



Supply Chain Finance in India: Driving Growth and Business Transformation

Swati Negi ^{a*} and Monika Negi ^b

^a College of Agribusiness Management, GBPUAT, Pantnagar, India.

^b Dev Bhoomi Uttarakhand University, Dehradun, India.

Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Supply chains are often understood to include and integrate the movement of goods, data, and money from one company to another. Supply chain management theory and practice as it pertains to the movement of materials and data has a long and fruitful history of study, with an ever-expanding list of topics to cover. However this area of study has received little attention, the management of monetary flows across the supply chain and their interplay is known as supply chain finance (SCF). The article's goal is to shed light on India's supply chain financing which is done with the help of various papers published in prestigious journals and data collected from various relevant websites. Companies in any sector may be able to leverage emerging trends and technological advancements to their advantage, the article suggests, opening up new avenues for growth and enhancing the effectiveness of their supply chain operations. Businesses striving to traverse the complexities of the modern supply chain will undoubtedly continue to rely on supply chain management (SCF) as it evolves further.

*Corresponding author: E-mail: negiswati.negi@gmail.com;

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1. INTRODUCTION

Supply chain management (SCM) has traditionally been defined as the practice of organising and directing the flow of resources (including people, information, and capital) as they travel through an organization's supply chain. Understanding financial flows has been understudied compared to studying and improving material and information flows (Wuttke et al., 2016, Pfohl and Gomm, 2009). There were very liquid capital markets before the 2008–2009 global financial crisis, thus companies didn't have any incentive to deal with liquidity problems or proactively manage the working capital of their supply chain. The credit crunch that accompanied the financial crisis had a devastating effect on small and medium-sized enterprises (SMEs), sending several suppliers into bankruptcy and threatening long-standing international supply networks (Hofmann and Belin, 2011). According to some studies, businesses started looking for innovative ways to improve their financial supply chains after seeing the advantages of working with financial institutions and supply chain partners to manage financial flows (de Boer et al., 2015) Such approaches were beginning to appear in published works, drawing on the recently established fields of study known as supply chain finance (SCF) and financial supply chain management (FSCM). Even though they are defined differently, SCF is now more often used, and the two concepts are sometimes used interchangeably (Gelsomino et al., 2016).

By utilising solutions offered by financial institutions or technology vendors, SCF aims to improve money flows across businesses (Hofmann and Belin, 2011) To enhance working capital management and free up liquidity tied up in supply chain activities and transactions, SCF delivers a range of financial, technological, and administrative instruments (Caniato et al., 2016) Also, SCF practices may help suppliers and buyers resolve their competing financial interests, which in turn strengthens their relationship. Suppliers typically want payment for delivered products or services expedited, in contrast to purchasers who often want extended payment periods. Because of this, larger companies (the purchasers) are able to force smaller ones (the suppliers) to pay more slowly. On the other hand, weaker businesses sometimes face greater borrowing costs and

have a harder time amassing the necessary funds to sustain larger levels of working capital. The supply chain becomes less efficient and more vulnerable as a result. By offering financing options that let consumers postpone payment while suppliers get paid sooner at cheaper rates because to the buyer's excellent credit rating, SCF may create win-win scenarios for both parties. To improve the supply chain's bottom line, other options try to lower working capital requirements for buyers and sellers alike (Caniato et al., 2019, de Boer et al., 2015).

At first, only the largest banks offered SCF services. But as the need for SCF increased, new forms of creative financing emerged, and "fintechs"—platform providers that do not rely on banks—entered the market (Caniato et al., 2019, Caniato et al., 2016). Consequently, there is a lot of disarray in the SCF environment right now, and a lot of work for businesses to join and maintain all the many platforms run by banks and other financial service providers (Nienhuis et al., 2013). Optimal working capital and liquidity management were the original goals of SCF, but modern systems now seek to improve efficiency and foster cooperation.

2. LITERATURE REVIEW

Supply Chain Finance (SCF) has emerged as a critical strategy for businesses to optimize cash flow, improve working capital efficiency, and strengthen relationships within the supply chain. By leveraging financial instruments and technologies, SCF enables companies to unlock the value tied up in their supply chain assets, such as accounts receivable and inventory. Two distinct perspectives on SCF have been found through prior research. More and Basu, 2013 identify the first perspective as that which focuses primarily on the financial aspects of SCF, where its potential for generating monetary benefits is underlined. The second perspective has been proposed by Gelsomino et al., 2016 and it views SCF in a more holistic context where its ability to establish relationships between partners in the supply chain can be realized. Gelsomino et al., 2016 also presented an SCF framework that fosters trust and commitment toward the timely delivery with flexible payment terms, also providing suppliers' opportunities to receive early payments from banks, as suggested by Caniato et al., 2016. It has also provided for increased trans

rency of the e-transacting process among the buyers and suppliers. However, some studies such as More and Basu., 2013 have taken SCF only as an instrument for working capital optimisation. It is through this narrow approach that SCF is neglected the long-run strategic implications which are key to business sustainability. The gap thus created requires more research in determining the crucial factors that facilitate the adoption of SCF within the various sectors.

2.1 Objectives

1. To analyze the concepts of Supply Chain Finance in India.
2. To assess the future outlook and startups in Supply Chain Financing in India.

3. METHODOLOGY

This research article employed a mixed-methods approach to comprehensively investigate the evolving landscape of Supply Chain Finance (SCF) in India. This design combines both quantitative and qualitative research methods to provide a comprehensive understanding of the Supply Chain Finance in India. In order to gather research papers on the subject of Supply Chain Finance a wide variety of databases, including Emerald, Sage, ELSEVIER, JSTOR, Science Direct, Google Scholar, and various official websites were used.

3.1 Supply Chain Finance in India

It is anticipated that the market for supply chain finance in India would rise from \$403.51 million to \$818.29 million between the fiscal years 2024 and 2032 with a compound annual growth rate (CAGR) of 9.24%. The expansion of the supply chain financing industry may be attributed to a number of different variables that have participated in its development. Some of these include the formation of new agreements and an increase in the level of competition within the sector, an increase in the need for financing for working capital, an increase in the use of supply chain finance by small and medium-sized enterprises (SMEs) in developing countries, efforts taken by the government, and the implementation of digital technologies. Through the use of short-term loans from supply chain financing, buyers and sellers have the ability to optimize their working capital and reduce the risk of disruptions to the supply chain. The provider is able to obtain payment in advance for their bills

as a result of the automated nature of the procedure that is made possible by contemporary communication technologies (Siju, 2024).

In February of 2024, the supply chain financing platform Cashinvoice, which is situated in Mumbai, was successful in securing USD 3.4 million from Accion Venture Labs, Pravega Ventures, and HDFC Bank as part of its Series A round. They were able to expand its footprints to deeper levels of the supply chain and improve their end-to-end supply chain financing skills as a result of their most recent investment round. For a great number of micro and small firms, acquiring the necessary working capital can be extremely challenging, if not actually impossible. When it comes to the management of liquidity, the reduction of risk, and the promotion of collaboration among the many players in the supply chain, supply chain finance provides a significant number of important tools, 2024.

3.2 Reasons for Strengthening Supply Chain Finance in India

3.2.1 Government initiatives fuel growth in the market

The government of India has made many measures to boost the expansion of supply chain financing in the nation. The India Semiconductor Mission, the National Logistics Policy, the Industrial Corridor Development Program, the Make in India Initiative, and the Production Linked Incentives are just a few examples. The supply chain financing industry might be affected by the Make in India program, which seeks to increase manufacturing and, by extension, local output. In a roundabout way, it promotes product manufacturing in India, which boosts demand for components, raw materials, and other inputs. Beneficial to the supply chain finance market in a roundabout way, the Production Linked Incentive program will pay out financial incentives to participating businesses in exchange for incremental production. This will encourage those businesses to increase their manufacturing capacity and production output (India Supply Chain Finance Market Assessment., 2024).

3.3 Technological Advancements Boost the Market Growth

One possible explanation for the growth of the supply chain finance sector is the proliferation of

digitalization and other technical developments. Fintech businesses provide an API-enabled strategy that enhances the early payment option for buyers in return for cash reductions as part of the bigger endeavor to optimize supply chain financial activities. Transparency, operational efficiency, and market flexibility are all enhanced by this. Smart contracts and blockchain technology can reduce risks in the supply chain and increase its security and integrity (Dhand, 2024).

The Digital Financial and Supply Chain Platform, introduced by ICICI Bank in June 2023, is a first of its kind digital B2B ecosystem platform. For routine monetary transactions, payments, and collections, it enables corporations to digitally connect their supply chain with dealers, suppliers, and other SMEs. Additionally, it makes it easy for corporates to access channel financing from ICICI Bank with just a click (Dhand, 2024).

3.4 Banks are Dominating Indian Supply Chain Finance Market

In India, banks control the majority of the supply chain financing industry. Among its many other forms of finance, it offers working capital loans, invoice discounting, letters of credit, and many more. They also use their extensive local network, financial expertise, and access to funding to devise innovative structured financing solutions for local companies. They offer risk mitigation services by assisting businesses in managing the financial risks connected to their supply networks. Through the trusting ties they've established with their clients, they're able to meet their unique financial requirements. Banks in India are increasingly offering supply chain financing solutions to their clients because to the hospitable climate fostered by the Reserve Bank of India (India Supply Chain Finance Market Assessment, 2018).

The e-VFS (Electronic Vendor Financing Scheme) and the e-DFS (Electronic Dealer Financing Scheme) are two options available through the supply chain financing programs offered by State Bank of India. Paperless banking and real-time financial transfers are offered by these web-based services, which may be tailored to meet the specific needs of businesses (India Supply Chain Finance Market Assessment, 2018).

3.5 West and Central India to Dominate Market Share

In the realm of India's commerce, the preponderance of supply chain financing transactions doth unfold in the western and central dominions of the land. Forsooth, due to the multitude of grand banks and esteemed financial establishments, alongside their finely wrought infrastructure, the great cities of India—Mumbai, Bangalore, Delhi, and Chennai—doth stand as the very heart of supply chain financing. In sooth, as numerous banks and financial institutions of fair India do make their abode in the bustling heart of Mumbai, the city doth ascend to great heights in the realm of supply chain financing within this domain. In yonder city, the art of supply chain financing hath thrived, nurtured by a financial realm most robust and venerable (India Supply Chain Finance Market Assessment, 2018).

Rising company liquidity, improved supply chain efficiency, and general economic development have propelled southern India to the position of fastest-growing area in India.

3.6 Key Players Landscape and Outlook

The supply chain financing industry in India is quite competitive since many different types of financial products and services are available to aid businesses with their day-to-day operations, such as working capital loans. In a developed economy, every company knows that the key to success is offering customers the finest products possible, so they work together, form partnerships, and even merge with other businesses to get there. The ever-changing corporate landscape is a direct result of these methods, which promote creativity, productivity, and the opening of new markets (India Supply Chain Finance Market Assessment, 2018).

Together with Veefin Solutions, Yes Bank introduced SmartFin in January 2024, a fully digital SCF platform. Streamlining working capital, expanding into new markets, increasing sales velocity, and strengthening supply chain partnerships are all strategic business goals that dealers and suppliers of corporate clients may accomplish with the help of digital SCF loans made possible by SmartFin. From the ground up, the platform's digital onboarding, credit underwriting, loan administration, and transaction processing capabilities have revolutionised the availability of SCF products, 2024.

3.7 Future Outlook for Supply Chain Finance in India

- Expanded Use of Blockchain Technology

The increased transparency, security, and efficiency that blockchain technology promises to bring to SCF is sure to spark a revolution. With blockchain technology, it may be possible to monitor transactions in real-time and reduce the likelihood of fraud (Dhand, 2024).

- Integration with E-commerce

The trend of SCF interacting with e-commerce platforms is on the rise. Indian e-commerce giants provide merchants with SCF solutions, which boosts liquidity and promotes expansion (Dhand, 2024).

- Enhanced Collaboration

For Supply Chain Finance to grow, it is essential that banks, ICT providers, and enterprises work together. Innovative solutions and expanded access can emerge from partnerships (Dhand, 2024).

Supply Chain Financing Startups in India

Mintifi: Mintifi is a renowned Mumbai-based financial services platform through which small and medium-sized businesses can access loans. Agarwal, Sanjoy Shome, and Mehta Ankit started it in 2017. For owners of small businesses, their data-driven tools mean a clear and affordable financing process. It offers lending solutions for enterprises across many industries, including travel, commerce, hospitality, pharmaceuticals, fast-moving consumer goods, and mobility, among others, 2024.

KredX: KredX is a prominent Supply Chain Financing Solution Provider situated in Bengaluru. It delivers sophisticated financial solutions with state-of-the-art technology and data.

It doth present a multitude of bespoke remedies, encompassing the realms of enterprise finance, the stewardship of cash flow, the management of working capital, and the art of channel financing, catering to enterprises of every stature within the grand tapestry of the supply chain realm. Moreover, it doth present unique and varied avenues for debt investment to patrons across the globe, 2024.

Cashflo: Cashflo is among the most prominent supply chain finance systems located in Mumbai. Through this initiative, the untapped financial potential of millions of Indian enterprises is intended to be unlocked. Big firms are seeing a transformation in their payment management procedures as a result of its accounts payable automation and supply chain finance. They are able to effortlessly link customers, suppliers, and lenders because to the ecosystem that is created by this practice (Startups in Logistics and Supply Chain Industry in India, 2024).

CredAble: CredAble the Mumbai-based platform was established by Ram Kewalramani and Nirav Choksi. Established with the goal of paving the way for the future of working capital management, it is a state-of-the-art working tech platform. Its working capital infrastructure is designed to accommodate businesses of all sizes with a variety of scalable products and financing options that offer value. Its 360-degree tech-enabled solutions are revolutionising working capital management and trade financing, paving the way for faster company growth, 2024.

Veefin: Veefin is rapidly expanding into global markets and is a well acclaimed provider of supply chain financing technology in the country and South Asia. Bankers make it for other bankers. When it comes to supply chain finance loan administration, the onboarding process, and multi-facility underwriting, Veefin has you covered with a full range of solutions. In India, the SCF ecosystem is being propelled by the robust IT infrastructure, particularly through the Public Sector Bank Alliance (Startups in Logistics and Supply Chain Industry in India, 2024).

Vayana: This is an online hub that connects businesses and their supply chains to banks, facilitating quick, easy, and cheap trade finance for accounts receivable and payable. One of the most popular choices for trade financing in India, it is widely recognized. In addition, Vayana GSP is unique among E-way bill compliance service providers (ASPs) because of the partnerships it has formed with other companies (Supply Chain Financing Startups in India 2024).

FinAGG: One of India's most active financial technology companies, FinAGG is building and maintaining the country's biggest distribution and retail network. Notable Indian corporations have put their faith in it. From the very beginning, the organization has been in the forefront of revolutionizing the loan market. Its aim is around

supporting small and medium-sized enterprises (SMEs), merchants, and consumers, all of whom are essential to the nation's creative and consumption ecology (Supply Chain Financing Startups in India 2024).

NAKAD: NAKAD, a platform established in 2022, is situated in Delhi and was formed by Ujwal Kalra, Sambhav Jain, and Avinash Uttav. It is a comprehensive supply chain financing platform that assists small and medium-sized enterprises by providing capital to sustain their operations. It has obtained \$7 million in a fundraising round, spearheaded by Accel and Matrix Partners India Startups in Logistics and Supply Chain Industry in India Startups in Logistics and Supply Chain Industry in India, 2024.

LIVFIN: LIVFIN located in Gurgaon Non-banking financial startup was established in 2017 by Rakesh Malhotra. It provides operational loans to small and medium-sized businesses in India. Guarantee Scheme, Working Capital Solution, Emergency Credit Line, and Supply Chain Finance are some of the solutions it provides (Supply Chain Financing Startups in India 2024).

4. FUTURE OF SUPPLY CHAIN FINANCE IN INDIA

4.1 AI and Predictive Analytics for Risk Mitigation

By 2024, predictive analytics and artificial intelligence (AI) will be indispensable resources for supply chain finance risk mitigation. Lenders may evaluate borrowers' creditworthiness with the use of AI-powered platforms that analyse past data and forecast how borrowers will pay back loans. Predicting future trends can help avoid losses, which is especially helpful in areas like agriculture that involve a high degree of risk (Gharehdaghi et al, 2024).

4.2 Integration with E-Invoicing and GST Networks

Integrating SCF with India's growing e-invoicing system and GST network would bring more efficiency and transparency to these platforms in 2024. With this interface, lenders may check invoices instantly, which improves payment cycles and decreases fraud. Recent statistics from the GST Council show that electronic invoicing has reduced invoice disputes by 30% (India Supply Chain Finance Market Assessment, 2018).

4.3 Increased Collaboration Between Banks and Fintechs

More and more, conventional banks and fintech firms are working together to provide customers with all-encompassing SCF solutions as the industry develops. While fintech offers technological solutions to improve procedures, banks contribute their established clientele and credibility. Banks and fintech platforms will work together to provide companies with stronger solutions in 40% of SCF deals in India in 2024 (India Supply Chain Finance Market Assessment, 2018).

4.4 Cross-Border Supply Chain Finance

In order to deal with the cash flow issues that come with international commerce, SCF is being used more and more by India's export sector. Businesses with an eye towards export will have access to financing options designed specifically for the challenges of international commerce in 2024 with the launch of cross-border SCF platforms. Industry sources indicate that this has helped Indian exporters cut down on payment delays by 25% (India Supply Chain Finance Market Assessment, 2024).

4.5 Multi-Tier Supply Chain Finance

By 2024, multi-tier SCF is on the rise, opening the door for financing solutions to second- and third-tier suppliers as well. In sectors like consumer products and automobiles, whose supply chains are vast and comprised of many smaller suppliers, this has proven especially revolutionary. With multi-tier SCF, manufacturing bottlenecks are reduced by improving cash flow across all levels of the supply chain (Dhand, 2024).

5. CONCLUSION

Supply chain finance is expected to play a role that is revolutionary in India's financial environment beginning in 2024 and continuing beyond that year. The implementation of digital platforms, artificial intelligence-driven risk assessments, and blockchain technology is pushing the frontiers of how organisations manage their cash flow and increase their operational efficiency levels. Particularly for micro, small, and medium-sized enterprises (MSMEs), which are the backbone of India's economy, SCF provides enormous promise despite the fact that it faces problems like as

credit risk, high transaction costs, and regulatory impediments.

The use of new technology and the maintenance of a heightened awareness of emerging trends may help businesses in all industries uncover new growth prospects and improve the efficiency of their supply chain operations. As supply chain management (SCF) continues to develop, it will definitely continue to be an indispensable instrument for businesses that are attempting to navigate the complexity of the contemporary supply chain.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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