131.
- Kramarz, F., Martin, J., & Mejean, I. (2020). Volatility in the small and in the large: The lack of diversification in international trade. *Journal of International Economics*, *122*, 103276.
- Kumar, P., Mishra, T., & Banerjee, R. (2022). Analyzing Trade Offs in Short Term Power Sector Operations Under Minimum Offtake Guarantee Constraints in India.

- Kumar, R. (2020). India & South Asia: Geopolitics, regional trade and economic growth spillovers. *The Journal of International Trade & Economic Development*, 29(1), 69-88.
- Liu, Y., Chen, B., Wei, W., Shao, L., Li, Z., Jiang, W., & Chen, G. (2020). Global water use associated with energy supply, demand and international trade of China. *Applied Energy*, 257, 113992.
- Mantri, V. A., Ganesan, M., Gupta, V., Krishnan, P., & Siddhanta, A. (2019). An overview on agarophyte trade in India and need for policy interventions. *Journal of Applied Phycology*, 31(5), 3011-3023.
- Miraz, M. H., & Habib, M. M. (2016). ICT Adoption in Small and Medium Enterprises: An Empirical Evidence of Service Sectors in Bangladesh *Journal of Economics, Business and Management*, 4(8), 481-487. doi:10.18178/joebm.2016.4.8.439
- Miraz, M. H., Hasan, M. G., & Sharif, K. I. (2018). Supply Chain Management for Garments Industries Using Blockchain in Bangladesh. *Journal of Business Management and Economic Research*, 2(8), 13-20. doi:10.29226/tr1001.2018.54
- Roni, M. S., Lamers, P., & Hoefnagels, R. (2018). Investigating the future supply distribution of industrial grade wood pellets in the global bioenergy market. *Biofuels*.
- Rose, A., McBennett, B., Palchak, J. D., Cochran, J. M., Wijekoon, H., Samarasekara, B., & Wijekoon, R. (2018). *Cross-border electricity trade between India and Sri Lanka: Impact on power system operations*. Retrieved from
- Sen, P. (2022). Capital accumulation and convergence in a small open economy. *International Economics Studies*, 38(1), 15-24.
- Shanafelt, D., & Perrings, C. (2017). Foot and mouth disease: the risks of the international trade in live animals. *Rev. Sci. Tech. l'OIE*, 36, 839-865.
- Siddiky, C. I. A. (2022). *The Geopolitics of Energy in South Asia: Energy Security of Bangladesh*: Routledge.
- Sukanya, B., Rajeev, K., & Premlata, S. (2019). Why challenges of doubling farmers' income by 2022 are acceptable in context of the present Indian agricultural scenario. *Current Science*, 116(8), 1287-1288.
- Tudoroiu, T. (2022). *China's Globalization from Below: Chinese Entrepreneurial Migrants and the Belt and Road Initiative*. Routledge.
- Urata, S., & Doan, H. T. T. (2022). *Globalization and Its Economic Consequences: Looking at Apec Economies*: Taylor & Francis.
- Verter, N. (2017). International trade: the position of Africa in global merchandise trade. *Emerging issues in economics and development*, 64-89.
- Wang, Q., & Liu, Y. (2021). India's renewable energy: new insights from multi-regional input output and structural decomposition analysis. *Journal of Cleaner Production*, 283, 124230.

- Wang, S., Zhao, Y., & Wiedmann, T. (2019). Carbon emissions embodied in China–Australia trade: A scenario analysis based on input–output analysis and panel regression models. *Journal of Cleaner Production*, 220, 721-731.
- Xi, J. (2022). A Study on the Establishment of ECFA between Mainland of China and Taiwan. *International Economics Studies*, 36(1), 37-46.
- Yonghong, T., Wensheng, D., & Xiao, T. (2022). Technology Spillovers of FDI in ASEAN Sourcing from Local and Abroad. *International Economics Studies*, 38(1), 69-80.
- Zhong, Y., Oh, S., & Moon, H. C. (2021). What Can Drive Consumers' Dining-Out Behavior in China and Korea during the COVID-19 Pandemic? *Sustainability*, 13(4), 1724.

To cite this article:

Md. Zahangir Alam, Md. Mamun Habib and Md. Abu Issa Gazi. Technology-Driven International Trade: A Literature Review. *International Journal of Applied Business and Management Sciences*, Vol. 2, No. 2, 2021, pp. 221-231.