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The role of supply chain collaboration in boosting FMCG SME brand competitiveness

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Abstract

In the Fast-Moving Consumer Goods (FMCG) sector, small and medium-sized enterprises (SMEs) face significant challenges due to limited resources, market reach, and growing competition from larger corporations. To remain competitive, SMEs can leverage supply chain collaboration as a strategic approach to enhance operational efficiency, innovation, and market access. Supply chain collaboration involves partnerships with suppliers, manufacturers, distributors, and even competitors to achieve mutual benefits. One key advantage is the ability to optimize resources and reduce costs. By collaborating with other entities, SMEs can share logistics, production, and distribution networks, which leads to reduced operational costs. Pooling resources also enables these enterprises to minimize inventory holding costs and streamline procurement processes, enhancing overall supply chain efficiency. Another important aspect of supply chain collaboration is expanded market reach. Partnering with larger distributors or retailers provides SMEs with access to broader distribution channels and new customer segments. Collaborating with established market players enables SMEs to expand their geographic footprint and increase brand visibility, thus improving competitiveness in a crowded marketplace. Collaboration also fosters innovation and product development. SMEs can work with supply chain partners to co-develop new products, share technological advancements, and gain access to specialized expertise. This enhances the ability of SMEs to innovate and differentiate their product offerings, which is crucial for brand competitiveness in the FMCG sector. Furthermore, supply chain collaboration strengthens risk management and resilience. Joint contingency planning and collective responses to disruptions, such as supply shortages or market fluctuations, help SMEs navigate challenges more effectively. This shared approach to managing risks enables SMEs to recover faster from supply chain disruptions, ensuring business continuity and competitiveness. Supply chain collaboration is a critical tool for FMCG SMEs to boost their competitiveness. By leveraging partnerships, SMEs can reduce costs, expand market reach, foster innovation, and improve resilience, positioning themselves more effectively in a highly competitive environment.

Keywords: Supply Chain; FMCG SME Brand; Resource Optimization; Review

1 Introduction

The Fast-Moving Consumer Goods (FMCG) sector is a dynamic and essential component of the global economy, encompassing a wide range of products that are sold quickly at relatively low cost (Iwuanyanwu *et al.*, 2022; Astete, 2022). FMCG items include everyday consumables such as food, beverages, toiletries, and household products. The significance of this industry lies in its ability to meet the basic needs of consumers, driving substantial economic activity and contributing to job creation across various levels of the supply chain (Saeed *et al.*, 2019; Oyedokun, 2019). In a

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highly competitive landscape, FMCG SMEs (small and medium-sized enterprises) play a crucial role, accounting for a significant portion of market share and fostering innovation and diversity within the sector.

SMEs contribute to the FMCG market by providing niche products, promoting local sourcing, and stimulating regional economies (Dobbelstein *et al.*, 2020). These enterprises often possess unique value propositions that cater to specific consumer preferences, allowing them to differentiate themselves from larger corporations. However, despite their potential, FMCG SMEs face several challenges that hinder their growth and market presence. Limited resources often restrict their ability to invest in marketing, technology, and infrastructure, resulting in constrained market reach and diminished brand visibility (Neumeyer *et al.*, 2020). Additionally, the increasing competition from larger corporations, which benefit from economies of scale and robust marketing budgets, poses significant hurdles for SMEs trying to establish themselves in the FMCG sector.

As the FMCG landscape becomes increasingly complex, the importance of supply chain collaboration emerges as a critical strategy for enhancing the competitiveness of SMEs (Joshi and Sharma, 2022). Strategic partnerships and collaborations can enable these enterprises to share resources, access new markets, and enhance operational efficiency (Muthoka *et al.*, 2022). By collaborating with suppliers, distributors, and even other SMEs, companies can leverage collective strengths to overcome individual limitations. For instance, sharing distribution networks can lower logistics costs and improve delivery times, while joint marketing efforts can amplify brand visibility and consumer engagement.

Furthermore, collaboration facilitates knowledge sharing and best practice implementation, enabling SMEs to innovate and adapt more effectively to changing market conditions (Arsawan *et al.*, 2022). Through collaboration, SMEs can also enhance their bargaining power with larger corporations, allowing them to negotiate better terms and conditions. This interconnectedness is essential for SMEs seeking to navigate the challenges posed by larger competitors and rapidly evolving consumer preferences. The FMCG sector is vital to the global economy, with SMEs playing an indispensable role in driving innovation and meeting consumer needs (Algan, 2019). Despite facing numerous challenges, including limited resources and intense competition, supply chain collaboration offers a pathway for enhancing competitiveness and market presence. By embracing strategic partnerships, FMCG SMEs can position themselves for sustainable growth and resilience in an increasingly dynamic marketplace (Costa and Castro, 2021).

2 Understanding Supply Chain Collaboration

Supply chain collaboration is defined as the strategic partnership and cooperative efforts among various stakeholders within a supply chain, including suppliers, manufacturers, distributors, and retailers (Wankmüller and Reiner, 2020; Oyedijo *et al.*, 2022). This collaborative approach emphasizes the importance of working together to achieve common goals, streamline processes, and enhance overall efficiency. The concept of supply chain collaboration is rooted in the idea that no single entity can effectively manage the complexities of the supply chain in isolation; rather, success hinges on the ability of all participants to engage in collaborative practices. By fostering strong relationships and open communication, stakeholders can significantly improve the responsiveness and resilience of their supply chains. At the heart of supply chain collaboration is the necessity for information sharing, joint planning, and resource pooling. Information sharing entails the transparent exchange of data related to inventory levels, demand forecasts, production schedules, and market trends. By providing stakeholders with real-time insights into each other's operations, businesses can make more informed decisions and minimize the risk of disruptions (Messina *et al.*, 2020). Joint planning involves collaborative efforts to align objectives and strategies, ensuring that all parties are working towards a common vision. This could include synchronized production schedules, coordinated marketing efforts, or collaborative inventory management. Resource pooling allows stakeholders to share assets, such as warehousing and transportation facilities, leading to cost savings and improved efficiency.

Vertical collaboration refers to partnerships formed along the supply chain continuum, specifically between different tiers of the supply chain, such as suppliers, manufacturers, and retailers (JS *et al.*, 2019). This type of collaboration is critical for enhancing product flow and reducing lead times. For instance, a manufacturer collaborating closely with its suppliers can benefit from improved access to materials, better pricing, and more efficient production processes. Such partnerships can lead to shared insights regarding inventory management, demand forecasting, and production planning, resulting in a more streamlined supply chain. In retail, vertical collaboration is equally important. Retailers that engage in collaborative planning with their suppliers can better anticipate customer demand, leading to optimized inventory levels and improved sales performance (Omar *et al.*, 2020). Additionally, this collaboration can enhance product visibility on retail shelves, as suppliers can provide valuable insights on merchandising strategies that align with consumer preferences.

Horizontal collaboration occurs between organizations at the same level of the supply chain, often involving competitors or other SMEs. This type of collaboration can take various forms, such as joint ventures, alliances, or informal partnerships aimed at achieving mutual benefits. By collaborating horizontally, SMEs can leverage shared resources to tackle common challenges, such as rising operational costs, logistics inefficiencies, or fluctuating demand (Kazantsev *et al.*, 2022). For example, two SMEs in the FMCG sector might collaborate to share distribution networks, allowing them to reduce transportation costs and improve delivery times. Such arrangements enable them to compete more effectively against larger corporations while maintaining their unique brand identities. Additionally, horizontal collaboration can foster innovation by combining expertise and knowledge from different organizations, resulting in the development of new products or services.

Cross-industry collaboration involves partnerships between organizations from different sectors, often leveraging complementary strengths to drive innovation and efficiency (Klein *et al.*, 2020). In an era of rapid technological advancement and shifting consumer expectations, cross-industry collaboration has become increasingly vital. For instance, FMCG companies might partner with technology firms to enhance their supply chain capabilities through advanced data analytics, artificial intelligence, or blockchain technology. By working with partners in adjacent industries, businesses can gain access to new markets and customer segments. This type of collaboration can also facilitate the sharing of best practices and innovative solutions, enabling organizations to address common challenges more effectively. Understanding supply chain collaboration is essential for organizations seeking to thrive in today's competitive business landscape. By fostering collaborative practices among suppliers, manufacturers, distributors, and retailers, businesses can improve information sharing, enhance joint planning efforts, and pool resources for greater efficiency (Son *et al.*, 2019; Kumar *et al.*, 2021). The various types of collaboration vertical, horizontal, and cross-industry each offer unique opportunities for enhancing supply chain performance and resilience. As businesses continue to navigate complex market dynamics, embracing supply chain collaboration will be crucial for achieving sustainable growth and long-term success.

2.1 Key Benefits of Supply Chain Collaboration for FMCG SMEs

Supply chain collaboration is an increasingly vital strategy for Fast-Moving Consumer Goods (FMCG) small and medium-sized enterprises (SMEs) seeking to enhance their competitiveness and resilience (Kumar *et al.*, 2021; Xu and Zhao, 2022). Through strategic partnerships with suppliers, distributors, and even other businesses, FMCG SMEs can unlock several key benefits that drive efficiency, innovation, and market growth. This explores four primary advantages of supply chain collaboration: cost efficiency and resource optimization, enhanced market reach and distribution, increased innovation and product development, and improved risk management and supply chain resilience.

One of the most significant benefits of supply chain collaboration is the potential for cost efficiency and resource optimization (Allaoui *et al.*, 2019). By pooling resources and sharing logistics, procurement, and production costs, SMEs can achieve significant savings. For instance, collaborating on logistics enables companies to consolidate shipments, reducing transportation costs and improving delivery efficiency. Shared warehousing facilities can lead to lower storage costs, as multiple businesses can utilize the same space, reducing the financial burden on individual SMEs. Moreover, collaboration facilitates improved resource utilization. SMEs often struggle with limited financial and human resources, making it challenging to invest in technology or infrastructure (Hernita *et al.*, 2021). Through partnerships, they can leverage each other's strengths and capabilities, enhancing overall productivity without incurring substantial additional costs. This approach can lead to reduced inventory holding costs, as collaborative planning allows for more accurate demand forecasting and inventory management. When businesses work together, they can synchronize their operations to minimize excess inventory, reducing wastage and freeing up capital for other strategic initiatives.

Supply chain collaboration enables FMCG SMEs to enhance their market reach and distribution capabilities significantly (Szegeedi *et al.*, 2019). By forming strategic partnerships, these businesses can access broader distribution networks that would otherwise be unavailable to them individually. For example, an SME specializing in a niche product can partner with larger retailers or distributors, leveraging their established networks to reach new customer segments. Collaboration also opens doors to new markets, particularly in regions where SMEs may lack the necessary infrastructure or market knowledge. By aligning with partners familiar with local markets, SMEs can navigate regulatory challenges and cultural nuances more effectively. This enhanced market presence not only boosts sales but also strengthens brand recognition and customer loyalty, as consumers become more aware of the product offerings through various distribution channels (Othman *et al.*, 2020; Nezamova and Olentsova, 2021).

Innovation is critical in the FMCG sector, where consumer preferences can shift rapidly. Supply chain collaboration fosters an environment conducive to innovation and product development (Hong *et al.*, 2019). By working together, SMEs can engage in collaborative product development with partners across the supply chain. This collaborative

approach allows for the sharing of insights, consumer feedback, and technological advancements, leading to the creation of more relevant and competitive products. For instance, an FMCG SME may collaborate with suppliers to develop sustainable packaging solutions, leveraging the supplier's expertise in materials science. Such partnerships not only enhance product offerings but also enable SMEs to stay ahead of market trends and consumer demands. Additionally, sharing knowledge and technology between partners can lead to improved processes and efficiencies, driving down costs and increasing speed to market. In an industry characterized by rapid change, the ability to innovate quickly and effectively is a crucial differentiator for SMEs (Kaushal *et al.*, 2022).

In an increasingly volatile business environment, effective risk management and supply chain resilience are paramount. Supply chain collaboration enhances the ability of FMCG SMEs to respond collectively to disruptions such as supply shortages, natural disasters, or geopolitical events. By working together, partners can share information and resources, allowing for a more coordinated response during crises. Risk-sharing arrangements, where partners agree to support each other during challenging times, can alleviate the financial and operational burdens that individual SMEs might face (Romeli *et al.*, 2022). Additionally, joint contingency planning helps organizations anticipate potential disruptions and develop strategies to mitigate risks. For example, through collaborative planning, partners can identify alternative suppliers or logistics providers, ensuring continuity of supply and minimizing the impact of disruptions on their operations.

Supply chain collaboration presents a multitude of benefits for FMCG SMEs, including cost efficiency, enhanced market reach, increased innovation, and improved risk management (Bak *et al.*, 2020). By leveraging strategic partnerships, these enterprises can optimize resources, access new markets, foster product development, and build resilience against disruptions. As the FMCG landscape continues to evolve, embracing supply chain collaboration will be crucial for SMEs seeking sustainable growth and competitive advantage in an increasingly complex marketplace. By working together, FMCG SMEs can not only survive but thrive in the face of challenges and uncertainties.

2.2 Strategies for Successful Supply Chain Collaboration

Successful supply chain collaboration is critical for businesses, particularly in the Fast-Moving Consumer Goods (FMCG) sector, where agility, efficiency, and responsiveness to market changes are paramount. As SMEs navigate a complex landscape filled with competition and volatility, establishing effective collaborative strategies becomes essential for achieving operational excellence and sustainable growth (Sainidis *et al.*, 2019; Savastano *et al.*, 2022). This outlines four key strategies for fostering successful supply chain collaboration: building trust and strong relationships, leveraging technology and data sharing, aligning objectives and performance metrics, and addressing legal and regulatory considerations.

The foundation of successful supply chain collaboration is the establishment of trust and strong relationships among partners. Trust is built through transparency and open communication, which are crucial in fostering a collaborative environment. When partners openly share information regarding operational challenges, forecasts, and market conditions, they create an atmosphere conducive to mutual support and problem-solving (Xie *et al.*, 2022). Long-term partnerships are particularly beneficial in supply chain collaboration, as they allow stakeholders to work towards mutually beneficial goals. By investing time in understanding each other's capabilities, strengths, and weaknesses, organizations can develop tailored strategies that enhance collaboration. These relationships are characterized by a commitment to joint success, where partners are willing to share risks and rewards. This focus on long-term collaboration enables the supply chain to become more resilient, as partners are more likely to support each other during challenges.

In today's digital age, leveraging technology is vital for enhancing supply chain collaboration. Digital platforms facilitate real-time communication and data exchange among partners, streamlining processes and improving responsiveness (Hassan and Mhmood, 2021). By utilizing cloud-based solutions and supply chain management systems, organizations can share critical data such as inventory levels, demand forecasts, and production schedules. This real-time visibility enables partners to make informed decisions, reducing delays and optimizing operational efficiency. Data sharing also extends to tracking and monitoring systems, which allow stakeholders to gain insights into performance metrics and identify areas for improvement (Ren *et al.*, 2019). For instance, collaborative forecasting tools can provide partners with a better understanding of market trends, enabling them to respond quickly to changes in consumer demand. Additionally, advanced analytics can help identify inefficiencies within the supply chain, allowing partners to work together to implement corrective measures.

For supply chain collaboration to be effective, it is essential to align objectives and performance metrics among all partners. Setting common goals ensures that everyone is working towards a shared vision, fostering a sense of unity

and commitment. Key performance indicators (KPIs) should be established to measure progress and success, enabling partners to evaluate their collaboration's effectiveness. Continuous monitoring and adjustment of these objectives and KPIs are critical for improving collaboration outcomes. Regular performance reviews facilitate open discussions about challenges and successes, allowing partners to identify areas for improvement and adapt strategies accordingly (Sivam *et al.*, 2019). By maintaining a flexible approach to performance management, organizations can enhance their collaborative efforts and achieve better results.

Legal and regulatory considerations are vital when establishing supply chain collaborations. Organizations must ensure compliance with relevant regulations and legal frameworks to mitigate risks associated with partnerships (Dang *et al.*, 2020). This includes understanding contractual obligations, liability issues, and compliance with industry standards. Additionally, protecting intellectual property (IP) is crucial in collaborative arrangements. As partners share knowledge and technology, safeguarding proprietary information becomes paramount to prevent misuse or theft. Clear agreements outlining IP rights and responsibilities can help alleviate concerns and foster a more secure collaborative environment. Furthermore, compliance with competition laws is essential to ensure that collaborative efforts do not result in anti-competitive practices.

Successful supply chain collaboration hinges on several key strategies, including building trust and strong relationships, leveraging technology and data sharing, aligning objectives and performance metrics, and addressing legal and regulatory considerations. By focusing on these areas, FMCG SMEs can enhance their collaboration efforts, leading to improved operational efficiency, innovation, and resilience in a competitive landscape (Mishra *et al.*, 2022). As the business environment continues to evolve, adopting these strategies will be crucial for organizations looking to thrive through effective supply chain collaboration.

2.3 Challenges in Supply Chain Collaboration for FMCG SMEs

Supply chain collaboration is increasingly recognized as a vital strategy for enhancing operational efficiency and competitiveness, particularly for small and medium-sized enterprises (SMEs) in the Fast-Moving Consumer Goods (FMCG) sector (Sreerag and Venkatesan, 2022; Bocken *et al.*, 2022). However, despite the potential benefits, several challenges can impede successful collaboration. This explores four significant challenges faced by FMCG SMEs in supply chain collaboration: power imbalances and trust issues, cultural and operational differences, data privacy and security concerns, and resource constraints.

One of the most pressing challenges in supply chain collaboration is the power imbalance that often exists between SMEs and larger partners. Larger companies typically have more market influence, financial resources, and negotiation power, which can lead to unequal partnerships. This dynamic can create distrust among SMEs, as they may feel that their interests are secondary to those of their larger counterparts. Such trust issues can hinder open communication, making it difficult for SMEs to express concerns or collaborate effectively. To mitigate these power imbalances, SMEs must strive to establish relationships built on transparency and mutual benefit. However, achieving this can be challenging, as larger companies may not prioritize the needs of their smaller partners. Consequently, SMEs may hesitate to fully engage in collaborative initiatives, fearing that their contributions will not be valued or that they may be exploited for the larger partner's benefit (Ietto *et al.*, 2022). This lack of trust can lead to a reluctance to share critical information, ultimately undermining the effectiveness of the collaboration.

Another significant challenge is the cultural and operational differences that often exist between collaborating entities. Each organization typically has its own set of business practices, values, and objectives, which can complicate collaboration efforts. For instance, an SME may prioritize speed and flexibility, while a larger partner may focus on standardized processes and risk mitigation. These differing priorities can create friction, making it difficult to align strategies and operational approaches. Moreover, variations in organizational culture can lead to misunderstandings and miscommunication, further complicating collaborative efforts (Rudes and Magnuson, 2019). To address these challenges, it is essential for partners to invest time in understanding each other's cultures, practices, and operational needs. Establishing common goals and fostering a culture of collaboration can help bridge these gaps, but this process requires patience and a willingness to adapt.

As supply chain collaboration increasingly relies on data sharing, concerns about data privacy and security have become paramount (Asante *et al.*, 2021). FMCG SMEs often handle sensitive information, including customer data, financial records, and proprietary product details. When engaging in collaborative efforts, there is a risk that this data could be compromised or misused. Ensuring cybersecurity is essential in collaborative environments, as any breach can have severe consequences for all parties involved (Happa *et al.*, 2019). SMEs may lack the resources and expertise necessary to implement robust cybersecurity measures, making them vulnerable to attacks. Moreover, concerns about data

sharing can create hesitancy among partners, hindering the willingness to collaborate effectively. To overcome these challenges, it is crucial for SMEs to establish clear data governance policies and invest in cybersecurity measures that protect shared information.

Lastly, resource constraints pose a significant barrier to effective supply chain collaboration for FMCG SMEs. Many SMEs operate with limited financial, technological, and human resources, making it difficult to invest in the collaborative tools and strategies necessary for successful partnerships. Without adequate resources, SMEs may struggle to implement sophisticated supply chain management systems or data-sharing platforms, limiting their ability to collaborate effectively (Wan *et al.*, 2020). Furthermore, the lack of skilled personnel can hinder SMEs' capacity to engage in strategic collaborations. Many SMEs may not have access to the same level of expertise in supply chain management as larger organizations, making it challenging to navigate complex collaborative arrangements. To address these resource constraints, SMEs can consider seeking external support, such as partnerships with technology providers or industry associations, which can offer the necessary resources and expertise to facilitate collaboration. While supply chain collaboration presents significant opportunities for FMCG SMEs, several challenges must be addressed to achieve successful outcomes. Power imbalances and trust issues, cultural and operational differences, data privacy and security concerns, and resource constraints all pose significant obstacles to effective collaboration. By recognizing and proactively addressing these challenges, FMCG SMEs can enhance their collaborative efforts, leading to improved efficiency, innovation, and competitiveness in a rapidly evolving market (Walden *et al.*, 2020; Surya *et al.*, 2021). Ultimately, overcoming these challenges will require a commitment to building trust, fostering understanding, investing in resources, and prioritizing data security in collaborative partnerships.

2.4 Case Studies: Successful Supply Chain Collaboration in FMCG SMEs

The Fast-Moving Consumer Goods (FMCG) sector is characterized by its dynamic nature and intense competition (Stanciu *et al.*, 2019). For small and medium-sized enterprises (SMEs), effective supply chain collaboration can be a game changer, enabling them to enhance their market reach, optimize costs, and innovate more rapidly. This explores two successful case studies of supply chain collaboration in FMCG SMEs: one involving a small FMCG brand partnering with a large retailer for market expansion, and another focusing on horizontal collaboration among SMEs to enhance cost efficiency.

A small FMCG brand specializing in organic snacks, named "NutriBites," faced challenges in scaling its operations and gaining market visibility against larger competitors. Despite having a strong product line, NutriBites struggled to expand its distribution network and reach potential customers effectively. The brand's management recognized the need for strategic collaboration to enhance its market presence. NutriBites decided to partner with a well-established national retailer, "FreshMart," known for its commitment to stocking local and organic products. NutriBites and FreshMart collaborated on co-branded marketing campaigns, leveraging FreshMart's extensive customer base. They launched promotions and in-store tastings to increase product visibility. The collaboration included sharing sales and consumer data, allowing NutriBites to gain insights into customer preferences and trends, enabling them to adjust their product offerings accordingly. NutriBites utilized FreshMart's distribution network, reducing logistics costs and ensuring timely product availability in stores. FreshMart provided guidance on inventory management and order forecasting, helping NutriBites streamline its supply chain processes. The partnership led to significant outcomes for NutriBites. Within a year, the brand experienced a 150% increase in sales, expanded its product line to include new flavors based on customer feedback, and gained valuable insights into consumer behavior. FreshMart benefited from the collaboration by enhancing its reputation as a supporter of local businesses and organic products, attracting more customers to its stores.

A group of SMEs in the FMCG sector, including a local bakery, a beverage manufacturer, and a snack producer, faced rising logistics costs and increasing competition from larger brands (Reardon *et al.*, 2021). Recognizing that individual efforts to optimize supply chain operations were insufficient, these SMEs sought a collaborative approach to improve efficiency and reduce expenses. The SMEs formed a coalition called "Local Goods Alliance," focusing on horizontal collaboration. Their strategies included. The members agreed to consolidate their distribution efforts by sharing transportation and warehousing resources. By combining shipments, they could reduce costs associated with logistics and achieve economies of scale. The SMEs collaborated on procurement by collectively purchasing raw materials and packaging supplies. This approach allowed them to negotiate better prices and improve their bargaining power with suppliers. The Local Goods Alliance developed joint marketing campaigns that highlighted the benefits of supporting local businesses. They participated in community events together, showcasing their products and reinforcing their brand identities. The horizontal collaboration resulted in remarkable improvements for the participating SMEs. They reported a 30% reduction in logistics costs and a 20% increase in overall sales due to improved visibility and marketing efforts. The collaboration fostered a sense of community and mutual support among the SMEs, encouraging further

innovation and product development (Arzubiaga *et al.*, 2019). Additionally, the combined efforts helped them compete more effectively against larger corporations in the market.

These case studies illustrate the transformative potential of supply chain collaboration for FMCG SMEs. By partnering with larger retailers or forming alliances with fellow SMEs, these businesses can overcome challenges related to market reach, cost efficiency, and competition. Successful collaboration requires strategic planning, open communication, and a commitment to mutual benefit, ultimately leading to enhanced resilience and competitiveness in the FMCG sector. As SMEs continue to navigate an evolving market landscape, the lessons from these collaborations highlight the importance of strategic partnerships in driving growth and sustainability (Kundurpi *et al.*, 2021).

2.5 Future Trends in Supply Chain Collaboration for FMCG SMEs

The Fast-Moving Consumer Goods (FMCG) sector is characterized by rapid changes in consumer preferences, technological advancements, and increasing competition (Kundurpi *et al.*, 2021). For small and medium-sized enterprises (SMEs) within this sector, supply chain collaboration is essential for achieving resilience, efficiency, and sustainability. This discusses future trends in supply chain collaboration for FMCG SMEs, focusing on the increased use of digital tools, sustainability and ethical collaboration, and the integration of circular supply chains.

The adoption of digital tools is rapidly transforming supply chain collaboration. Technologies such as artificial intelligence (AI) and blockchain are paving the way for more efficient, transparent, and responsive supply chains. Artificial Intelligence can enhance collaborative efforts by providing predictive analytics, which enables SMEs to anticipate market demands and adjust their supply chains accordingly (Hansen and Bøgh, 2021). For instance, AI algorithms can analyze vast amounts of data from various sources, offering insights into consumer behavior and enabling proactive decision-making. This capability allows SMEs to collaborate with suppliers and distributors to optimize inventory levels, reduce stockouts, and minimize waste. Moreover, AI can facilitate real-time communication between partners, enhancing transparency and trust. Blockchain offers a decentralized, secure method for sharing information across the supply chain (Sunny *et al.*, 2020). By enabling SMEs to track products in real time, blockchain enhances transparency and accountability. This technology allows all partners to access shared data about product origin, quality, and movement, facilitating more informed decision-making. Additionally, blockchain can help SMEs establish trust with consumers by providing verifiable information about ethical sourcing and production practices (Leng *et al.*, 2020). As digital tools continue to evolve, their integration into supply chain collaboration will become increasingly vital for FMCG SMEs.

As consumers become more environmentally conscious, the demand for sustainable and ethically produced goods is rising. Supply chain collaboration will increasingly focus on sustainable practices, enabling SMEs to meet these consumer expectations while remaining competitive (Centobelli *et al.*, 2021). SMEs can collaborate with suppliers and partners to develop sustainable practices, such as reducing carbon footprints, minimizing waste, and ensuring ethical labor practices. For instance, partnering with suppliers committed to sustainable sourcing can enhance a brand's reputation and attract environmentally conscious consumers. Furthermore, joint initiatives, such as shared sustainability goals or co-developing eco-friendly products, can amplify the impact of individual efforts. By working together, SMEs can pool resources and knowledge, driving innovation in sustainable practices and fostering a more responsible supply chain.

The shift towards circular supply chains is gaining traction as businesses recognize the need to reduce waste and optimize resource use (Farooque *et al.*, 2019). In this model, the focus is on designing products and processes that allow for recycling, reuse, and regeneration. FMCG SMEs can collaborate to create closed-loop systems, where products are designed for longevity and recyclability. This collaboration involves working with suppliers to ensure that materials are sourced sustainably and can be repurposed or recycled at the end of their life cycle. For example, SMEs can partner with recycling firms to develop take-back programs, enabling consumers to return used products for proper disposal or recycling. By integrating circular principles into their supply chains, SMEs can not only reduce waste but also create new revenue streams through the resale of recycled materials. The future of supply chain collaboration for FMCG SMEs is set to be shaped by advancements in digital tools, a focus on sustainability and ethics, and the integration of circular supply chains (Linh *et al.*, 2019; Awan *et al.*, 2022). As these trends continue to evolve, SMEs that embrace collaborative strategies will enhance their resilience, efficiency, and competitive advantage in a rapidly changing market. By leveraging technologies such as AI and blockchain, committing to sustainable practices, and integrating circular supply chain principles, FMCG SMEs can navigate challenges while meeting the demands of conscious consumers. Ultimately, fostering collaboration within the supply chain will be key to achieving long-term success and sustainability in the FMCG sector (Sharma *et al.*, 2022).

3 Conclusion

In summary, supply chain collaboration is essential for enhancing the competitiveness of Fast-Moving Consumer Goods (FMCG) small and medium-sized enterprises (SMEs). By fostering partnerships with suppliers, distributors, and even competitors, SMEs can share resources, optimize costs, and enhance market reach. Collaborative practices enable these enterprises to adapt quickly to market changes, mitigate risks, and drive innovation in product development. Moreover, by leveraging digital tools and technologies, SMEs can improve communication, streamline operations, and create a more agile supply chain that responds effectively to consumer demands.

Final thoughts underscore the importance of trust, technology, and strategic alignment in successful collaboration efforts. Establishing trust among supply chain partners is fundamental to sharing critical information and resources. This trust must be nurtured through transparent communication, mutual goals, and long-term relationships. Additionally, embracing technological advancements, such as artificial intelligence and blockchain, will empower SMEs to collaborate more effectively and make informed decisions based on real-time data. Finally, aligning the objectives and performance metrics of all partners will ensure that collaboration efforts yield beneficial outcomes for all involved.

As the FMCG landscape continues to evolve, SMEs must recognize the value of collaborative supply chain strategies to thrive in a competitive environment. By fostering a culture of collaboration built on trust and innovation, FMCG SMEs can enhance their resilience, optimize their operations, and position themselves for sustainable growth in the future.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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