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The Fourth Industrial Revolution and the Transformation of International Trade: Impact and Implications Analysis

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Abstract

The fourth industrial revolution marked via the boom inside the virtual technology, internet of things, and synthetic intelligence has changed many elements of human lifestyles, together with inside the area of world change. this newsletter targets to analyze the have an impact on of the fourth business revolution on alternative adjustments round the sector and its implications. This take a look at uses a qualitative approach with descriptive and interpretive analysis of secondary data from worldwide journals, authorities recommendations, and numerous present resources of data. information have been analyzed through content material assessment and comparative evaluation strategies to attain huge findings. The effects of the assessment show that the fourth business revolution has modified the sample of change around the sector through the increase of digital exchanges and offerings, as well as improved performance and productivity through the use of virtual generation. The implication of this international opportunity transformation is the want to modify global alternative pointers, increase the abilities of the personnel, and fortify worldwide cooperation.

Keyword: *The Fourth Industrial Revolution, International Commerce, Transformation.*

Background

The Fourth Industrial Revolution (RIK) is a technological phenomenon that is developing today and affects various aspects of human life, including international trade. RIK includes technologies such as the internet of things (IoT), big data, and artificial intelligence (AI), as well as production technologies that utilize digital and robotic technologies. The impact of RIK on international trade remains unclear and requires further research. The fourth industrial revolution that occurs today has changed various aspects of human life, including in the field of international trade. The development of digital technology, the internet of things, and artificial intelligence has had a significant impact on the transformation of international trade.

adjustments will arise in worldwide exchange due to these technologies and innovations will require the following: (i) shifts within the nature of change, (ii) will increase in its quantity, (iii) adjustments in its shape and (iv) the impact of comparative benefit factors of trading companions. trade will in large part pass virtual (Rymarczyk, 2021).

The foundations & theoretical issues of the Fourth commercial Revolution (4IR, enterprise four.zero) have been broadly discussed within the literature (Maciejewski &; Głodowska, 2020; Rymarczyk, 2020; Ślusarczyk, 2018; Liu, 2017; Krykavskyy, Pokhylchenko, &; Hayvanovych, 2019; Pisar &; Bilkova, 2019).

The fourth industrial revolution has also affected the field of international trade. The development of digital technology and the internet of things has opened up new opportunities in international trade. Digital trade and services are becoming increasingly important in international trade, while trade in traditional goods is experiencing increased efficiency and productivity through the use of digital technologies.

Based on Moll's research, (2023) regarding the talk of the 'Fourth industrial Revolution' (4IR) said that RIK is always round us. It appears to be about things as they're. it's far taken into consideration a complete-scale human and social revolution, wherein the radical, rapid-moving convergence of clinical and technological innovations in networked data technology (IT) dominates and transforms each aspect of our lives.

Maeda and Daifuku (2018) argue that the Fourth Industrial Revolution has had a major impact on the transformation of international trade, especially in terms of digitalization and automation of production and logistics processes. This finding is supported with the aid of the modern research by means of Gunasekaran, Subramanian, and Rahman (2019) which indicates that digitalization and data era have enabled transformation in international deliver chains and worldwide exchange.

The research shows that changes in technology and production processes in the Fourth Industrial Revolution have changed the way international trade is conducted. Digitalization and information technology have enabled better integration and collaboration between producers and consumers in different parts of the world, spurring a transformation in international trade.

However, the impact and implications of the fourth industrial revolution on international trade still need further research. Therefore, this article aims to analyze the impact and implications of the fourth industrial revolution on the transformation of international trade.

Research Methods

The research method used in this article is a qualitative approach with descriptive and interpretive analysis of secondary data from international journals, government publications, and other relevant data sources. The data used in this study was sourced from international journals that discussed the fourth industrial revolution and the transformation of international trade.

Furthermore, the data was analyzed through content analysis and comparative analysis techniques to obtain significant findings. In content analysis, the collected data is grouped into categories that are relevant to the purpose of research. While in comparative analysis, data is compared with findings from other studies to strengthen

or clarify research results. In this case, the author uses these analytical techniques to gain a comprehensive understanding of the transformation of international trade due to the Fourth Industrial Revolution.

In addition, in the use of literature study methods, researchers must pay attention to the quality and validity of the data sources used. Therefore, in this article, researchers use strict inclusion and exclusion criteria in selecting international journals that are relevant to the topic discussed. In addition, researchers also conduct critical analysis of the data used to ensure the accuracy and reliability of the findings obtained. In this case, the use of the literature study method can be an effective and efficient alternative in collecting and analyzing data, especially in research that does not require primary data collection which takes considerable time and costs.

Results and Discussion

The results show that RIK has accelerated globalization and increased dependence on trade between countries. Changes in the structure of international trade can be seen from changes in trade patterns, new trade products, and increases in trade in services. The implications of these changes include significant political, economic, and social consequences for countries around the world. Political implications include shifts in power and bargaining positions between countries, while economic implications include changes in resource allocation and the need for adaptation to new technologies. Social implications include impacts on labor and changes in consumption patterns.

This suggests that the transformative impact of the 4IR would require nations to suppose deeply about their regulations and priorities on a country wide scale. Many ASEAN governments understand this need and feature released countrywide responses consisting of Thailand 4.zero and Singapore's smart nation initiative (Menon &; Fink, 2019).

Importantly, some of the biggest impacts of 4IR will no longer arise on a countrywide scale, however on a regional scale. the character of cross-border family members and economic interactions will go through a revolution. It isn't always sufficient to reflect onconsideration on the countrywide response. in the coming years, regional groups which includes ASEAN can be an increasing number of asked to assist direct and form this historic transformation. but, given the accelerating speed and breadth of technological exchange, shaping local policies is developing an increasing number of tough. which means ASEAN and its sister companies need to reorganize and redesign the manner they manage nearby governance (Menon &; Fink, 2019).

And the discussion shows that the Fourth Industrial Revolution has changed international trade patterns with the increase in digital trade and services. This can be seen from the increasing use of digital technology in the trade process, such as the use of e-commerce and blockchain for international trade transactions. Increased efficiency and productivity also occur through the use of digital technology in

production processes and supply chain management. In this regard, the Fourth Industrial Revolution has brought a positive impact on international trade with increased efficiency and increased ease of trade access.

However, negative impacts also occurred due to the Fourth Industrial Revolution in international trade. Increased digital trade could lead to economic disparities between countries and a sho rtage of jobs requiring increasingly irrelevant traditional skills. In addition, the use of digital technology in international trade can also produce.

Globally, the digital revolution a massive impact, although the rate of exchange fluctuates relative to geographic area and industry (Akileswaran & Hutchinson, 2019). based totally on research (Nyagadza et al., 2022) the fourth commercial revolution has developed and spread like wildfire in all elements of the arena, providing many possibilities for boom in particular for developing countries. however, the onus is on growing countries themselves to take advantage of the opportunities offered to recognise the significant advantages of the 4IR explosion. If developing countries inside the international need to use the advantages provided by way of 4IR, they will be pressured to build systems to deal with troubles related to adoption, accessibility, affordability, and alertness of era (Adhikari, 2019).

In the Fourth Industrial Revolution, digitalization and information technology enabled better integration between producers and consumers in different parts of the world. This has spurred a transformation in international trade, especially in terms of freight forwarding, logistics, and data processing. Several large companies such as Alibaba and Amazon have taken advantage of this technology to expand their markets globally.

In addition, technologies such as Blockchain also provide great potential to speed up the international trade process by increasing security and transparency in transactions. This will help reduce the cost and time required in the process of shipping goods, thereby increasing the efficiency of international trade.

However, the implementation of technology and transformation in international trade can also affect employment and create inequality in international trade. Jobs that require manual skills can be replaced by machines or robots, which can affect employment in certain countries. In addition, countries that do not yet have the access and skills to adopt technology can lag behind in international trade.

In this regard, it is important for governments and industry to develop policies and strategies to accelerate technology adoption and transformation on international trade, as well as address the possible negative impacts. One of the efforts that can be done is to provide training and education to the public about technology and digitalization, so that they can compete and take advantage of opportunities in international trade that is increasingly open and integrated.

Conclusion

The study concludes that RIK has a significant impact on the transformation of international trade and its implications for countries around the world. Therefore, there needs to be more attention in developing policies that can optimize the potential of RIK to accelerate economic growth and improve public welfare.

In an increasingly connected and technology-dependent era, international trade is undergoing changes in the way they operate and interact with customers and suppliers around the world. Technological developments in the Fourth Industry bring great potential to accelerate production processes, increase efficiency, and enable personalization of products and services. However, these changes also pose challenges and risks in terms of cybersecurity, global inequality, and shifting market power.

Governments, trade institutions, and businesses must prepare for the impact and implications of the Fourth Industrial Revolution on international trade. Increased investment in technological innovation and infrastructure development is needed to support the transition to an increasingly connected and technology-dependent economy. In addition, there is also a need for global coordination in technology regulations and standards to ensure consumer protection, cybersecurity, and fairness in international trade.

And also the Fourth Industrial Revolution must have a major impact on the transformation of international trade, especially in terms of digitalization and automation of production and logistics processes. Digitalization and information technology enable better integration between producers and consumers in various parts of the world, thus spurring a transformation in international trade.

However, the implementation of era and transformation in international alternate can also affect employment and create inequality in international exchange. Therefore, it is important for governments and industries to develop appropriate policies and strategies to accelerate technology adoption and transformation on international trade and address possible negative impacts.

Tables and Figures

Exchange in goods among Indonesia and Thailand has risen in 2021 because of the slump within the effect of the Covid-19 pandemic, in keeping with economic recovery in every u.s. From the United international locations (UN Comtrade) change database, the price of trade in items between Indonesia and Thailand in 2021 reached US$16.23 billion, developing forty.04% from the previous year (year-on-year / yoy).

Thailand contributed 3,8% to Indonesia's total exchange in goods in 2021, making it one of the major trading partners. in 2021, Indonesia published a exchange deficit the use of Thailand of USD .05 billion. The deficit widened from $1.37 billion a year earlier. The export fee of Indonesian items to Thailand in 2021 grew 38.seventy four% (yoy) to USD 7.09 billion. Here are five primary export commodities to the country:

1. Oil;
2. Coal;
3. Copper;
4. Bean; and
5. Vehicle parts.

On the other hand, the import value of goods from Thailand in 2021 grew 41.06% (yoy) to USD 9.14 billion. Here are five main commodities imported by Indonesia from Thailand:

1. Sugar;
2. Machine;
3. Vehicle parts and accessories;
4. Vehicle; and
5. Ethylene polymer.

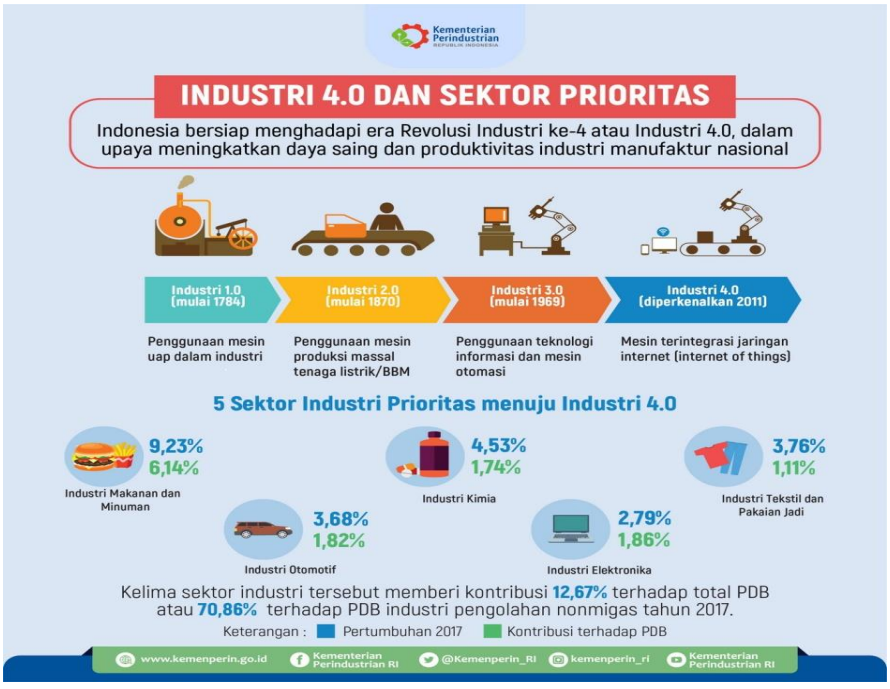

Figure 1. Priority Industries and Sectors

Business companies from all sectors around the arena are an increasing number of focusing their attention on industry 4. Zero and feature all started to put in force it. mentioning a study on enterprise four. Zero carried out with the aid of international group Pricewaterhouse Coopers the usage of the title: The p.c global industry four.zero survey suggests a disparity in digitalization dreams among one us of a using some other.

Corporategroups in Japan or Germany use digitalization by and large to enhance product performance and quality. within the usa, there may be an inclination to spread new business fashions the use of donations of digital offerings and services, and to deliver services and products digitally as quickly as possible. chinese language manufacturers are critical approximately their resilience in opposition to worldwide competitors via lowering prices.

Even as in Indonesia The Ministry of industry has released an enterprise roadmap entitled Making Indonesia 4.0 as the government's step in developing a international-competitive manufacturing enterprise in accelerating the implementation of enterprise four.0 into the digital technology. The release of the road map was inaugurated at the opening of President Jokowi's industrial Summit 2018 on April four, 2018. There are several commercial sectors which can be prioritized, particularly five production sectors decided on to be pilot initiatives, particularly the food and beverage enterprise, textile and clothing, automobile, chemical, and electro. The five industrial sectors had been selected to be able to have stronger competitiveness the use of other countries.

Further, the marketplace structure of these 5 sectors is calculated and effective so that it can be advanced in better era. The authorities will also create a countrywide industry Committee (Kinas) particularly managing industry four.zero. integrated. The government believes enterprise four.zero can be one of the critical pillars of national enterprise to acquire Indonesia's target of getting into the top 10 of the sector economic system in 2030. enterprise 4.0 or the fourth business revolution approach industrial sports that target digitizing all physical property and procedures from starting to cease in addition to integrating into the virtual surroundings the usage of cost chain relationships. statistics & Analytics is a core functionality in industry four.zero. The utility of enterprise 4.0 is pushed via era as a primary approach.

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