

# UNDERSTANDING INDIA'S SCM CHALLENGES: STRATEGIES FOR CAPITALIZING ON OPPORTUNITIES

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## Abstract

*India's fast-growing economy has great supply chain management (SCM) potential. However, inherent difficulties prevent the nation from taking use of SCM potential. This paper analyses India's SCM difficulties and offers methods to capitalise on possibilities.*

*India's SCM issues are identified first. These include poor infrastructure, fragmented logistical networks, complicated regulatory frameworks, and supply chain skills shortages. India's varied terrain and culture complicate SCM operations. India must solve these issues to improve its supply chain.*

*Several techniques are given to overcome these problems and capitalise on possibilities. First, a nationwide logistics network requires infrastructure development. Improve transportation, storage, and last-mile connectivity. Second, streamlining and simplifying regulatory procedures and rules may ease business, minimise compliance obligations, and encourage SCM investments.*

*Third, supply chain workers must be trained. Supply chain management education and vocational training may produce trained workers who can handle complicated SCM activities. Academic-industry partnership may also connect theoretical understanding and practical implementation.*

*India's SCM success relies on technology. IoT, blockchain, and data analytics may improve supply chain visibility, inventory management, and logistical operations, increasing efficiency, cost savings, and customer satisfaction.*

*Finally, stakeholders should work together. This involves building connections with suppliers, customers, and logistical service providers in India and abroad. Collaboration improves supply chain integration, coordination, and best practises.*

## Paper Identification



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## Introduction

The term "Supply Chain Management" (SCM) was coined in the 1980s, but its importance wasn't fully understood until the second half of the decade, when companies started forming cooperative partnerships with their suppliers, manufacturers, and vendors. The acronym SCM stands for supply chain management, which refers to the all-encompassing management of the movement of raw materials to manufacturers, completed items to distributors, and customers to retailers. One may classify it as a type of artistic expression. The SCM industry is still in its infancy and has not yet reached its full potential in India. The phrase "supply chain" has been in use for quite some time, and it most often refers to the coordinated effort made by many businesses that are responsible for getting a product or service to consumers. Academic research provides a strong support system for this idea. One definition of supply chain management (SCM) involves the administration of information, commodities, and services as they move through a network consisting of customers, companies, and supply chain partners. This definition is more comprehensive than others. Alternately, Oliver and Webber present a more complete definition of supply chain management in which they state that SCM encompasses planning, executing, and regulating supply chain activities with the goal of satisfying customer needs in the most efficient and cost-effective way feasible. Transportation, storage of raw materials and work-in-process inventories, as well as completed goods, are all included in the management of the supply chain from the point of origin all the way to the point of consumption.

**Current State of SCM in International Trade:** In comparison to the economies of other countries throughout the globe, those of many Asian countries, most notably China and India, are expanding at a quicker rate. Over 30 percent of the world's gross domestic product is produced by China, Japan, and India combined. The contribution of the economies of Asia as a group to the production of gross domestic product in the world is greater than that of either the European Union or the United States individually. China and India both have GDP growth rates that are more than 70 percent, which is far higher than the growth rate of 38 percent seen globally. Because of this, Asia has emerged as a central location for worldwide commerce, which has led to a rise in the amount of money flowing into China and India as well as the production of new capital. Because of this, there will be a wealth of chances to put supply chain management practises into action, which will, in turn, lead to an increase in the production of products and services.

The BRICS markets (Brazil, Russia, India, China, and South Africa) have showed tremendous growth and improvement in a variety of facets of supply chain management. This development is seen in a favourable light. The companies that operate in these nations have come to realise the significance of efficient supply chain management and the part it plays in their overall market success. A great number of businesses have arrived to the conclusion that automating some procedures within their supply chain management operations, such as transportation, fulfilment, and warehouse management, may dramatically save costs and significantly improve efficiency.

**Scope for SCM in Indian economy:** One of the advantages of the Indian subcontinent is that it is the youngest nation in the world. This indicates that more than sixty percent of the country's population is comprised of people who are less than thirty years old. As a result, the country will become the primary source of bright young people for the rest of the globe. This demographic dividend is expected to last at least until the middle of the next century.

After the United States and China, it is anticipated that India's gross domestic product would rise to around \$7 trillion by the year 2025, representing a significant increase from its current level of \$2 trillion. It is anticipated that growth will occur within the income levels of those in the working class as well as those in the middle class, which will lead to an increase in the demand for innovative goods and services. This growing demand, in conjunction with a paradigm change in population movement from rural to semi-urban and metropolitan locations, necessitates the establishment of supply chains that are both more advanced and inventive. A considerable number of megacities, including 18 new ones (in addition to the four that already exist), will necessitate the creation of supplemental supply networks as urbanisation continues to progress. This is seen in the following figure, which calls attention to the need for new supply chains.

<b>India's SCM 2018</b> <b>1. City / Urban</b> <b>2. Rural</b>	<b>India's SCM in 2025</b> <b>1. Hyper/Mega Centers</b> <b>2. Urban</b> <b>3. Semi Urban</b> <b>4. Rural Type A</b> <b>5. Rural Type B</b>
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Figure 1: Ongoing urbanization

The majority of the nation's state capitals will eventually develop into megacities, which will increase the requirement for more supply chains.

The following are examples of economic corridors in India, often known as industrial corridors:

- a) Delhi Mumbai Industrial Corridor
- b) Industrial Corridor Between Chennai and Bangalore
- c) Mumbai-Bangalore economic corridor
- d) Amritsar Delhi Kolkata Industrial Corridor
- e) VANPIC - Vadrevu and Nizampatnam Port Industrial Corridor
- f) Once projects such as the Udhana-Palsana Industrial Corridor and others are finished, there will be a rise in large-scale development, and the formation of 20 smart cities (figure 2) will without a doubt generate a demand for supply chains that are more innovative, more efficient, and safer.

**Ongoing urbanization:** The anticipated considerable rise in demand from major cities is anticipated to be more than five times higher than the level that is now being experienced. As a result of this increase, there will be a spike in the need for supply chains to satisfy these demands. In addition, the corporate sector is home to not one but two unique varieties of supply chains, referred to respectively as "City/urban" and "Rural." However, since urbanisation is a process that is still happening (as shown in Figure 1), every business has to have several channels that can be customised to particular locales as well as different types of customers.

The growth in per capita income, the increasing exposure of online marketplaces, the increased use of social networks, the rising awareness of expanding economic gaps, various lifestyles, and cultural diversity will all contribute to the formation of niche market sectors. These consumers include persons who are time-starved, double-income no-kids (also known as DINKs), "rurbans" (rural people who are also cultured in urban areas), and mass pre-

orderers. These characteristics will lead to the growth of supply chains so that they can satisfy the one-of-a-kind requirements and preferences of these specialised market segments.



Figure 2: Smart Cities of India

**The increasing prevalence of the use of technology:** The rise in internet use and online commerce has made it possible for businesses to expand their reach into non-metro areas, which has resulted in increased revenue as compared to the metro-city-based turnover of such businesses. The top online retailers in the organised retail market are also seeing substantial development in their customer bases.

**Speedy transportation facilities:** The pace will grow to 100 kilometres per hour thanks to a special goods corridor railway line that will run throughout the nation. This, in turn, will mirror the speed at which the supply chain delivers goods. In a similar vein, there is a significant focus on enhancing the speed of road transport, which requires the use of Public-Private Partnerships (PPPs) to develop quicker motorways, deploy electronic toll collecting systems, and modernise vehicle fleets. These activities are geared on hastening the development of productive supply networks as their end goal.

Consolidating India's supply chain into a multimodal network that incorporates road, rail, air, and sea transport is necessary for the country if it is to be able to satisfy the demands that will be placed on it in the foreseeable future. In addition, the implementation of standardised operational models and practises becomes an essential component. This process of consolidation is vital for the expansion of India's infrastructure, as it enables the country to handle enormous quantities of commodities via the consolidation of industrial units and the adoption of automated systems.

**Tax reformation:** In vain, business people anticipated a significant amount of change in tax policy as a result of the introduction of the "Goods and Services Tax" (GST), which was intended to replace the Value-Added Tax (VAT) and other levies. However, the business sector continues to anticipate that a modification of the GST would stimulate further economic activity. Consolidation in warehousing, with big distribution hubs, is anticipated to occur in the event that a rational, effective, and nationwide GST is implemented. Successful consolidation will result in the construction of cutting-edge storage facilities and a significant increase in the mechanisation of all packaging,

warehousing, and shipping processes. There is a need to provide fiscal incentives in parts of the nation that are worthy of them in order to stimulate heightened economic activity. These regions include recently established states that are experiencing deficits in their budgets, such as Andhra Pradesh, and north-east based states. The management of supply chains may be improved by “implementing more environmentally friendly logistics, sustainable product designs, the use of recyclable materials in manufacturing, and other similar practises (figure 3)”.



Figure 3: Policies Including Taxes and Others

The economy of India, which presently accounts for 6% of total worldwide trade, is well positioned to become a big contributor to the economy of the world as a whole. It is anticipated that in the not too distant future, this contribution would expand by a factor of five, eventually exceeding China's present level of international commerce (which takes into account both imports and exports). India has the ability to export its commodities to nations and areas that are geographically close to it, such as Eastern Africa, Southeast Asian countries, and countries in Nepal and Sri Lanka. This gives India the benefit of tapping into unmet demand.

The existence of free trade agreements with ASEAN and certain Asian countries, in conjunction with ongoing negotiations with the Gulf Cooperation Council, the European Union, and the European Free Trade Association (which consists of Switzerland, Norway, Iceland, and Liechtenstein), further amplifies the potential for expanded trade volumes. As a consequence of this, it will be absolutely necessary in the not-too-distant future to have supply chains that are cutting edge in terms of both technology and innovation if we are to maintain this development trajectory.

**Cost-effective technology:** Technologies that are within a person's financial means For instance, the cost of a Radio-Frequency Identification (RFID) tag in India is presently one dollar. The cost of each tag may drop by as much as 90% if firms, especially retailers, began using this technology on a massive scale. As their use grows, the price per tag may benefit from economies of scale and decrease.

In addition, with the rise of distributed storage systems and cloud computing, the worldwide cost of storing data has decreased dramatically. Because of this, worldwide data storage has become more accessible and affordable.

Data analytics is also becoming more flexible, dependable, and economical because to the proliferation of open-source analytical tools and systems like as Hadoop and MapReduce. With these resources, businesses may reliably and affordably do data analytics and get actionable insights without breaking the bank.

**Challenges of SCM:** The market will always be subject to fluctuations due to changes in supply and demand. There is the potential for a bull-whip effect to occur as a result of changes in demand and supply, which may have an influence on the company's profitability. Therefore, experts working in supply chains need to have a firm grasp on

risk management strategies, as well as the ability to build adaptable production lines, scalable ideal storage and transport agreements, and flexible procurement arrangements from different cost-effective suppliers. In addition, scenario planning will make it possible for managers to adopt production choices in real time that are based on demand sensing.

The intense level of competition is the primary factor driving the push to reduce costs. To maintain a competitive price point, it will be necessary to use lean and continuous improvement practises. At the same time, organisations will need to continuously deal with the tradeoffs between the economies afforded by integrated sourcing, storage, and production (figure 4). These efficiencies may be found in the form of customised product offers.

On a head count basis, there will be an abundance of labour, but it will be challenging to locate labourers with the appropriate skills. Automation, continual training, and the provision of an ambitious and inspirational work environment are some of the solutions that might be replaced as a remedy for these talent shortages and skill gaps.

According to a research published by the Confederation of Indian Industry (CII), India suffers annual economic losses up to \$65 billion as a result of its inadequate and inefficient supply chain infrastructure.

According to the findings of comparative research, the expenses of the supply chain account for 13% of GDP in India, but in industrialised countries, this figure is just 7%. This disparity suggests that India does not yet have sufficient cost-effectiveness as a provider of supply chains at the present time. In addition, Indian farmers encounter difficulties since they do not have access to integrated cold storage chain facilities, which results in considerable yearly losses of agricultural goods with a combined worth of \$13 billion. According to study that was carried out by the international retail firm Wal-Mart, at least forty percent of the food that is produced in India is wasted due to insufficient storage and transit choices.



Figure 4: SCM's Most Important Problems and Possible Solutions

As a result of a lack of investment and dedication, the rail and road transport systems have not yet been completely built to match the increase of their respective traffics.

## Conclusion

The SCM in India is still in its infant stage and is plagued by a number of issues, including the following:

- a The supply chain incurs a high cost.
- b Inadequate modernization of the supply chain infrastructure, including but not limited to motorways, railroads, airways, and waterways.
- c insufficient capital being invested in the advancement of information technology.
- d Lack of road and rail connection leading to the spoilage of agricultural products.

**Table 1 Performance of India among BRIIC countries**

Country	World Rank	Logistics Performance Index	Infrastructure	International Shipping	Logistics	Timeliness
China	27	3.49	3.54	3.31	3.49	3.91
India	47	3.12	2.91	3.13	3.16	3.61
Brazil	41	3.20	3.10	2.91	3.30	4.14
Indonesia	75	2.76	2.54	2.82	2.47	3.46
Russia	94	2.61	2.38	2.72	2.51	3.23

India is the world's youngest country and will continue to remain so for the next two or three decades, despite the fact that its skill set is woefully insufficient. According to table 1, our country is in second place, which indicates that there is a significant opportunity for SCM growth with the use of the following strategies:

- a) Encourage financial expenditures in information technology (IT) and information technology infrastructure so that supply chain management software may be developed.
- b) Utilise the potential of information technology by encouraging IT engineers to work in the supply chain management field.
- c) By carrying out MDPs and case studies, SCM strategy may be brought into alignment with business strategy. This will result in the policy makers of business organisations integrating the two strategies.

In conclusion, it is possible for a firm to excel in SCM given that the organisation has the following qualities:

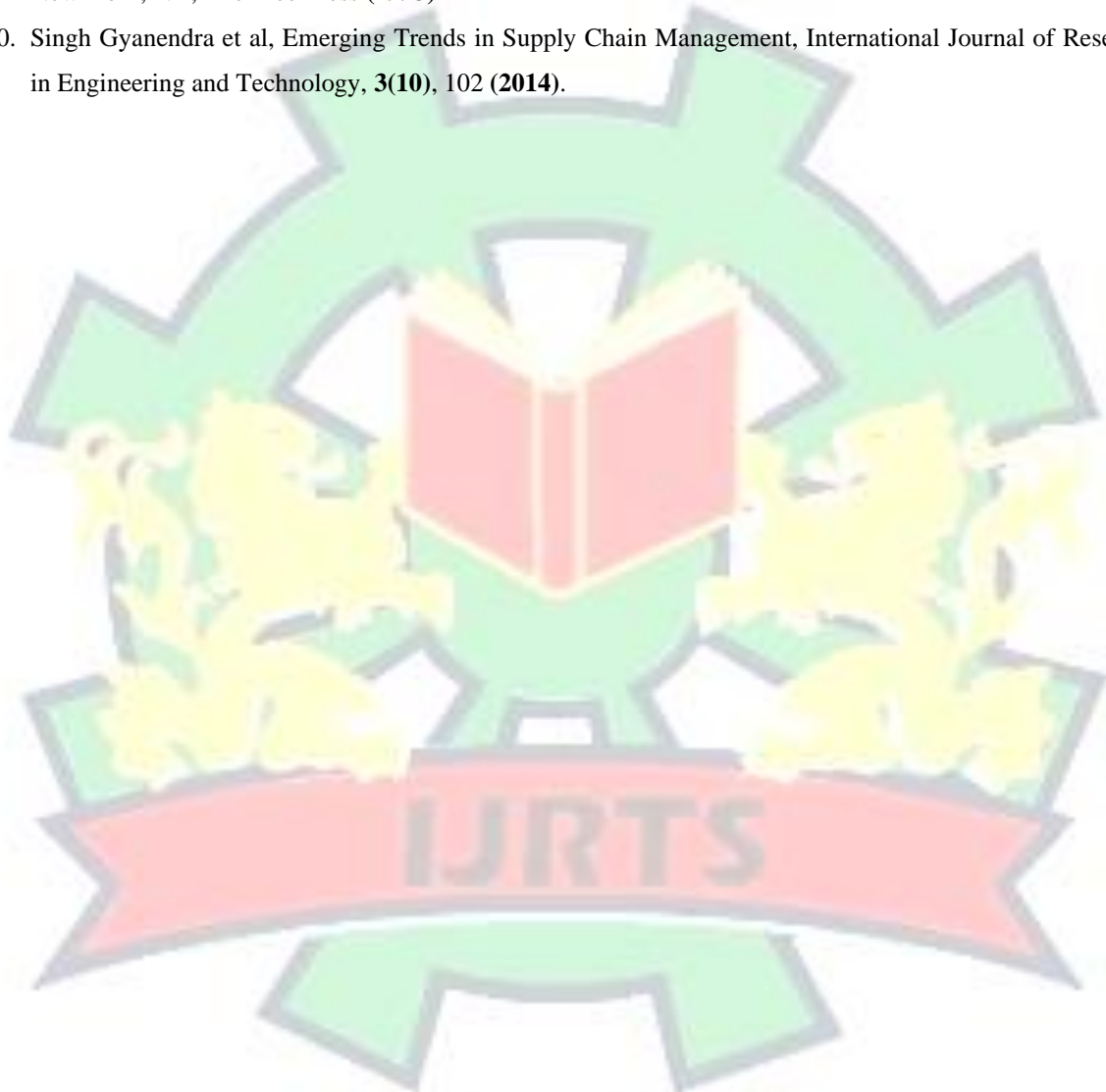
- a) Agility
- b) Adoptability
- c) Alignment

In addition, it was found out that all of the aforementioned things are attainable with the correct amount of cooperation, optimisation, and connection.

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Publications

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