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Factors influencing the adoption of e-SCM by Women-led Farmer Producer Organisation (FPO) of India in Agri-Fresh Produce Supply Chain: A Conceptual Model

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Abstract
In India, agriculture employs nearly 60% of the rural workforce and contributes significantly to the country's GDP. However, smallholder farmers, who represent the majority of agricultural producers, face numerous challenges, including limited access to markets, resources, and technology. Farmer Producer Organizations (FPOs) have emerged as a solution to these challenges, enabling farmers to pool their resources, enhance bargaining power, and improve their livelihoods. Further, Electronic supply chain management or e-SCM i.e., adoption of the internet to handle the supply chain processes is an emergent trend in the supply chain and logistics industry and has been recently impacting the development and operations of supply chain and its management. The research mentioned the imminent and rising trend of adoption of e-SCM into practice with the development and increasing standardization of technology as an important part for the development of industrial digitalisation. e-SCM was observed as an important aspect in case of adoption of technological advancements in the industry. It is identified to have been impactful in the growth and enhancements of the organization in terms of operational efficiencies and keeping up with the advancements in demands and requirements of the industry. The study had conducted a systematic review in association to the study information in relation to the objectives of exploring the topic of electronic supply chain management in the study. The literature review indicated that among the screened studies for systematic review, it was indicated that some of the antecedent factors that are motivating the electronic supply chain can be broadly classified into Technological, Organizational, Supply chain and Environmental factors. While in terms of consequences the financial performance of the FPO is examined in the literature. The study proposed a theoretical model to examine the antecedents and consequences of e-SCM adoption in Women-led FPO organizations. This is a unique attempt in the literature of e-SCM adoption. The proposed model can be analysed in future research which will help the managers, policy makers and academicians to understand the factors better and take measures to increase the effectiveness of adoption in the supply chain of Women-led FPO organizations.
Key Words*: e-SCM adoption, TOE framework, Supply Chain, Women Farmer Producer Organization, FPO, Agri –fresh Produce, Technology Adoption*

1. INTRODUCTION

In India, agriculture remains the backbone of the rural economy, employing nearly 60% of the rural workforce and playing a vital role in the nation's overall GDP. Despite their critical contribution, smallholder farmers who constitute the vast majority of agricultural producers continue to grapple with a range of systemic challenges. These include limited access to formal markets, inadequate availability of financial and technological resources, and a lack of institutional support. In response to these persistent issues, Farmer Producer Organizations (FPOs) have emerged as a transformative model. By encouraging collective action, FPOs empower farmers to pool their resources, strengthen their bargaining power, and gain better access to markets, credit, and agricultural inputs. This collaborative approach not only enhances productivity and profitability but also contributes to improved livelihoods and rural development. Further, Electronic supply chain management, also known as e-SCM, i.e., adoption of the internet to manage the processes in supply chain is one of the more recent integration into the logistics industry alongside the supply chain management. Supply chain management is recognised as an "unification of key trade processes that transfer device, aids, and facts from complete consumers to original suppliers" (Akaydin, 2023). The supply chain indicates a procedure for gathering resources for production, production of the products and services, supplying of the commodities to the sellers and

marketing it to the target audience that are the consumers. Supply chain management in the present time is working on advancing the existing system and techniques for supply chain management within businesses as a way to try and improve existing supply chain techniques. Digital technology has been identified as an impactful integration into the businesses and their supply chain management, and inclusion of digital technology has become rather important for firms pursuing technology and digitisation. As a result, the electronic supply chain is identified as an approach for integration of technology into the organisations that includes using internet and information technology as a means for integrating different partners within the supply chain (Hamadneh et al. 2023). These partners are identified to include suppliers, manufacturers, vendors, retailers and customers. The supply chain partners that can also be understood as stakeholders involved in the supply chain are capable of efficiently communicating within the supply chain of the business. E-Commerce and digital technology development has been making it increasingly evident that different supply chain management stages such as logistics are essential for the operation of supply chain management activities. With the rise of e-commerce and digital technology it has become increasingly obvious for requiring technology advancement into logistics and supply chain as essential for enhanced compatibility to keep up with changing demands of the industry and consumers. As of 2021, the global logistics market for e-commerce has a value of over 441 billion Euros and is predicted to reach over 770.8 billion Euros by the year 2026 (Placek, 2024). This indicates the increasing demand for a technologically adapted supply chain management system in recent years making it essential for organisations and businesses to prioritise digitisation of supply chain management systems to keep up with demands. It has been noted that supply chain management have by the year 2021 itself had adopted several forms of technologies into the industry itself. These adoptions included around 40% of the industry having adopted cloud computing and storage systems, and around inventory and network optimisation tools were adopted by around 28% of the industry (Placek, 2022). Around 21% of the supply chain industry has already adopted industrial internet of things (IoT) technology by 2021 while 28% of them have adopted robotics and automation technology and predictive analytics have been adopted by around 22% of the global industry for supply chain. AI technologies and Block chain technology have been adopted by 14% and 10% of the population as of 2021. Electronic supply chain management is noted for its efficiency in enabling the traditional supply chain management to enhance the management conditions for involved businesses and their supply chain partners. Electronic supply chain management is capable of helping the development of supply chain to handle the difficulties of adapting to the environment changes and making information technology effective in terms of the internal and external levels of implementations. These integrations are identified to be effectively contributing towards improvement of communication and data management among suppliers and customers and support effective decision-making processes. Electronic supply chain management has become an increasingly obvious requirement in the business industries as a way to update and standardise the traditional supply chain management in a way of catering to changing industrial and consumer demands. Electronic supply chain management is supportive in terms of assisting organisations through being entirely solutions for "efficient and secure communication" and that e-SCM is capable of being used in a flexible manner (Luo et al. 2024). The development of technological advancement and efficient support through these advancements have helped organisations and supply chains to understand and enhance the existing system for communication, data tracking and management of routine tasks. It is to be noted that the electronic supply chain is considered as a necessary and rapidly expanding market (Kumar et al. 2022). Again studies suggest that there are different risks associated with the application of e-SCM. These include risks associated with information and policy, environmental risks, risks impacting the operation and supply, risks of infrastructure, and demands alongside organisational ones. Electronic supply chain management is effectively important for addressing the problem of Technology being an instigator to the problem of capacity to adjust to and adapt with existing standards of operation. The standards would often include keeping up with technology advancements and integrating the same in an efficient and functional manner. Development of different technologically adept systems are becoming an integrating part of the supply chain that has become necessary to adopt among businesses. There are several regions into the field of supply chain management that have adopted technology such as the logistics for integrating technological advancements such as cloud computing that can assist in a "real-

time supply chain transaction" being facilitated (Technavio.com, 2024). The organisation or business involved that integrates digital technology into their system requires to be effectively able to understand the application of the technology being to their benefit. Technologies like e-SCM can help FPOs to efficiently manage their supply chains and increase market penetration. FPOs enhance entrepreneurship, environmental sustainability, and economic development by focusing on production, marketing, processing, and community development (Abokyi (2013)). In Ujjain, farmers faced challenges due to lack of transport, middlemen, and inaccurate weighing. FPOs require improved market regulation and technological infrastructure (Khan & Dhand (2017)). FPOs help in decision-making and technology access but face capital and infrastructure challenges. Strategies should be formulated to connect multiple stakeholders through technology adoption which will help in effective management of supply chains. (Krishna et al. (2018)).FPOs can transform farming into self-reliant agriculture. Dubey et.al (2021) Highlighted need for better linkages, inputs, and policy support under schemes like "One District One Product." The literature review indicated that among the screened studies for systematic review, it was indicated that some of the antecedent factors that are motivating the electronic supply chain can be broadly classified into Technological, Organizational, Supply chain and Environmental factors. While in terms of consequences the financial performance of the FPO is examined in the literature. The study proposed a theoretical model to examine the antecedents and consequences of e-SCM adoption in Women FPO organizations of India. This is a unique attempt in the literature of e-SCM adoption. The proposed model can be analysed in future research which will help the managers, policy makers and academicians to understand the factors better and take measures to increase the effectiveness of adoption in the supply chain of Women-led FPO organizations.

2. Literature Review

The research had conducted a systematic review of suitable published research based on the criteria that this study discusses as its search strategy.

2.1. Search strategy

The research study follows a search strategy that is based on searching the information through the use of keywords for searching coherent and suitable studies for the research. The research's inclusion and exclusion criteria is listed below alongside the keywords that would be used for the Boolean search strategy that would be paired with "AND" and "OR" with other key terms.

Table 1: Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Language: English language	Language: published work that is not written in English language
Duration: last five years, that is since 2000 to 2024 for updated information	Duration: any research literature published before 2000
Search technique: use Boolean keyword search technique and find literature that result from it	Search technique: avoid studies that do not have coherence to topic and lack keywords
Study type: studies with survey research conducted	Study type: studies that have not conducted survey research
Population: all	Population: none excluded for broad research scope

Table 2: Keywords for search strategy

No.	Keywords
1.	Electronic supply chain management / E-SCM / e-scm

2.	Supply chain management / SCM / scm
3.	Businesses
4.	Adoption
5.	Technology
6.	Digital transformation
7.	Supply chain
8.	Information technology / IT
9.	Benefits / advantages
10.	Challenges / risks
11.	Antecedents
12.	Consequences / result
13.	Moderator / mediating / mediator
14.	Survey

2.2. Data extraction

The study had followed through the confusion and exclusion criteria for research strategy as a way to select the required data that would be necessary to gather the research findings as a result of data collection and analysis procedure. The data extraction process involves using PRISMA flowchart as a guideline for systematic review together with the initial data on the subject. It was followed through with evaluation of the data findings from the research study. The process then involved categorising the study elements into classifications for the systematic review. The data extracted hence includes the author, year of publication, the selected country in the study, study sample size and participant demographics such as age, study designs, antecedents, consequences and moderators of e-scm respectively.

2.3. Quality assessment

The quality assessment is done through evaluation of information from selected research studies that had been chosen on the basis of their content similarity and suitability to the research subject. This included testing the effectiveness of the survey instrument in gathering the necessary information in association to this very study's subject of research. The data evaluation through assessment of quality included examining the narrative of the findings that were presented in the selected studies in order to ascertain the level of efficiency and usefulness of the information that was gathered and presented in the selected studies.

2.4. Data synthesis

The study involved selection and evaluation of research information and findings that had been presented in the selected studies that were chosen for the systematic review for the present conducted research study. The categorization of the study has been done in accordance with the evaluation of the negative and finding implications that the reduced studies portray through their research. The synthesised results are categorised and recognised through the synthesis of the study's content and narrative regarding their findings. The same has been discussed in the following table.

Table 3: Data synthesis for evidence

Bias risk	**Grade**	**Evidence quality**	**Criteria**

None	0	High	Multiple studies have adequate quality or there is one study with very good quality available
Serious	-1	Moderate	There are several studies of questionable quality available or one study of adequate quality
Very serious	-2	Low	Multiple studies with inadequate quality or one study with questionable quality
Extremely serious	-3	Very Low	One study with inadequate quality

3. RESULTS

The following evaluation is done on the basis of the systematic review that has been conducted as a means to research the subject of electronic supply chain management being adopted within the industry. The study had collected information from survey research conducting research articles that had been already published in relation with electronic supply chain management adoption through different innovative components being introduced within the system. The following PRISMA systematic review flow chart illustrates the overall systematic review procedure from the beginning stage of identification of the studies from Google Scholar as the main database for this study. At the end, 6 studies had been included from the 504 studies that were initially identified as having available full text documents, and among them several studies had been excluded from the study due to incompatibility issues and unsuitability to the research objectives and inclusion criteria.

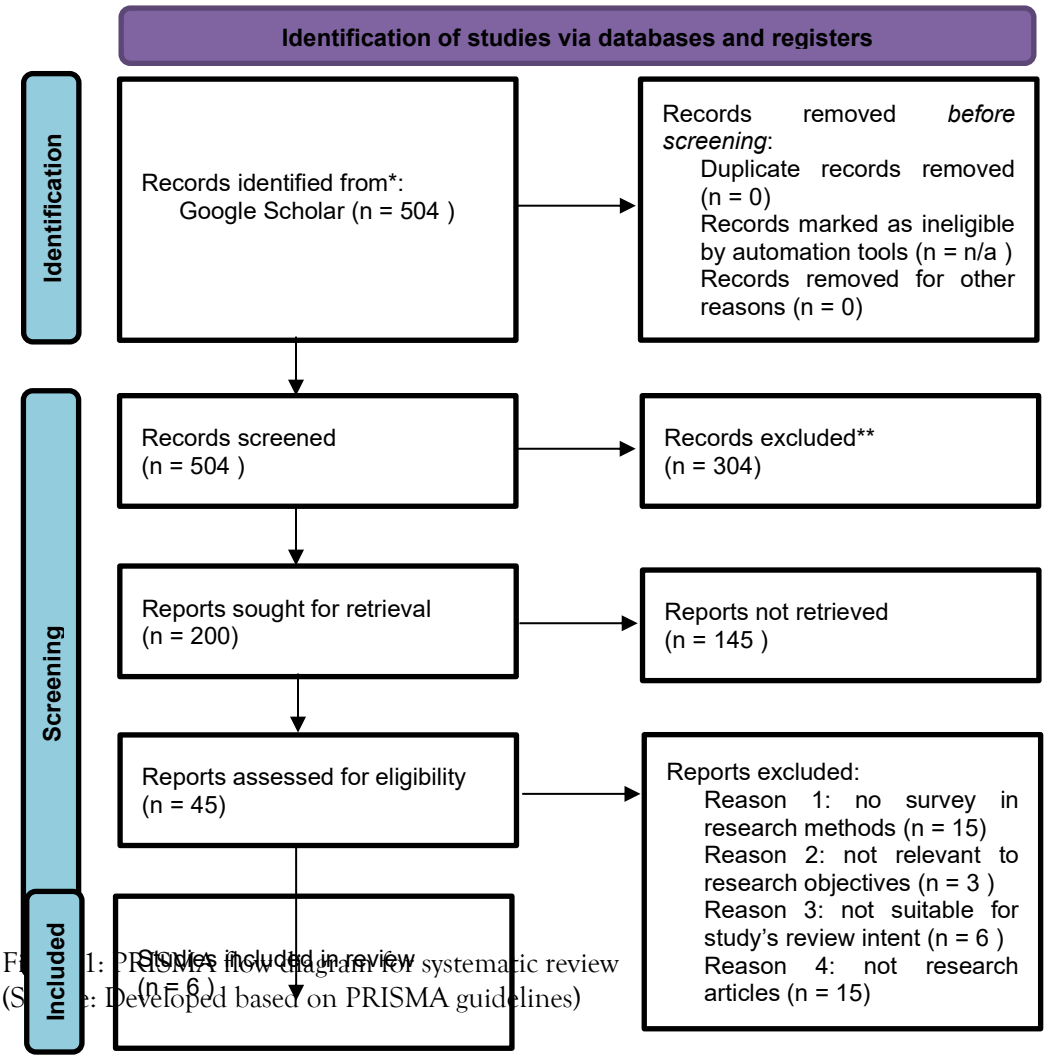


Figure 1: PRISMA flow diagram for systematic review
(Source: Developed based on PRISMA guidelines)

3.1. Measurement of e-SCM adoption

The following table that is illustrated as a means for measurement of electronic supply chain management adoptions as examined in the selected studies include these 12 selected research studies and journal articles.

Author	Year	Sample size	Country	Antecedents	Consequences	Analytical technique	Results	Moderators	Quality assessment
Zhang, L., Gu, F. and He, M.,	2024	379	China	Digital technology transformation, digital management transformation, digital network construction, enabling node enterprises, supply chain performance, re-configurability of supply chain	Sustainability goals, supply chain resilience, carbon emission mitigation	Structural Equation Model	Supply chain digital transformation have an significant influence supply chain re-configurability. Some of the distinct configurations driving high supply chain performance identified includes technical, management and flexible configurations.	n/a	Moderate
Alshurideh, M., Alquqa, E., Alzoubi, H., Kurdi, B. and Hamadneh, S.,	2023	301	UAE	n/a	Performance influence risk, objective achievement ability,	Regression	The results provides influence of information systems was positively associated with e-scm and the indirect impact of supply chain risk significantly influencing the e-supply chain	Mediator for supply chain with logistics on information security,	Moderate

Nguyen, T.H., Le, X.C. and Vu, T.H.L.,	2022	432	Vietnam	Compatibility, complexity, competency, ease of use, usefulness, ease of use	Firm innovation in adoption process, business transformation, increase in cost efficiency related activities	Structural equation modelling	Online retailing aspects are influenced by technological, organisational and environmental contexts	n/a	Moderate
Ye, F., Liu, K., Li, L., Lai, K.H., Zhan, Y. and Kumar, A.,	2022	175	China	Supply chain visibility, technical factors, non-technical factors, relationship commitment, inter organisational trust, internet of things, big data	Improvement of supply chain visibility, lower safety stock level, superior supply chain performance	Structural equation model	High supply chain visibility is and supply chain agility is identified as prerequisite for effective supply chain management	Digital technology complementing organisational practices	Moderate
Oliveira-Dias, D.D., Maqueira Marín, J.M. and Moyano-Fuentes, J.,	2022	256	Spain	Lean supply chain, agile supply chain, information technology, e-business technologies, tooling, operationalization, planning	Higher compatibility with increased technology use,	Structural equation model	Mature IT use enable lean supply chain and agile supply chain strategy implementation	Moderating relationships between lean practices and operational performances,	High
Liu, Y., Fang, W., Feng, T. and Xi, M.,	2024	317	China	Technological antecedents, block chain technology, COVID-19, supply chain resilience,	External environment, indirect influence of block chain technology in	Structural equation model	Adoption of block chain technology enhances both proactive and reactive dimensions of supply	Dysfunctional competence moderates block chain technology	High

					development of proactive and reactive development of supply chain, improvement in dysfunctional competence		chain and the effects can be realised through mediating role of transformational supply chain leadership	efficiency	
Jegan Joseph Jerome, J., Sonwaney, V., Bryde, D. and Graham, G.,	2024	218	India	Information technology infrastructure, managerial skills, technical skills, external drivers	Workforce can be impacted by stakeholders, competitors impacting operation, digital technology impact on the supply chain risk analytics	Structural equation model	Firms investing in track and trace or big data analytics technologies gain operational benefits in terms of uninterrupted information processing, reduced time disruption among others giving competitive advantage	Moderation of different relationships, organisational culture, organisational flexibility,	High
Chatterjee, S., Mariani, M. and Ferraris, A.,	2023	712	India	Risk mitigation inventories, digitalisation, cost, performance,	n/a	Structural equation model	Supply chain digitalization has a significant impact on the cost performance of the firms that in turn impacts significantly and positively on	Supply chain systems moderating resilience, technological turbulences, top management	Moderate

							firm performance	commitment,	
Shahzad, K., Zhang, Q., Ashfaq, M., Zafar, A.U. and Ahmad, B.,	2024	272	China	Antecedents of performance, blockchain technology	Organisations adopting other organisation patterns, maintain competitiveness in fields of supply chain, blockchain technology leads to greater infusion and improved performance	Structural equation model	Pre-adoption factors include traceability, transparency, and organisational readiness among other factors.	Regulatory supports and behavioural intention are influenced by facilitating conditions, technological readiness, technology affinity,	High
Tarigan, Z.J.H., Siagian, H. and Jie, F.,	2021	672	n/a	n/a	Reduces time, restores normal performance	Regression	Internal integration through interdepartmental data sharing impacts supply chain (SC) partnerships, SC agility, and SC resilience	Organisational flexibility as moderator for big data analytics, functional recovery, organisational resilience,	Moderate
Dubey, R., Bryde, D.J., Blome, C.,	2024	157	India	Digital transformation, supply chain agility, adaptability,	Bias minimisation, tackling disruption,	Structural equation model	Combining alliance management capability and digital transformati	Digital transformation, organisational perform	Moderate

Dwivedi, Y.K., Childe, S.J. and Foropon, C.,					accuracy of results, paradigm shift of business operations		on enhances supply chain capabilities, which improves an organisation's ability to respond to crises	ance, supply chain capabilities adaptability of supply chain	
Saleem, H., Li, Y., Ali, Z., Ayyoub, M., Wang, Y. and Mehreen, A.,	2021	274	China	n/a	n/a	Regression	Big data is positively related to technological innovation and organisational outcomes	Communication, information sharing, organisational performance, innovative culture	Moderate
Almajali, D., Mansour, K. and Maqableh, M.,	2016	250	Jordan	Trust, communication, firm performance, usage of e-SCM	Supply chain structure and complexity of processes are factors that can influence e-SCM usage	Structural Equation Model	Use of web technologies proven beneficial for enhancing e-SCM activities in organisations. The study also added that top management to agree sharing responsibility for the e-SCM activities and realisation of firm performance	e-SCM usage is considered to have a mediating effect among trust and communication and in consideration of firm performance	Moderate
Pandey, D.K. and Giri, S.,	2022	129	India	IT competency, and financial capacity for IT adoption	IT infrastructure contribute towards	Regression	The results indicated the IT infrastructures for supply	Supply chain visibility is consider	Moderate

				of SMEs. Collaboration and flexibility as prerequisites for supply chain agility	the increase of logistics and internal processes can increase supply chain visibility. Supply chain visibility capabilities is not impacted by asset management capabilities		chain integrations, supply chain process integrations, focal firm-3PL relational orientation and internal integration resulted to have a statistically significant relation with supply chain visibility	ed to have a positive relationship with IT infrastructures for supply chain integrations	
Saetang, W., Tangwannawit, S. and Jensuttiwetchakul, T.,	2020	310	Thailand	Relative advantage, complexity, compatibility, security factor	Results of technological integrations such as big data leads to insights and benefits including reduced costs, improved decision-making, prediction accuracy and fraud detection	Structural Equation Model	The results supported using Technology-Organisation-Environment (TOE) framework perspective for the assessment of the fact that in terms of relation with determinant factors influencing use of BDT, it is identified that certain factors such as relative advantage, competitive pressure, top	Relative advantage positively affects e-SCM adoption decision-making	Moderate

							management support and trading partner pressure have an positive relation towards BDT adoption, while security negatively influencing BDT adoption.		

3.2. Factors affecting the e-scm adoption

The studies included evaluation of antecedents as well as consequences and moderators influencing the adoption of electronic supply chain management among organisations and industries. According to the results evaluated it was identified that among certain factors that influence the adoption of electronic supply chain management it involves the aspects of relative advantages and flexibility as well as collaboration being some of the potential contributors towards the adoption of electronic supply chain management. In terms of the antecedents of the studies explode hence in this systematic review there were certain antecedents that had been identified as prerequisite components towards the adoption of electronic supply chain management. The assessment had identified relative advantage being one of the antecedent factors towards the adoption of electronic SCM. Transaction climate and complexity where also some prerequisite elements contributing towards the adoption of electronic supply chain management towards e-SCM as well as integration stages along with internal and external diffusion stages for e-SCM adoption are also recognised as antecedents for the prospect of consumer performance. Communication farm performance and trust as well as usage of e-SCM were also recognised as potential antecedents towards the development of e-SCM adoption. Competency for information technology as well as the financial capacity for adopting IT was another competent antecedent that was followed by the consideration of flexibility and collaboration being prerequisite elements towards supply chain ability integrations. Additionally, the security factor was also considered as an integral element that was contributing towards adoption of e-SCM. The study recognised certain consequences and outcomes in association to the adoption of e-SCM. Some of these include the risk of performance influence as well as the ability of achieving objectives. The reviewed papers also noted that the stability of making transactions as well as reduction of risk and uncertainty to level within markets and a good climate for transactions are also consequential in adopting e-SCM. The studies also implied the diffusion of web based supply chain throughout the internal assimilation and external diffusion stages due to differentiated enhancements among the inventory management, as well as product cycle time and supply relationship management where considered as consequences. The studies also implied supply chain structure and complexity of processes being factors influencing the usage of e-scm was also consequential results. The IT infrastructure was considered to be consideration related towards its contribution to and improvement of logistics and internal processes increase the potential for integrations as well as visibility of supply chain was also considered as related full stop the results were also considered as beneficial such as reduction of cost and improvement of decision making as well as accuracy of prediction and fraud detection were considered as consequences. Moderators towards electronics supply chain management adoption are recognised as per the above studies to include several internal and external factors that are influential to

industrial and organisational activities. There are multiple elements that are involved with this element that include organisation culture and performance to be some of the major elements to the development of moderating forces towards adoption of electronic supply chain management systems. Visibility of supply chain and its integration of Information Technology were also considered to have a mediating relationship and effect in relation with E-scm adoption as well as the aspects of trust and communication in regards to form performance we also considered to have a mediating effect. The development of Information Technology and information systems such as through sharing of information is also recognised as one of the major factors influencing the mediating influence that these moderating factors have on the adoption of technologically advanced and digitally compatible systems for integration within supply chain management for the businesses involved. The influential role of moderators as mediating relationships among different components that are contributory towards the consequential developments of electronic technology and e-SCM adoption was also identified.

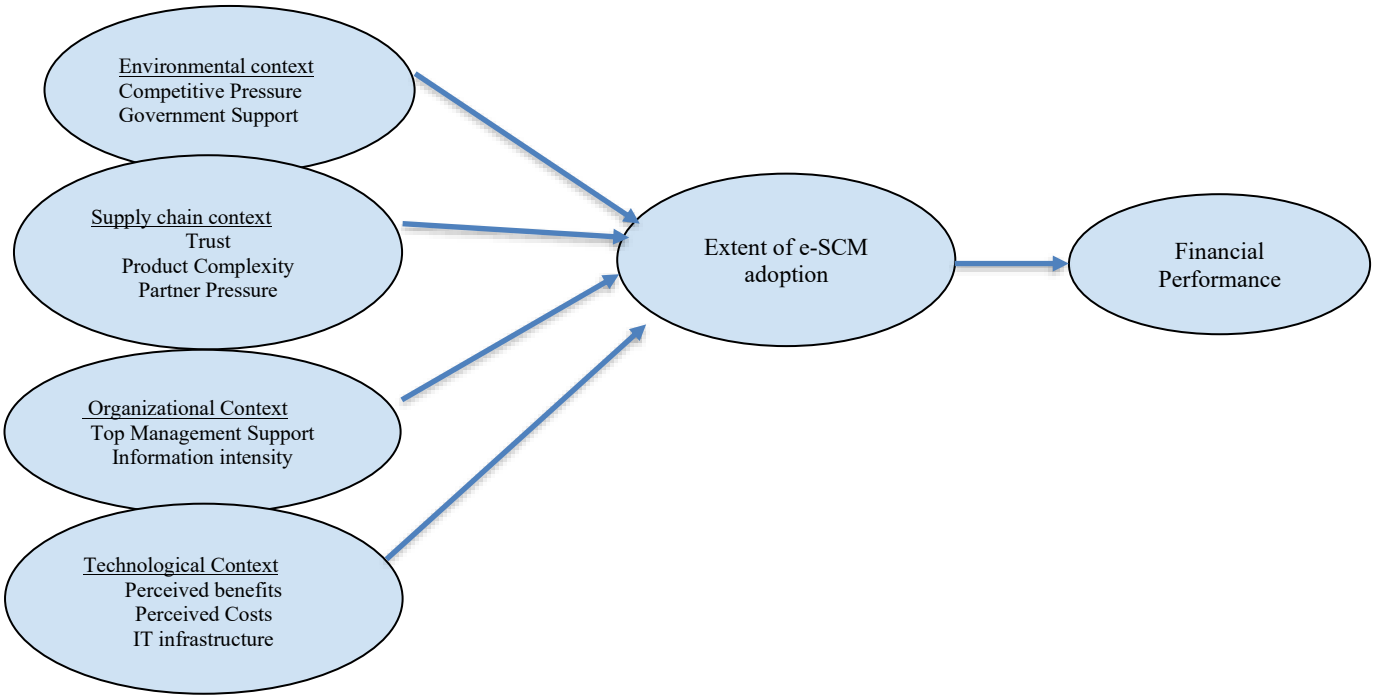
Farmer Producer Organization

FPOs are collective organizations formed by farmers to enhance their bargaining power, access to markets, and overall productivity. They operate on principles of cooperation and mutual support, allowing members to share resources and knowledge (Babu & Patoju, 2021, Abhishek et.al.,2020). FPOs can vary in structure, including cooperatives, self-help groups, and producer companies. FPOs enable farmers to access markets directly, reducing dependency on intermediaries and ensuring better prices for their produce (Basavaraj et.al, 2020).Members can share resources such as equipment and technology, which can enhance productivity and reduce costs. FPOs often provide training and support in modern agricultural practices, financial literacy, and entrepreneurship, empowering farmers (Shelake et al., 2022,). Many farmers are unaware of the benefits of FPOs and may be hesitant to join due to cultural and social barriers (Badwal et al., 2022). Access to credit and financial services remains a challenge for many FPOs, impacting their ability to operate effectively. Complex regulations and bureaucratic processes can hinder the establishment and growth of FPOs (Lade et. al., 2022). However, Participation in FPOs has enhanced women's roles in decision-making, leading to greater gender equity in agricultural practices (Kumar et al., 2022). Maharashtra's Gharpuri FPO has successfully linked farmers directly to urban markets, increasing their income and reducing post-harvest losses. Karnataka's Organic Farmers' FPO by focusing on organic produce, this FPO has carved out a niche market, attracting premium prices and enhancing sustainability. Anand et al. (2023) assessed FPCs in Bihar across various operational years. It was found that older, diversified FPCs were more effective and their success was linked to strong internal processes, collaboration, and diversified functions. Technology adoption can help FPOs to perform efficiently. A study on FPOs in Odisha recommended training for CEOs in branding, adoption of technology by FPOs to increase market penetration and improved logistics (Panigrahy et al. (2020)). Further, Wajszczuk (2016) recommended in their study that India's agri-food logistics face issues like long supply chains and high costs. They require improvements in efficiency, integration in value chains (Babu&Patoju, (2021),Salokhe, 2016) and sustainability. Technology adoption can help FPOs to overcome such challenges (Parasuraman &Kumar.,2023).

3.3. Quality assessment of survey instruments measuring e-scm adoption

All the selected research papers that have been evaluated and reviewed as per seen in the above table. On evaluation of the selected research studies it is considered that all the studies in terms of quality assessment of the survey instruments utilised for measuring e-SCM adoption in the reviewed papers to have indicated a moderate to high quality in terms of addressing the subject of antecedents, consequences, moderators and results such as advantages and disadvantages associated with adoption of electronic supply chain management system. Hence in evaluation it could be considered that the studies as selected for research systematic review identified a potential of contributing towards moderate to high level of Survey instrument implementation quality for empirical and quantitative research findings of the respective studies.

4. Proposed Research Model



5. DISCUSSION

The above discussed studies had been evaluated on the basis of the data collected from them in association to the aim of the study that was to explore existing literature that involved exploring the existing literature on the subject of e-SCM. The research has been beneficial in association to the exploration of the subject regarding e-SCM and its associated benefits challenges antecedents, consequences and mediating roles. The implication of this studies results had most broadly identified the involvement of the practice of Technology adoption and the stages that are involved in it to be potential antecedents to e-SCM in terms of consequential and radiator roles the benefits and functioning of e-SCM had been considered as applicable for the integration of Technology into supply chain management.

5.1. LIMITATIONS

The following research had been regarded to face the possible limitation in association to conducting the systematic review for research purposes to have only limited studies that had conducted quantitative analysis and data collection for their progression. Although it must be considered that the study had initially being focused on exploring survey research and integration of quantitative and statistical information associated with the subject in particular interest of recognising statistically verified significant implication and findings. This had potentially changed the capacity of exploring existing research studies that had conducted literature review for exploring the subjects of e-SCM and limited the possibility of looking into a wider threshold of antecedents and consequences as well as mediators associated with electronic supply chain management adoption through textual context.

6. CONCLUSION

In conclusion, the review identified the influential role of digital transformation in the development of e-scm adoption trends and innovation having a beneficial impact on the improvement of supply chain and organisational practices under such adoptions.In the time- based competition, the challenges to the firms operate in global market places are survival and to attain competitive advantage. To face this challenge a firm need to be responsive to the changes in the needs of the market and deliver the ordered product to the customer as fast as possible. Information technology like e-SCM will help the firms to

satisfy the changing needs of the customers. e-SCM is the support rendered by IT to implement SCM practices right from procuring raw materials, manufacturing, inventory management, order entry & management, distribution and delivering the product to the customer. e-SCM helps the firms to be responsive, fast and flexible in synchronizing supply and demand, This reduces the cost incurred due to demand uncertainty and improves the overall firm performance. An extensive literature review on e-SCM adoption and Supply Chain Management was conducted. It was found from the review that the research pertaining to this was scarce and the results of that scarce research were perplexed. There was a need to identify the factors that influence the adoption of e-SCM by firms. This study is a unique attempt in the literature of survey based research on e-SCM adoption. This paper presented the details of literature on Survey based research of e-SCM adoption and proposed a conceptual model. The proposed theoretical model can be analysed in future research. This study will contribute to the academic literature by studying the factors effecting e-scm adoption, this study will help the managers to understand the factors better and take measures to increase the effectiveness of adoption in the supply chain of their firm. IT vendors will try to position their application. IT vendors can formulate strategies to promote their products based on the factors that affect adoption targeting the size of the firm. This study will also help the policy makers to design specific policies based on the factors effecting technology adoption. The research model is developed by adopting institutional theory, transaction cost theory and TOE framework which is consistent with diffusion of innovation theory to examine the factors impacting the adoption of IT in the supply chain of Women-led FPO organizations. This study will contribute to the academic literature by studying the factors affecting e-SCM adoption and its impact on firm performance in Women-led FPO organizations. This is a unique attempt in the literature of e-SCM adoption. FPOs are farmer-led groups that manage production, processing, and marketing collectively. Nascent FPOs, often led by younger women, focus on basic functions and rely on NGOs and government support. Success depends on efficient input delivery, market access, price stabilization, and infrastructure. Farmers value FPOs that offer timely services and useful market information. This study will help the Women-led FPOs and policy makers to understand the factors better and take measures to increase the effectiveness of adoption in the supply chain of FPO products. Policy makers can formulate strategies to promote technology adoption by Women-led FPO to handle the supply chains effectively which can further help in market penetration of their products based on the factors that affect adoption. This study will also help the Women-led FPOs to design specific strategies focusing on the factors affecting technology adoption.

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