

The Impact of Reshoring and Near Shoring of the healthcare supply chain in India

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Abstract

The COVID-19 pandemic exposed major vulnerabilities and dependencies on global supply chains for essential medical supplies, pharmaceuticals, and equipment. This has led to a growing interest in reshoring and nearshoring as strategic methods to enhance the resilience and self-sufficiency of India's healthcare supply chain. This paper explores the impact of offshoring in the healthcare sector in India and the implications for trade, FDI flows, and global value chain configurations concerning offshoring, backshoring, and near-shoring. The paper concludes with an overview of the benefits and challenges of reshaping the healthcare industry in India.

Keywords

Healthcare , industry ,challenges ,reshoring ,nearshoring ,pandemic.

Introduction

In recent years, India's healthcare supply chain, like those in many other countries, has faced significant challenges. The COVID-19 pandemic, in particular, exposed major vulnerabilities and dependencies on global supply chains for essential medical supplies, pharmaceuticals, and equipment. This has led to a growing interest in reshoring and nearshoring as strategic methods to enhance the resilience and self-sufficiency of India's healthcare supply chain.

- Reshoring: This involves bringing manufacturing and services back to India, promoting the production of healthcare-related goods within the country's borders.

- Nearshoring: This strategy entails relocating production or services to neighboring countries with more favorable conditions, while still reducing the risks associated with long and complex supply chains.

Global Context

Traditionally, the global healthcare supply chain has relied on a network of manufacturers, suppliers, and distributors across various countries. While this global interconnection is efficient for cost and resource utilization, it also carries considerable risks. Disruptions in one region can create a domino effect, impacting the availability of critical medical supplies worldwide. The pandemic highlighted how quickly these disruptions can occur and the severe consequences for public health and safety.

India's Healthcare Supply Chain Vulnerabilities

India's healthcare sector is particularly susceptible to global supply chain disruptions. Although India is a leading producer of generic medicines, it still relies heavily on imports for active

pharmaceutical ingredients (APIs), medical devices, and diagnostic equipment. The sudden stoppage of international supply chains during the pandemic led to shortages of vital items such as ventilators, personal protective equipment (PPE), and essential medicines. These shortages underscored the urgent need for India to reassess its reliance on external sources and strengthen its domestic manufacturing capabilities.

Government Initiatives

Recognizing the necessity for a more resilient healthcare supply chain, the Indian government has launched various initiatives to support reshoring and nearshoring efforts. The Production Linked Incentive (PLI) scheme, for example, aims to boost domestic manufacturing of pharmaceuticals and medical devices. Additionally, policies promoting the "Make in India" initiative and the Atmanirbhar Bharat (Self-Reliant India) campaign are designed to enhance local production capacities and reduce dependency on imports.

Technological Advancements

Technological advancements have also played a crucial role in making reshoring and nearshoring more feasible. Innovations in automation, digitalization, and manufacturing processes have reduced the cost and complexity of establishing local production facilities. These technological improvements enable Indian manufacturers to produce high-quality healthcare products efficiently and cost-effectively, making reshoring an appealing option.

Strategic Importance

Reshoring and nearshoring are not merely economic or operational decisions; they hold strategic importance for India's national security and public health. Developing a more self-reliant healthcare supply chain will enable India to better protect against future global disruptions, ensure a steady supply of essential medical products, and maintain its position as a key player in the global pharmaceutical industry..

Literature Survey

1)Lessons Learned About Reshoring Post-COVID-19

The COVID-19 pandemic has exposed the vulnerabilities in global value chains, underscoring the need for reshoring, which involves relocating manufacturing back to the home country or nearby countries within the same region. This editorial explores the pandemic's influence on reshoring decisions and the importance of research in this area.

1. The pandemic has accelerated reshoring due to disruptions in offshore supplies and new market opportunities.
2. Policymakers are actively working to bring strategic productions back to their home countries.

3. A deep understanding of market segments and strategic competitiveness is essential for reshoring decisions.
4. There is a need for better utilization of data in decision-making processes.
5. Companies and policymakers are rethinking their strategies and perceptions because of the pandemic.

2) Pros and Cons of Reshoring in Pharmaceutical Value Chains: The Case of Antibiotics

This paper examines how reshoring can mitigate drug shortages and reduce availability risks in global pharmaceutical value chains, specifically antibiotics. However, the study indicates that there is no simple solution. Both reshoring alternatives, backshoring and nearshoring, have their own sets of advantages and disadvantages for different stakeholders. The paper concludes with implications for policymakers and managers.

3) Firms' Internationalization Decisions

The literature highlights several factors affecting firms' internationalization decisions:

- Transport and communication costs are higher than anticipated.
- Reduced flexibility in complex production networks has negative impacts (Fratocchi et al., 2014; Gylling et al., 2015; Kinkel and Maloca, 2009).
- Mismatches between suppliers and consumers are difficult to resolve when production is far from the final market (Piatanesi and Arauzo, 2019).
- Offshored production far from the final market can hinder innovation opportunities; user-producer interactions are crucial for learning and innovation in production (Chang and Andreoni, 2020; Fratocchi et al., 2016; Gray et al., 2013; Pietrobelli and Rabellotti, 2011).
- Institutional discrepancies in intellectual property rights (IPRs), quality standards, environmental, social conditions, and other regulations create additional challenges (Gray et al., 2013; Tate, 2014; Ancarani et al., 2015; Fratocchi et al., 2014; Stentoft et al., 2016; Ashby, 2016).

Table 1. Shoring and sourcing: possible corporate decisions

			Location (shoring) decision		
			Inshore	Nearshore	Offshore
			<i>Same country</i>	<i>Same region</i>	<i>Distant country</i>
Corporate boundary (sourcing) decision	Insource	<i>Make</i>	Domestic divisions and affiliates (domestic trade)	Establishing affiliates in a foreign nearby country (FDI and regional trade)	Establishing foreign affiliates (FDI and international trade)
	Partnership (e.g. value chains)	<i>Hybrid</i>	Domestic Partnership	Regional Partnership	Foreign Partnership
	Outsource	<i>Buy</i>	Source from domestic suppliers (domestic trade)	Source from foreign nearby supplier (regional trade)	Source from foreign supplier (international trade)

In Table 1, the strategic decisions firms can make regarding production are presented, classified by corporate boundary decisions (vertical axis) and location decisions (horizontal axis). This framework helps analyze the implications for trade, FDI flows, and global value chain configurations concerning offshoring, backshoring, and nearshoring.

During globalization, companies offshored production, establishing foreign affiliates, entering strategic partnerships, or outsourcing to foreign suppliers, which led to increased FDI flows initially between Europe and the United States, and later to Asian markets. Partnerships and non-equity internationalization allowed multinational enterprises (MNEs) to focus on high-value segments and outsource non-core activities, expanding global production networks.

Nearshoring involves moving activities to nearby countries, leading to regionalized value chains. FDI and international trade flows continue but shift geographically. Backshoring, or bringing production back to the home country, reduces international exchanges, with more domestic production by the company's divisions or local partners. Nearshoring can also mean expanding from domestic production to nearby countries, establishing affiliates, or sourcing from regional suppliers, thus expanding the global production network within the same region.

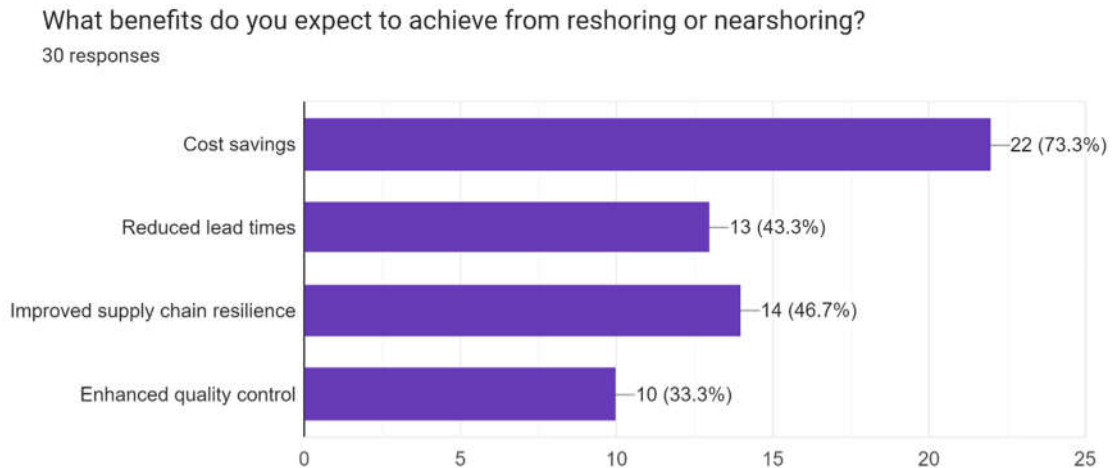
Methodology

Qualitative methods are well-suited for this research as they offer a deeper context and understanding of the intricate processes and experiences associated with reshoring and nearshoring concept, which cannot be captured through quantitative data alone.

Qualitative Data Collection & Analysis

Data Analysis

- 1) What benefits do you expect to achieve from reshoring or nearshoring?



The bar chart provides insights into the expected benefits of reshoring or nearshoring based on the responses from 30 participants. Here's a detailed breakdown:

Benefits and Response Breakdown:

1. Cost Savings (22 responses, 73.3%)

- Explanation: The majority of respondents (73.3%) expect cost savings to be a significant benefit from reshoring or nearshoring. This indicates that reducing expenses is a primary motivation for companies considering bringing operations closer to home.

- Possible Reasons:

- Lower transportation costs
- Reduced tariffs and trade barriers
- Potential savings in labor costs, especially when considering the total cost of ownership rather than just wage rates.

2. Improved Supply Chain Resilience (14 responses, 46.7%)

- Explanation: Nearly half of the respondents (46.7%) believe that reshoring or nearshoring will enhance supply chain resilience. This reflects a strategic focus on making supply chains more robust and less susceptible to disruptions.

- Possible Reasons:

- Proximity to the market can lead to faster response times and adaptability.
- Reduced risk from global disruptions such as geopolitical tensions, pandemics, or natural disasters.
- Greater control over supply chain processes and quality.

3. Reduced Lead Times (13 responses, 43.3%)

- Explanation: 43.3% of respondents expect reduced lead times as a benefit. This implies a significant interest in speeding up the production and delivery processes.

- Possible Reasons:

- Shorter distances for shipping goods can lead to quicker delivery.

- Easier and faster communication with local or nearby suppliers and manufacturers.
- The ability to implement just-in-time manufacturing practices more effectively.

4. Enhanced Quality Control (10 responses, 33.3%)

- Explanation: One-third of the respondents (33.3%) see enhanced quality control as a benefit of reshoring or nearshoring. This highlights the importance of maintaining high standards and consistency in production.

- Possible Reasons:

- Closer proximity to production facilities allows for more frequent and thorough inspections.

- Easier implementation of quality management systems and compliance with local standards.

- Better alignment with customer expectations and quicker resolution of any quality issues.

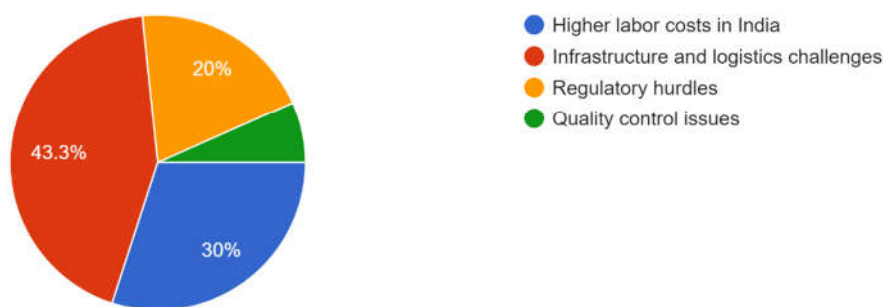
Summary:

The chart indicates that while cost savings is the most anticipated benefit of reshoring or nearshoring, a significant number of respondents also value improved supply chain resilience, reduced lead times, and enhanced quality control. This suggests that companies are looking for a balanced approach that not only reduces costs but also improves overall efficiency and quality in their operations.

2) What challenges do you anticipate facing in implementing reshoring or nearshoring?

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30 responses



The pie chart depicts the anticipated challenges in implementing reshoring or nearshoring, based on responses from 30 participants. Here's a brief explanation:

1. Higher Labor Costs in India (30%)

- Explanation: 30% of respondents foresee higher labor costs in India as a significant challenge.

2. Infrastructure and Logistics Challenges (43.3%)

- Explanation: The largest segment, 43.3%, identifies infrastructure and logistics challenges as a major concern.

3. Regulatory Hurdles (20%)

- Explanation: 20% of respondents are concerned about regulatory hurdles that may impede reshoring or nearshoring efforts.

4. Quality Control Issues (6.7%)

- Explanation: The smallest segment, 6.7%, anticipates facing quality control issues during the implementation process.

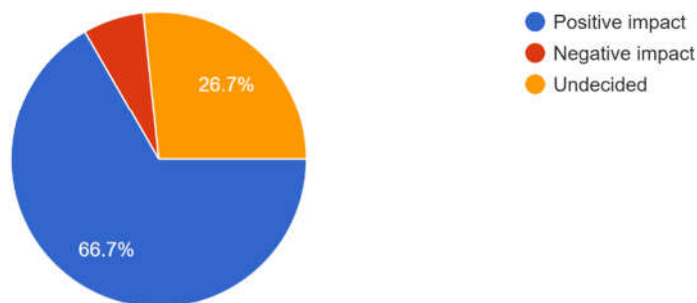
Summary:

The main challenges expected in reshoring or nearshoring are infrastructure and logistics challenges (43.3%), followed by higher labor costs in India (30%), regulatory hurdles (20%), and quality control issues (6.7%).

3) How do you think reshoring or nearshoring will impact the Indian healthcare industry?

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30 responses



The pie chart illustrates perceptions of the impact of reshoring or nearshoring on the Indian healthcare industry, based on responses from 30 participants. Here's an explanation:

1. Positive Impact (66.7%)

- Explanation: The majority, 66.7%, believe that reshoring or nearshoring will have a positive impact on the Indian healthcare industry.

- Possible Reasons:

- Increased local production capabilities
- Better supply chain management
- Enhanced quality control and regulatory compliance

2. Negative Impact (6.7%)

- Explanation: A small percentage, 6.7%, anticipate a negative impact.

- Possible Reasons:

- Potential increase in costs
- Disruptions during the transition period

3. Undecided (26.7%)

- Explanation: 26.7% of respondents are undecided about the impact.

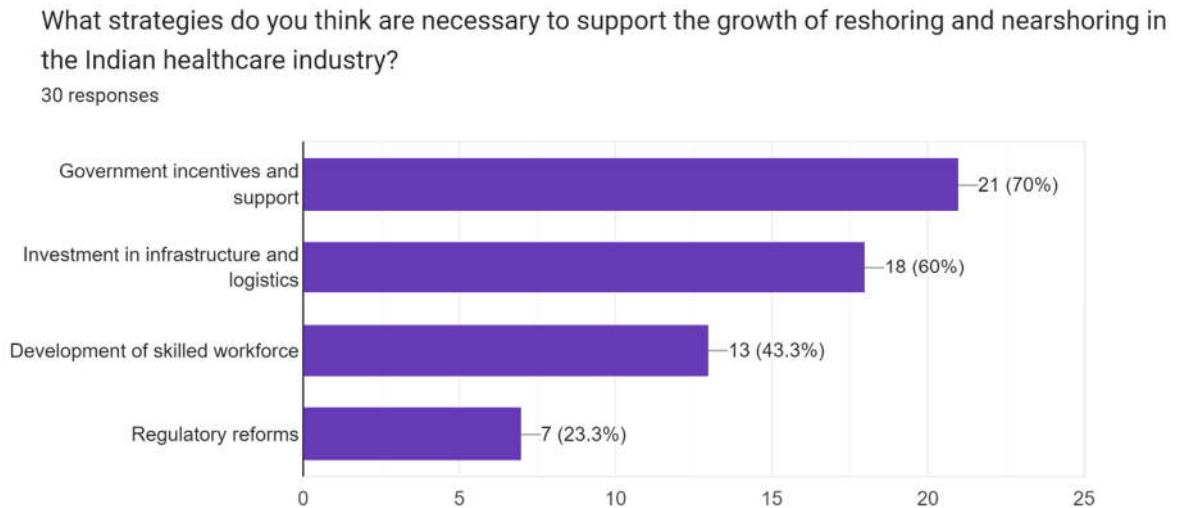
- Possible Reasons:

- Uncertainty about the outcomes
- Need for more information to make an informed judgment

Summary:

Most respondents (66.7%) expect a positive impact of reshoring or nearshoring on the Indian healthcare industry, while a minority foresee negative consequences (6.7%) or are undecided (26.7%).

- 4) What strategies do you think are necessary to support the growth of reshoring and nearshoring in the Indian healthcare industry?



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Results:

Respondents largely anticipate substantial benefits from reshoring or nearshoring, particularly regarding cost savings, enhanced supply chain resilience, and shorter lead times. Nevertheless, they also foresee considerable challenges, notably concerning infrastructure and logistics, as well as increased labor costs. In relation to the Indian healthcare industry, most respondents predict a positive impact, though a number remain undecided or expect adverse effects.

Conclusion

Reshoring and nearshoring the healthcare supply chain in India presents a complex scenario with significant potential benefits and challenges. Many stakeholders anticipate these strategies yielding cost savings, improved supply chain resilience, and shorter lead times, crucial for enhancing healthcare delivery efficiency and reliability. However, there are obstacles to overcome.

Key concerns include infrastructure and logistics challenges, along with higher labor costs in India, which must be addressed to make reshoring and nearshoring feasible. Developing effective strategies to tackle these issues is essential to fully capitalize on the benefits. Additionally, navigating the regulatory environment carefully is crucial for compliance and smooth operations.

Within the Indian healthcare industry, stakeholders generally predict positive impacts from reshoring and nearshoring efforts. These strategies can strengthen local production capabilities, enhance supply chain management, and improve quality control. However, some stakeholders are cautious or foresee potential negative effects, highlighting the need for a balanced and well-planned approach.

In conclusion, while reshoring and nearshoring offer promising opportunities to enhance India's healthcare supply chain, strategic implementation is vital. Addressing challenges and leveraging benefits can help establish a more resilient, efficient, and cost-effective healthcare supply chain in India.

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