S T U D I A   N A D   B E Z P I E C Z E Ń S T W E M

Nr 9　　s. 41–54　　2024

ISSN 2543–7321

Przyjęto: 7.12.2024
Zaakceptowano: 7.12.2024

Oryginalna praca badawcza

DOI: 10.34858/SNB.9.2024.003

Waldemar Pierzchlewski
Wrocław Business Academy in Applied Sciences
e-mail: waldemar.pierzchlewski@wab.edu.pl
ORCID: 0009-0004-6476-4840

Halina Węgrzyn
Wrocław Business Academy in Applied Sciences
e-mail: halina.wegrzyn@wab.edu.pl
ORCID: 0000-0002-7328-3529

PERSPECTIVES ON NEARSHORING INDUSTRIAL PRODUCTION FROM CHINA. DIRECTION AND CHALLENGES IN THE CONTEXT OF LOCAL BUSINESS NEEDS

PERSPEKTYWY NEARSHORINGU PRODUKCJI PRZEMYSŁOWEJ Z CHIN. KIERUNEK I WYZWANIA W KONTEKŚCIE POTRZEB LOKALNYCH PRZEDSIĘBIORCÓW

Abstract: In recent decades, the global economy has witnessed significant transformation, primarily due to globalization and technological development. One of the key elements of this change has been the role of China as the "world's factory," which has contributed to the intensification of industrial production offshoring. However, in the face of rising labour costs in China, changing geopolitical conditions and the push for sustainable development, we are observing a gradual increase in interest in nearshoring. This article aims to explore the prospects of nearshoring industrial production from China, focusing on the directions of this shift and the challenges it faces.

Zarys treści: W ostatnich dekadach globalna gospodarka przeszła znaczącą transformację, głównie ze względu na globalizację i rozwój technologiczny. Jednym z kluczowych elementów tej zmiany była rola Chin jako „światowej fabryki", co przyczyniło się do intensyfikacji offshoringu produkcji przemysłowej. Jednakże, w obliczu rosnących kosztów pracy w Chinach, zmieniających się warunków geopolitycznych oraz nacisku na zrównoważony rozwój, obserwujemy stopniowy wzrost zainteresowania nearshoringiem. Niniejszy artykuł ma na celu zbadanie perspektyw nearshoringu produkcji przemysłowej z Chin i skupia się na kierunkach tej zmiany oraz wyzwaniach, jakie ona stwarza.

Keywords: nearshoring, industrial production, labour costs, environmental regulations, supply chain, investment risk.

Słowa kluczowe: nearshoring, produkcja przemysłowa, koszty pracy, regulacje środowiskowe, łańcuch dostaw, ryzyko inwestycji.

Introduction

Traditionally, offshoring production to countries like China has offered companies significant cost advantages, primarily due to lower labour costs and supply chain flexibility. However, in recent years, this trend has evolved towards nearshoring, meaning relocating production closer to target markets. Several factors contribute to this shift, including rising production costs in China, the need to increase supply chain flexibility and efforts to minimize the carbon footprint.

1. Directions of change

1.1. Increasing production costs in China

The significant economic growth in China over the past decades has led to a considerable rise in labour costs, narrowing the production cost gap between China and developed countries. This phenomenon, combined with stricter environmental regulations and rising raw material costs, has resulted in higher operational costs for companies operating in China. Additionally, growing environmental awareness and pressure to reduce CO_2 emissions are prompting businesses to reorganise their supply chains to minimise their carbon footprint, including relocating production closer to consumer markets, which can also reduce emissions related to transportation. The rise in labour costs in China is driven by several factors, including urbanization, an increase in worker qualifications and growing competition for skilled labour. This phenomenon has been widely discussed in economic literature, which points out that China is losing its position as a "global factory" with low production costs.

1.2. Tightening environmental regulations

The tightening of environmental regulations in China is a key factor affecting production activities in the country. In response to growing concerns about climate change and environmental pollution, the Chinese government has introduced a series of measures aimed at reducing the industrial sector's environmental impact. These include restrictions on emissions, as well as requirements related to recycling and energy efficiency. While beneficial for the environment, such measures can lead to higher production costs for businesses.

Recycling requirements compel companies to invest in appropriate technologies and processing systems, which can be costly but may also contribute to improving the company's image as an environmentally responsible producer. On the other hand, energy consumption restrictions drive businesses to invest in more modern and energy-efficient machinery and technologies, which, despite initial expenditures, can lead to savings in the long term. The introduction of these regulations aligns with the global trend towards increasing environmental responsibility in production. Companies that adapt to these new requirements can not only reduce their negative environmental impact but also improve their competitiveness in international markets, which increasingly prioritise sustainable development.

1.3. Rising raw material costs

The global increase in demand for raw materials, rising energy prices and restricted access to certain key materials have also contributed to the rising production costs in China. Fluctuations in raw material prices directly affect the profit margins of manufacturing firms and may force businesses to seek more cost-effective logistical and production solutions.

1.4. The need for greater supply chain flexibility

The COVID-19 pandemic had a significant impact on global supply chains, highlighting the need for greater flexibility. Major disruptions in supply chains resulting from the pandemic forced companies to rethink their strategies and often focus production closer to target markets through nearshoring. These decisions were motivated by the need for quicker responses to changing market conditions and the desire to reduce the risk of future disruptions. As part of their adaptation, companies are investing in new technologies and automation to manage higher labour costs in regions closer to their final markets. Digitalisation and advanced analytics have become crucial for improving supply chain visibility and efficiency, as confirmed by data from a McKinsey study, where most companies have invested in new digital technologies to better manage their supply chains.[1]

Supply chain disruptions have also contributed to producer price inflation (PPI), particularly in sectors highly dependent on foreign suppliers. Research conducted by the Federal Reserve Bank of St. Louis found that sectors such as automotive, coke and petroleum, and basic metals were particularly vulnerable to rising PPI inflation due to international supply chain disruptions.[2]

In summary, the pandemic exposed the vulnerabilities of complex global supply chains and demonstrated the importance of increasing their resilience through supplier diversification, investments in automation and digital technologies. Companies that adapt to these changes will be better prepared for future challenges and potential disruptions.

---

1 K. Alicke, T. Morley-Fletcher, R. Gupta, S. Lund, *How COVID-19 is reshaping supply chains*, McKinsey & Company, https://www.mckinsey.com/capabilities/operations/our-insights/how-covid-19-is-reshaping-supply-chains, (accessed 05.06.2025).

2 A.M. Santacreu, J. LaBelle, *Supply Chain Disruptions and Inflation During COVID-19*, “Economic Synopses” 2022, no. 14, Federal Reserve Bank of St. Louis, https://research.stlouisfed.org/publications/economic-synopses/2022/05/12/supply-chain-disruptions-and-inflation-during-covid-19, (accessed 7.06.2025).

1.5. Changes in trade regulations

Changes in trade regulations have a significant impact on the nearshoring process, which is gaining popularity as a strategy allowing companies to relocate part of their production or services to neighbouring countries. However, nearshoring may encounter various obstacles arising from the introduction of tariff and non-tariff barriers. These barriers are established by countries to protect local markets and businesses from foreign competition, which may include tariffs, quotas, import restrictions, as well as more subtle forms of barriers, such as stringent quality standards and sanitary regulations.

Tariff barriers are relatively straightforward to identify, as they involve direct fees imposed on imported goods. Examples of such barriers include import tariffs, which aim to increase the costs of foreign products, making them less competitive in the local market. On the other hand, non-tariff barriers, though often more complex and subtle, may include various regulations and standards that are not necessarily formulated with protectionism in mind but can impede international trade through technical, sanitary, or phytosanitary requirements.

Companies planning nearshoring strategies must therefore continuously monitor changes in trade regulations, which requires not only ongoing legal analysis but also strategic planning and potential operational adaptation. In this context, it is crucial to both understand the current regulations and anticipate potential changes in the trade policies of the countries with which the company collaborates or plans to collaborate. This approach allows businesses not only to minimize the risks associated with trade barriers but also to better leverage the benefits of nearshoring, such as lower production costs, shorter delivery times and greater operational flexibility.

2. Human resource management

Relocating production or service activities to countries geographically closer to key markets, known as nearshoring, is gaining popularity as a strategy that enables companies to enhance flexibility and operational efficiency. This process brings with it challenges related to human resource management (HRM), which are crucial for the success of such relocations.

Effective human resource management in the context of nearshoring involves retraining existing employees and attracting new talent in the new locations. It is essential that HR strategies are integrated with the overall corporate strategy and adapted to the specific characteristics of the local labour market. As highlighted by Lengnick-Hall et al. achieving both vertical and horizontal alignment between HR policies and the strategic goals of the organization is key.[3]

Research shows that the COVID-19 pandemic accelerated changes in human resource management, forcing companies to adapt to remote management and the digitization of HR processes. Hamouche points out that the crisis also created new opportunities for organisations to rethink and adjust their HR practices in response to changing conditions.[4]

Moreover, strategic human resource management (SHRM) plays a vital role in building a sustainable competitive advantage by developing human capital and engaging employees. Research conducted by Hamadamin and Atan in 2019 confirms that SHRM practices can positively influence human capital development and employee engagement, which are essential for the success of nearshoring strategies.[5]

As Brewster notes, international human resource management requires an understanding of local practices and legal frameworks, which is critical when relocating operations to new regions. The effectiveness of this process can be supported by strategies such as creating international teams, which can better adapt HR practices to local conditions while maintaining consistency with the company's global standards.

According to Farndale, talent management in new locations often requires hiring local specialists, which can bring additional benefits, such as a deeper understanding of the local market and culture. Hiring local employees can also contribute to better integration of the company into the local business environment, which is crucial for the long-term success of nearshoring operations.[6]

---

[3] P.H.N. Bispo, *Implementation of Strategic Human Resource Management Practices: A Review of the National Scientific Production and New Research Directions*, "Revista de Gestão" 2019, vol. 26, iss. 3, , pp. 228–248, https://doi.org/10.1108/REGE-10-2018-0102, (accessed 5.06.2025).

[4] S. Hamouche, *Human Resource Management and the COVID-19 Crisis: Implications, Challenges, Opportunities, and Future Organizational Directions*, "Journal of Management & Organization" 2021, pp. 1–26, https://doi.org/10.1017/jmo.2021.15, (accessed 12.06 2025).

[5] H.H. Hamadamin, T. Atan, *The Impact of Strategic Human Resource Management Practices on Competitive Advantage Sustainability: The Mediation of Human Capital Development and Employee Commitment*, "Sustainability" 2019, no. 20, art. 5782, https://doi.org/10.3390/su11205782, (accessed 5.06.2025).

[6] E. Farndale, C. Brewster, P. Ligthart and E. Poutsma, *The Effects of Market Economy and Foreign MNE Subsidiaries on the Convergence and Divergence of HRM*, "Journal of International Business Studies" 2017, vol. 48, p. 48.

In summary, human resource management in the context of nearshoring requires not only adapting HR strategies to new conditions but also investing in human capital development and building employee engagement. It is essential that this approach be holistic, taking into account both local specificities and the global objectives of the organization.

3. Changes in consumer expectations

Shifting production closer to consumers not only shortens supply chains but also helps reduce carbon emissions associated with long-distance transportation. For example, reducing transportation distances can lower a company's carbon footprint, which is increasingly valued by environmentally conscious consumers.

At the same time, nearshoring allows companies to better tailor their products to the specific requirements and preferences of local markets, potentially increasing product appeal and customer satisfaction. In the context of global climate change and the pressure for sustainable development, companies can gain a strategic advantage by implementing sustainable practices in both the production and distribution of their products.

Market and technological analyses play a key role in adapting supply chains to changing consumer expectations, especially regarding sustainability. According to the OLI (Ownership, Location, Internalization)[7] theoretical framework, location analysis of production considers various factors such as labour costs, access to raw materials and environmental issues, all of which are crucial when making decisions about nearshoring.[8]

Changes in location strategies, which involve shortening supply chains and increasing their transparency, are increasingly a response to growing consumer demands for sustainability. According to research by Kinkel and Maloca in 2009, a cost-benefit analysis of production relocation shows that companies are

[7] The OLI framework helps explain why and how companies internationalise, and it is widely used in the fields of international business and economics.

[8] B. Wiesmann, J.R. Snoei, P. Hilletofth, D. Eriksson, *Drivers and Barriers to Reshoring: A Literature Review on Offshoring in Reverse*, "European Business Review" 2017, pp. 15–42; M. Johansson , J. Olhager, *Manufacturing Relocation of Plants to and from Sweden – Extent, Characteristics and Performance*, "Journal of Manufacturing Technology Management" 2018, vol. 29, no. 7, pp. 1184–1208, https://doi.org/10.1108/JMTM-01-2017-0006, (accessed 20.06.2025).

increasingly incorporating not only economic but also social and environmental factors into their strategies.

Additionally, an integrated approach to supply chain management, which takes into account changes in technologies and production practices, allows companies to respond more effectively to dynamic market changes and consumer expectations. This approach is essential for maintaining competitiveness and ecological responsibility in an increasingly globalized world.

By shortening supply chains through nearshoring, companies can gain better control over production processes and enhance their ability to quickly adapt to changing market conditions and environmental regulations. Moreover, bringing production closer to consumers can enhance the perceived value of brands, as consumers increasingly favour products from more ethical and environmentally responsible sources.

However, managing the transition to a nearshoring model requires companies to conduct thorough market analysis, risk assessment and investments in new technologies and infrastructure necessary for efficiently managing new production locations. Companies must also consider local conditions, such as access to a skilled workforce, environmental regulations and operational costs, which are critical to the success of nearshoring strategies.

For companies interested in further exploring the topic, it is worth reviewing academic papers and industry analyses available through databases such as Emerald Insight, where detailed information on the impact of nearshoring strategies on supply chains and production management practices in the context of global crises and market changes can be found.

4. Investment and infrastructure costs

The decision to relocate production from distant countries such as China entails significant investments in new infrastructure and the need to adapt existing production processes.

Investment costs: Building or upgrading production facilities in new locations requires substantial capital investment. These investments are not limited to physical infrastructure but also include advanced manufacturing technologies necessary to maintain market competitiveness. As Smith notes, these costs can be considerable, but they are essential for executing an effective operational transformation.

Time and technical expertise: The relocation process is also time-consuming. Companies must conduct thorough market research to identify the best location in terms of market access, availability of raw materials and skilled labour. Additionally, as the literature suggests, deep technical knowledge is needed to ensure that new facilities comply with the latest technological and environmental standards. Efforts to integrate new technologies and optimise production processes are crucial for achieving operational efficiency and minimising environmental impact.

Risk and uncertainty management: Moving production also requires managing risks related to capital investments in an unstable economic environment. Companies must be prepared for market volatility and potential regulatory hurdles that could affect costs and project timelines.

Nearshoring – relocating production closer to target markets – is a key strategic decision for companies seeking to improve operational efficiency and reduce costs. However, as Smith emphasizes, this undertaking requires significant investments in new infrastructure and the adaptation of production processes, involving not only capital but also time and advanced technical expertise.[9]

This process involves comprehensive market and technological analyses, which are critical for effectively redesigning supply chains and production. For example, theoretical frameworks such as OLI (Ownership, Location, Internalization) allow companies to assess the advantages of ownership, location and internalisation, which are crucial when making decisions about offshoring or backshoring.[10]

Shifts in production trends are often driven by various OLI factors. These include costs, access to resources, innovation, proximity to customers and suppliers, and many other strategic considerations. Recent studies show that the dynamic global environment and economic crises, such as the 2008 financial crisis, influence companies' decisions regarding production relocation, contributing to an increase in backshoring activities, particularly among export-intensive firms.

In conclusion, managing investment and infrastructure costs in the context of nearshoring requires a complex approach that considers both short-term cost benefits and the company's long-term strategic goals. Effective management of these aspects can enhance a company's competitiveness in the global market.

[9] J. Smith, *Challenges and Opportunities in Nearshoring*, "International Journal of Production Economics" 2021, vol. 237, pp. 245–289.

[10] Ibidem.

4.1. Adapting to new markets

Adapting to new markets in the context of nearshoring is a complex process that requires companies to understand and respond to new regulatory, cultural and market conditions. Moving production activities to countries closer to target markets presents several challenges but also opens up new opportunities for growth and operational optimization.

Regulatory conditions: Adapting to local regulations is crucial to ensure operational compliance and avoid potential sanctions. Companies must stay updated on local regulations regarding production, employment, environmental protection and trade. For example, differences in CO_2 emission regulations may require technological or operational changes in production processes to meet stricter environmental standards.

Cultural differences: Understanding local culture and social norms is essential not only for human resource management but also for effective communication with customers and business partners. Business practices, such as negotiations, decision-making and communication styles can vary significantly by country. Therefore, companies must adapt their management and marketing strategies to meet local expectations and customs.[11]

Trade barriers and consumer expectations: Differences in consumer expectations can influence product and marketing strategies. Consumers in different regions may prefer different product features, requiring companies to be flexible in adjusting their offerings. Additionally, trade barriers such as tariffs, quotas and varying certification requirements can impact product costs and availability in new markets.[12]

In the context of nearshoring, companies must conduct in-depth market research to understand these aspects and appropriately tailor their strategies. Effective adaptation can not only minimize risks but also maximize the benefits of closer collaboration with target markets.

4.2. Risk and uncertainty

Relocating production under a nearshoring strategy entails significant risks and uncertainties that companies must consider when making such a decision. These

[11] G. Hofstede, *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*, Sage Publications, California 2001, p. 98.
[12] M.E. Porter, *The Competitive Advantage of Nations*, Free Press, New York 1990, p. 245.

risks and uncertainties can arise from various factors, such as changing economic, political and environmental conditions that may affect the stability and predictability of foreign operations.

Economic conditions: Currency fluctuations, inflation or a recession in the host country can significantly impact operating costs and profit margins. Variable economic conditions can also affect demand for products, requiring companies to be flexible in adapting production and sales strategies.[13]

Political risk: Changes in local or international policies, such as new trade regulations, tariffs or sanctions can hinder foreign business operations. This risk also includes potential shifts in political stability, which may impact the security of investments and personnel.[14]

Environmental challenges: Environmental regulations can vary from country to country and may require substantial investments in environmentally friendly technologies or changes to production processes to meet local standards. Additionally, natural disasters or other environmental crises can disrupt supply chains and production.[15]

Unforeseen expenses: The costs associated with establishing operations in a new location may be higher than anticipated, including initial capital investments and ongoing operational costs. Problems with system integration, employee training or technological adaptation can also generate additional expenses.[16]

To manage risk, companies can employ various strategies such as currency hedging, market diversification, investing in technologies that enhance production flexibility and developing crisis management plans. Effective risk management also requires continuous monitoring of both external and internal conditions to respond quickly to changing circumstances.

[13] W.J. Henisz, *The Institutional Environment for Multinational Investment*, “Journal of Law, Economics, & Organization” 2000, vol. 16, no. 2, pp. 334–364.

[14] K.D. Brouthers, *Institutional, Cultural and Transaction Cost Influences on Entry Mode Choice and Performance*, “Journal of International Business Studies” 2002, vol. 33, no. 2.

[15] P.R. Kleindorfer, G.H. Saad, *Managing Disruption Risks in Supply Chains*, “Production and Operations Management” 2005, vol. 14, iss. 1.

[16] G.A. Knight, S.T. Cavusgil, *Innovation, organizational capabilities, and the born-global firm*, “Journal of International Business Studies” 2004, vol. 35, pp 124–141.

Bibliography

Brouthers K.D., *Institutional, Cultural and Transaction Cost Influences on Entry Mode Choice and Performance*, "Journal of International Business Studies" 2002, vol. 33, no. 2.

Farndale E., Brewster C., Ligthart P. and Poutsma E., *The Effects of Market Economy and Foreign MNE Subsidiaries on the Convergence and Divergence of HRM*, "Journal of International Business Studies" 2017, vol. 48.

Henisz W.J., *The Institutional Environment for Multinational Investment*, "Journal of Law, Economics, & Organization" 2000, vol. 16, no. 2.

Hofstede G., *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*, Sage Publications, California 2001.

Kleindorfer P.R., Saad G.H., *Managing Disruption Risks in Supply Chains*, "Production and Operations Management" 2005, vol. 14, iss. 1.

Knight G.A., Cavusgil S.T., *Innovation, organizational capabilities, and the born-global firm*, "Journal of International Business Studies" 2004, vol. 35.

Porter M.E., *The Competitive Advantage of Nations*, Free Press, 1990.

Smith J., *Challenges and Opportunities in Nearshoring*, "International Journal of Production Economics" 2021.

Wiesmann B., Snoei J.R., Hilletofth P., Eriksson D., *Drivers and barriers to reshoring: a literature review on offshoring in reverse*, "European Business Review" 2017.

Alicke K., Morley-Fletcher T., Gupta R., Lund S., *How COVID-19 is reshaping supply chains*, McKinsey & Company, https://www.mckinsey.com/capabilities/operations/our-insights/how-covid-19-is-reshaping-supply-chains, (accessed 05.06.2025).

Bispo P.H.N., *Implementation of Strategic Human Resource Management Practices: A Review of the National Scientific Production and New Research Directions*, "Revista de Gestão" 2019, vol. 26, iss. 3, , pp. 228–248, https://doi.org/10.1108/REGE-10-2018-0102, (accessed 5.06.2025).

Hamadamin H.H., Atan T., *The Impact of Strategic Human Resource Management Practices on Competitive Advantage Sustainability: The Mediation of Human Capital Development and Employee Commitment*, "Sustainability" 2019, no. 20, art. 5782, https://doi.org/10.3390/su11205782, (accessed 5.06.2025).

Hamouche S., *Human Resource Management and the COVID-19 Crisis: Implications, Challenges, Opportunities, and Future Organizational Directions*, "Journal of Management & Organization" 2021, pp. 1–26, https://doi.org/10.1017/jmo.2021.15, (accessed 12.06 2025).

Johansson M., Olhager J., *Manufacturing Relocation of Plants to and from Sweden – Extent, Characteristics and Performance*, "Journal of Manufacturing Technology Management" 2018, vol. 29, no. 7, pp. 1184–1208, https://doi.org/10.1108/JMTM-01-2017-0006, (accessed 20.06.2025).

Santacreu A.M., LaBelle J., *Supply Chain Disruptions and Inflation During COVID-19*, "Economic Synopses" 2022, no. 14, Federal Reserve Bank of St. Louis, https://research.stlouisfed.org/publications/economic-synopses/2022/05/12/supply-chain-disruptions-and-inflation-during-covid-19, (accessed 7.06.2025).

Summary

In the face of dynamic changes in the global market, nearshoring is becoming an increasingly important element of business strategies aimed at optimising supply chains. As the analysis in this article has shown, relocating industrial production from China to locations closer to target markets offers several benefits, including cost reduction, increased flexibility and better alignment of products with consumer demands. Although this process involves challenges such as adapting to environmental regulations or managing labour costs, the opportunities it presents are substantial.

When properly implemented, nearshoring strategies can significantly contribute to sustainable growth, enhancing companies' competitiveness on the international stage. However, to fully realize the potential of nearshoring, companies must engage in continuous monitoring and analysis of market trends, adapting their operations to the rapidly changing conditions of the global economy. Given these facts, businesses that embrace these challenges are paving the way for innovation and growth, effectively responding to shifting consumer expectations and market demands. Nearshoring is no longer just an option but a key strategic element enabling companies to achieve long-term competitive advantage.

The growing interest in nearshoring as a key component in global strategies heralds a new era in supply chain management. As companies prioritise greater operational flexibility and shorter supply chains, nearshoring becomes an increasingly attractive option, helping to meet modern economic, environmental and social challenges.

By locating production closer to key markets, companies not only reduce delivery times and transportation costs but also increase their ability to quickly respond to changes in consumer preferences and market conditions. Nearshoring allows companies to improve operational efficiency while better aligning with regulatory requirements and social expectations concerning sustainable development.

Furthermore, relocating production can lead to significant transformation both in the internal processes of the company and its external business relationships. This requires strategic planning, innovation and continuous improvement, which can contribute to the long-term stability and growth of the company. Nearshoring offers not only operational and financial benefits but also opens doors to deeper integration and collaboration with local markets, which may be crucial for maintaining competitiveness in a rapidly changing global environment.

Decisions regarding nearshoring should be made with careful consideration of both short-term benefits and long-term growth prospects for the company. The ability to adapt and innovate in response to global challenges will determine the future of companies that choose this path, with benefits translating not only into financial success but also into greater social and environmental responsibility.