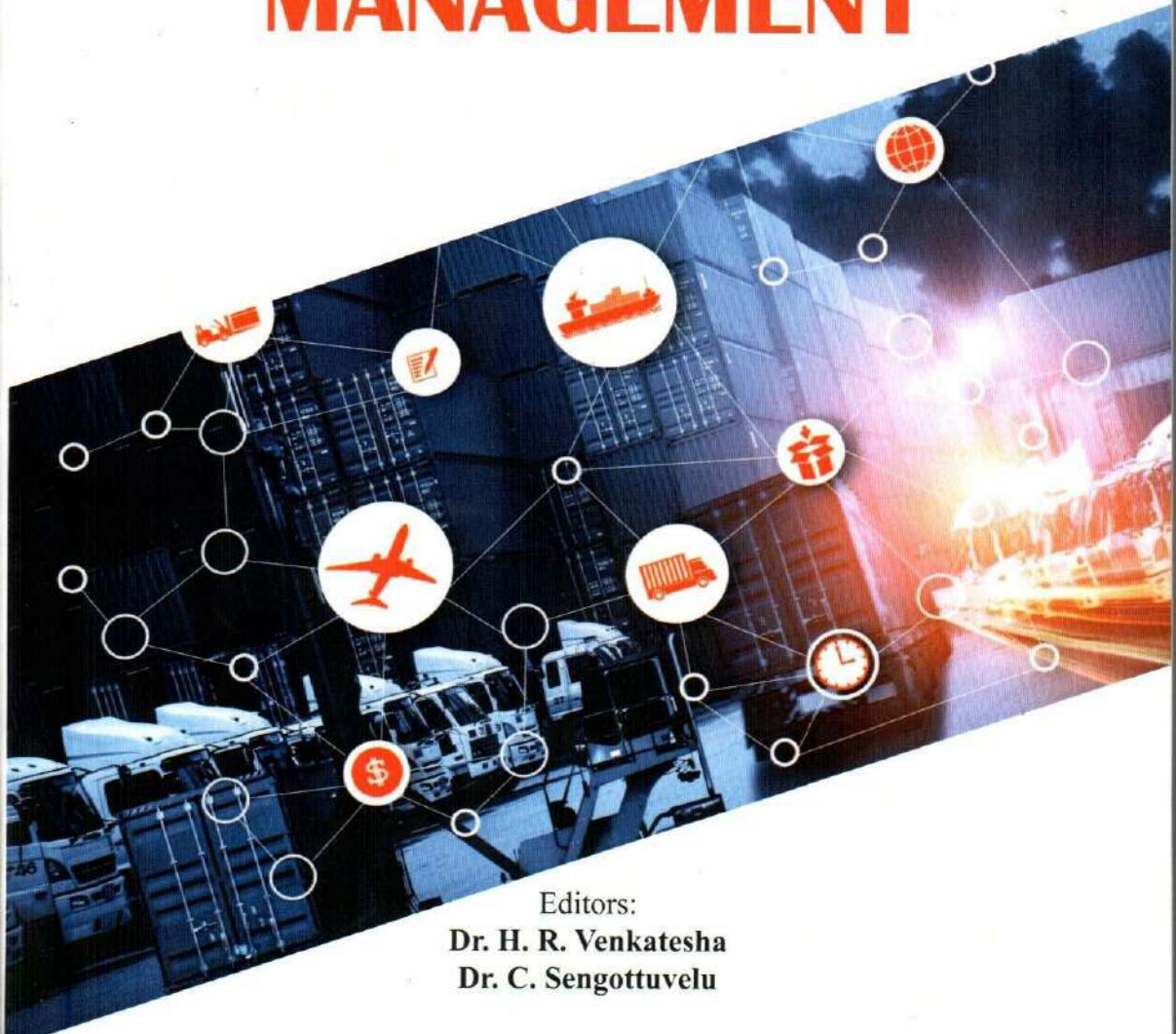


# INNOVATIONS IN SUPPLY CHAIN MANAGEMENT



Editors:

**Dr. H. R. Venkatesha**

**Dr. C. Sengottuvelu**



**ABBS**

**MBA DEPARTMENT**

ACHARYA BANGALORE B SCHOOL (ABBS)  
ANDHRAHALLI MAIN ROAD, OFF. MAGADI ROAD  
BENGALURU, KARNATAKA.

# INNOVATIONS IN SCM

Editors

*Dr. H. R. Venkatesha*

*Dr. C. Sengottuvelu*



MBA DEPARTMENT  
ACHARYA BANGALORE B SCHOOL (ABBS)  
ANDHRAHALLI MAIN ROAD, OFF. MAGADI ROAD  
BENGALURU, KARNATAKA



Publishing India Group  
New Delhi

**First Impression: 2021**

© Copyright Acharya Bangalore B School (ABBS),

Andhrahalli Main Road, Off. Magadi Road, Bengaluru - 560091

ICSSR Sponsored International Conference on Digital Supply Chain

ISBN: 978-81-909372-7-6

No part of this publication may be reproduced or transmitted in any form by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owners.

#### **DISCLAIMER**

The authors are solely responsible for the contents of the papers compiled in this volume. The publishers or editors do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future.

Published by

**Publishing India Group**



E-598, Ground Floor, Palam Extension,  
Sector-7, Dwarka (Near Ramphal Chowk)  
New Delhi - 110077

Typeset by

*The Graphics Factory*, India

Printed by

**Anvi Composers, Paschim Vihar, New Delhi**

## Table of Contents

Chapter	Title	Page No.
1.	A Comprehensive Study on Supply Chain Risk Management of Pharmaceutical Industry in Sri Lanka.....	1
2.	A Study on the Effectiveness of Supply Chain Management of Food Delivery Aggregators during COVID-19 Pandemic .....	25
3.	A Study on Supply Chain Bottlenecks in Manufacturing Sector - A Case Study of Indian Automobile Company .....	37
4.	Artificial Intelligence and Indian Agriculture: Role, Applications and Challenges.....	47
5.	Impact of Blockchain Technology on Micro Small and Medium Enterprises (MSMEs) .....	61
6.	A Review on Application of Radio Frequency Identification (RFID) Technology in Health Care Industry .....	68
7.	Green Supply Chain Practices of Indian Companies - A Qualitative Study .....	76
8.	Cold Chain and its Logistics - A Case Study .....	89
9.	Impediments to Green Supply Chain Management .....	99
10.	A Study on Lead Generation through Digital Platforms in Pandemic Era with Respect to Financial Services Industry .....	112
11.	Food Waste Management through Organized Supply Chain Process .....	134
12.	A Cataclysmic View on Impact of COVID-19 on Global Supply Chain Management (GSCM).....	146
13.	Logistics and Supply Chain Management and its Impact on Online Sellers in E-Commerce.....	157

## Author Index

Fernando W. W. J. N., Subasinghe I. K., Fernando W. B. N. D. and Herath H. M. R. P. ....	1
Ajai Abraham Thomas, Syed Kazim and Naveen Pol .....	25
Vipin C. Nair and R. K. Prema .....	37
K. Vikram, Yathiraju and Ananth Kumar .....	47
<del>Sowmya D. N. and P. Paramashivaiah .....</del>	<del>61</del>
R. Jayanthi and Soney Mathews .....	68
R. K. Prema .....	76
V. S. Chauhan .....	89
Naveen Pol and Manjeshu C. ....	99
Yash Mehrotra and N. Meena Rani .....	112
Swarna Lakshmi Bhairi .....	134
Pratik Joshi, Niju Thomas George and V. P. Sriram .....	146
Geevarathna and Lakshman Kumar Sinha .....	157

---

## Chapter - 5

---

# Impact of Blockchain Technology on Micro Small and Medium Enterprises (MSMEs)

---

Sowmya D. N. and P. Paramashivaiah

### ABSTRACT

*Micro Small and Medium Enterprises (MSMEs) occupy a major role in economic development of any country. At the same time MSMEs are facing lot of encounters and hurdles for their sustainability. Due to pandemic situation every country is facing difficulties especially MSMEs. In this current affairs India is not losing hopes in its aspiration with new initiatives like Vocal for Local. Blockchain technology and IPR are the promising avenues for MSMEs for development and sustainability. Most of the people relate blockchain technology only to large scale sectors but blockchain can be a game changer for MSMEs and for its sustainability. Even Government of India introduced schemes regarding Blockchain technology and subsidiaries to IPR for MSMEs. Incorporating blockchain technology and Intellectual Property Rights (IPRs) needs strong strategy to avoid challenges at the time of implementation. This paper focuses to study the awareness level about IPR and blockchain technology in MSMEs sector. The descriptive study was carried out by collecting opinion from experts and analyzing secondary data who are directly associated with MSMEs. This study tries to know the impact of IPR in development of business.*

**KEYWORDS:** *Blockchain Technology, Challenges and Opportunities, IPR, MSMEs, Government of India Schemes*

## 1. INTRODUCTION

To transform country with respect to Socio-Economic changes, MSMEs plays a key role. MSMEs address the crucial issues like urban divide, poverty, unemployment to the crowded masses. MSMEs expect dynamic solution for every problem, to become more efficient we need disrupted traditional business models. In this dynamic digitalized world where Blockchain and IPR show the novel drive to enhance the business value. Blockchain and IPR are not only meant for large-scale industries but they even disclose greater impact to MSMEs for its sustainability.

In future days to reach \$5 trillion economy Indian economic system is ready to make huge changes and modifications which highly focuses towards innovativeness. The initiation by Government of India through schemes and its contribution however, this 2020 is not permitting us to achieve our target. The Global Economic Slowdown, India is also affected which results in decrease in GDP.

To verify and identify business partners in supply and value chains internationally or locally there is requirement of blockchain technology. By spread over blockchain technology MSMEs can get benefited of any magnitude.

Skills and attributes of employees can be validated and their outputs can be trustless tracked through the distributed online ledger of the blockchain network. The technology is evidencing advantages of blockchain technology over supply chains of MSME's and its linkages.

**Table 1: Features of Blockchain Technology**

Features	Strengths	Weaknesses
Increase Capacity	Process Integrity	Cost
Better Security	Traceability	Difficult to Use
Immutability	Security	Uncertain Regulatory Status
Striking	Faster Processing	Data is Immutable
Faster Settlement		Still not Established
Decentralization		

## 2. REVIEW OF LITERATURE

Panday, P. N. and Panday, S. (2018) Based on secondary data authors describes the opportunities for MSMEs to enhance their supply chain management for effectiveness of the business in different circumstances. Through their study, authors mention that for both MSMEs and Customers/clients blockchain is advantage and a supporting suit for sustainability. But the issues are with implantation of blockchain.

Hellwig, D. and Huchzermeier, A. (2019) Here articulate the impact of blockchain based on primary as well as secondary data. Authors collect the information from the respondents on various parameters like Security consideration, Trade finance, benefits/advantages of blockchain to trade, implementation challenges and operational risk. The study says that, Industries should look into new and dynamic avenues for sustainability and blockchain is the future hopes for effective and efficient results.

Singh, R. and Balasubrahmanya, M. H. (2018) Here explore the significant relationship between innovation, network in other sense supply chain and sustainability. The study limits to Bangalore and both primary and secondary data collected and analyzed by Chi-square and Anova. The outcome of the paper states that policy makers, entrepreneurs and other respective stakeholders should focus on innovation, supply chain and sustainability methods and implementations.

Singh and Tripathi, A. K. (2019) In their paper states that blockchain technology uphold the potentials in various segments of business which leads to sustainability. Through review of literature authors describes that the undisputable way to maintain records in blockchain will avoid the difference in audit. In this paper authors reveals that IP and blockchain are the interrelated aspects, where blockchain technology will strengthen the IP and IP protection.

### **3. OBJECTIVES OF THIS STUDY**

Main objectives of this study are:

- i. To explore the importance of blockchain technology.
- ii. To learn the impact of blockchain technology on MSMEs.
- iii. To estimate the opportunities to implement blockchain in MSMEs.
- iv. To identify the relationship between Blockchain and IPR in MSMEs.

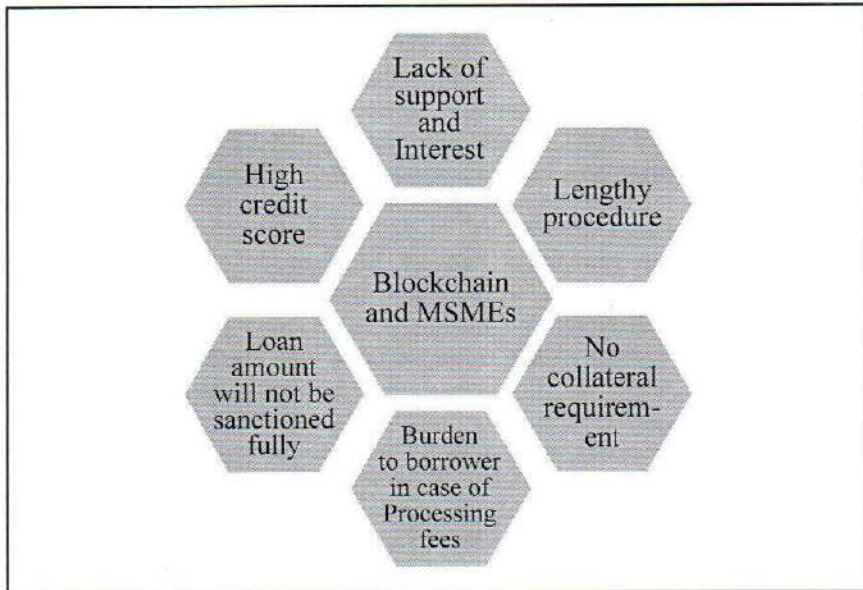
### **4. METHODOLOGY**

The present research is descriptive and conclusive. The study was conducted on secondary source of data books, articles, journals, e-sources and collected the information with few entrepreneurs.

#### **4.1 Hypothesis**

- H1: There is a significant impact of blockchain technology on MSMEs.
- H2: There is a positive relationship between Blockchain and IPR in Sustainability of MSMEs.

## 4.2 Challenges of Blockchain Technology towards MSMEs:



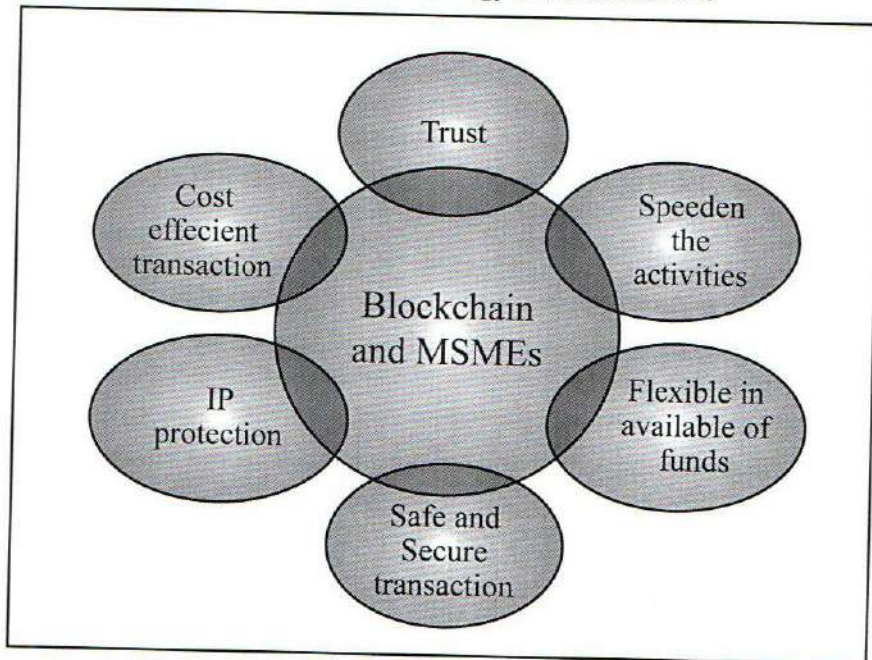
**Fig. 1: Challenges of Blockchain Technology towards MSMEs**

## 5. DISCUSSION

In India MSMEs need much more attention and knowledge to clear some roadblocks to sustain on the path of digital transformation. The challenges faced by MSMEs are:

- i. MSMEs have inadequate growth of capital that creates hurdles for technology adoption and digital transformation.
- ii. Innovation and research ecosystem are the major challenges to manage digital systems are also an expensive affair for MSMEs.
- iii. There are many MSMEs who are unaware of the digital transformation and e-commerce platforms.
- iv. Lack of technological advancement and less adoptability of dynamics in the business by MSMEs.
- v. Storing, analyzing and managing crucial structured and unstructured data to make business decisions is challenging for MSMEs.
- vi. Data, cloud, and system management along with the training required to handle them, leave MSMEs uncertain.

## Opportunities of Blockchain Technology towards MSMEs



**Fig. 2: Opportunities of Blockchain Technology towards MSMEs**

### Major Opportunities are:

- i. Technology based start-ups will really help MSMEs for digital transformation.
- ii. Adoption and adaptation of digital contents by the MSME is the key objective of the present world.
- iii. To promote Indian MSMEs towards successful digitalization proper digital ecosystem serves as a best support to MSMEs.
- iv. Start from kirana stores every business focusing towards online/ e-commerce platform to move their product and services; this would be major digital transformation for MSMEs.

## 6. RESULTS

### Key Results are:

- i. MSMEs will benefit from applying blockchain technology with effective supply chain strategies and operations across the globe.
- ii. Blockchain technology will help in HR related issues. Examples skills and attributes of employees can be validated and their outputs and efficiency can be recognized.

- iii. Blockchain technology helps MSMEs in checking supply chains and with linkages.
- iv. It is easy to track the path of products, their quantity and the time attached. MSMEs have been mainly suffering in India from a lack of financing options because of time stamped process.
- v. The problem is that banks are becoming reluctant to lend money or lend it at high-interest rates due to the risk in delayed payments.
- vi. Blockchain will be implemented by insurance, agriculture, health sectors and so on will be benefited within short span of time.
- vii. MSMEs are able to transfer funds directly and securely to anyone they want in the world almost instantly and at ultra-low fees because less number of intermediaries 'activities.
- viii. By looking at the popularity of cryptocurrencies in other developed and developing country now, RBI is also initiating with digital or crypto currency. There is a hope to bring this positiveness into MSMEs by effective guidance and implementation of blockchain technology in MSMEs. MSMEs accelerate Blockchain adoption by the rising of micro-financing such as micro-finance institutions, branchless bank, and so on.
- ix. For MSMEs it is new hope for sustainability due to two-way relationship between IP and Blockchain technology.
- x. MSMEs can take the benefits of Blockchain technology regarding creation of IP and Protection of IP.
- xi. If the information regarding enforced and expired IP rights are made available on blockchain, it will help the MSMEs to invest their resources in the free domain without infringing others rights and blockchain technology can also use as to reintroduce the IP rights which has already expired.
- xii. The accuracy of the things like accounts receivable, inventory, machinery, equipment and/or real estate; blockchain could be utilized by MSMEs for financing growth.
- xiii. Government of India, National Institution for Transforming India (NITI) Aayog provides critical knowledge, innovation and entrepreneurial support to the country. Through blockchain and Artificial Intelligence (AI) it is easy to explore diverse areas such as education, healthcare, agriculture, electricity distribution and land records.
- xiv. To build the awareness and to implement blockchain technology by MSMEs, GoI initiate with the training programmes and other schemes too.

## **7. CONCLUSION**

Current scenario exhibits the innovation is only a tool for sustainability. In this regard it is lifetime opportunity for MSMEs to adapt blockchain to their business line that will concentrate capital in better way which MSMEs have not experienced in last decades. Blockchain technology offers and opens up to do best innovation which leads to IPR or IP creation or Protection. The technology can help SMEs in sectors including agriculture, insurance, health and medication, technology and utilities. In a nutshell we can say that, MSMEs which wish to adopt the blockchain technology to be carefully analyzed the pros and cons of technology. Because MSMEs needs diligence supports on its operations by Blockchain. Blockchain open up vibrant business connectivity and networks by effective cost strategies, and improving accessibility.

## **REFERENCES**

1. Hellwig, D., & Huchzermeier, A. (2019, September 14). An Industry Study of Blockchain Technology's Impact on Trade Finance. Retrieved from <https://ssrn.com/abstract=3453767> or <http://dx.doi.org/10.2139/ssrn.3453767>
2. Panday, P. N., & Panday, S. (2018). Blockchain technologies to create the next generation of digital supply chain networks for MSMEs. *Advances in Economics and Business Management (AEBM)*, p-ISSN: 2394-1545; e-ISSN: 2394-1553, 5(6), 402-410.
3. Singh, R., & Balasubrahmanya, M. H. (2018). Network cooperation, innovation, internationalization and economic performance of SMEs: An exploratory study. *Asian Journal of Innovation and Policy*, 7(3), 461-488. doi:<http://dx.doi.org/10.7545/ajip.2018.7.3.461>
4. Singh, & Tripathi, A. K. (2019). Blockchain technology and intellectual property rights. *Journal of Intellectual Property Rights*, 24, 41-44.
5. <https://my.msme.gov.in/inc/>
6. <https://hackernoon.com/msmes-could-help-boost-the-economy-in-emerging-markets-through-blockchain-technology-c7mx3wk0>
7. <https://chainflux.com/blockchain-for-msmes/>