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Article

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Abstract: The research examines the effects of digital transformation on supplier relationship management, particularly in the context of Bangladesh. As digital technologies become more vital to corporate operations, they have profoundly altered the ways in which companies interact with their suppliers. The research examines the use of technologies like cloud-based platforms, ERP systems, blockchain, and automation to enhance communication, facilitate collaboration, build trust, increase transparency, and optimize efficiency in supply chain operations. The study used qualitative approaches, conducting interviews with 36 firms across several industries in Bangladesh, emphasizing the opportunities and challenges linked to digital transformation. Crucial findings highlight the significance of digital technology in facilitating real-time communication and information distribution, hence enhancing strategic partnerships and collaborative approaches in supply chain management. The study underscores the importance of digital technology in improving transparency and accountability via enhanced tracking and monitoring of supplier performance, hence bolstering confidence among stakeholders. However, the research also emphasizes challenges such as resistance to change, inadequate technical expertise, and financial constraints, particularly for smaller businesses. These barriers hinder the full use of digital technologies in supplier relationship management. The analysis demonstrates that, despite hurdles, the advantages of digital transformation are clear, offering significant opportunity for companies to enhance supplier relationships, reduce costs, and strengthen resilience in an increasingly competitive global market. Continuous investment in digital infrastructure and training will be essential for companies in Bangladesh to fully use the benefits of digital transformation in their supply chains.

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1. Introduction

The ongoing wave of digital transformation is profoundly altering company operations across all sectors, including the management of supplier relationships. Digital transformation refers to the integration of digital technology throughout all aspects of a business, leading to significant changes in operational procedures and value delivery to customers. Digital transformation offers both opportunities and challenges for Supplier Relationship Management (SRM) as companies increasingly rely on advanced technologies to improve and optimize their supplier relationships. In Bangladesh, where businesses are rapidly adopting digital tools and platforms to enhance efficiency and competitiveness, understanding the effects of digital transformation on Supplier Relationship Management (SRM) is crucial. As the global economy becomes more interconnected and supply chains more complex, Bangladeshi firms must adapt to these changes to sustain competitiveness in the international market. Supplier Relationship Management is a crucial function for any organization, including the processes and techniques used to manage relationships with external suppliers of goods and services. Effective Supplier Relationship Management allows companies to

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maintain strong supplier relationships, save costs, improve quality, and ensure timely delivery of products and services. Digital transformation has evolved Supplier Relationship Management from traditional, manual techniques to automated, data-driven approaches. This transformation allows organizations to get instant insights into supplier performance, enhance communication, and mitigate risks. Technologies such as artificial intelligence (AI), blockchain, big data analytics, and cloud computing are driving this change, enabling companies to make more informed decisions and develop stronger, more strategic supplier relationships (Emon & Khan, 2024; Li et al., 2023). In Bangladesh, particularly in the industrial, textile, and e-commerce industries, the use of these technologies is essential for improving supply chain efficiency and resilience. In recent years, Bangladesh has evolved into a burgeoning economy, mostly driven by sectors such as ready-made garments (RMG), textiles, and agriculture. These industries rely heavily on effective supplier management, since they often interact with a vast network of local and global suppliers to get raw materials and services (Emon, 2023). The Ready-Made Garment (RMG) sector significantly impacts Bangladesh's economy, accounting for more than 80% of the country's total exports (Islam & Halim, 2022; Khan et al., 2024). Efficiently managing supplier relationships in this sector is crucial, as firms must balance the demands of international buyers with the need for cost-effective production and timely delivery. Organizations in Bangladesh must adapt to the transformations in supply chain management brought about by digital technology to sustain competitiveness. Digital transformation may enhance transparency, reduce inefficiencies, and foster closer collaboration between suppliers and customers, therefore augmenting the competitiveness of Bangladeshi firms in the global market. A key benefit of digital transformation in Supplier Relationship Management (SRM) is the ability to use data for improved decision-making. Traditionally, supplier management has relied on manual processes and subjective assessments of supplier performance. Nevertheless, the advent of digital technology enables companies to collect and assess substantial data on supplier performance, promoting more objective, data-driven decision-making. Big data analytics allows companies to assess supplier performance in real-time, identify trends, and proactively predict potential issues (Hallikas et al., 2021). This capability is particularly crucial in industries where supplier performance is essential to organizational success, such as manufacturing and retail. In Bangladesh, where several firms still rely on traditional methods for managing supplier relationships, the use of digital technology might significantly improve efficiency and decision-making. Organizations embracing digital transformation may gain a competitive edge by optimizing their supply chains and improving their response to changing market conditions. Moreover, digital transformation may enhance communication and collaboration between buyers and suppliers. In traditional supply chain management, communication between buyers and suppliers is often fragmented and slow, leading to inefficiencies and misunderstandings. However, the emergence of digital platforms and technology allows organizations to interact with their suppliers more effectively and instantaneously. Cloud-based collaboration systems provide real-time information exchange between suppliers and customers, including order data, inventory levels, and production schedules, hence reducing the likelihood of errors and delays (Pan et al., 2021). In Bangladesh, where supply networks are complex and include several stakeholders, these digital solutions might significantly improve communication and collaboration, leading to more efficient and transparent supply chains. Furthermore, enhanced communication via digital platforms may foster deeper, more collaborative relationships between suppliers and customers, facilitating lasting collaborations essential for business success. An additional crucial aspect of digital transformation in SRM is the ability to mitigate risks. Supply chain disruptions, whether due to natural disasters, political unrest, or global pandemics, may significantly impact businesses reliant on suppliers for critical goods and services. Digital technologies, such as blockchain and artificial intelligence, may aid firms in mitigating these risks by improving visibility and transparency inside their supply chains. Blockchain technology enables enterprises to oversee and verify every transaction throughout the supply chain, ensuring that products are obtained and delivered with transparency and security (Helo & Shamsuzzoha, 2020). This technology is particularly relevant for industries such as agriculture and manufacturing in Bangladesh, where supply chain transparency and traceability are becoming more important. Moreover, AI-driven

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solutions may aid organizations in predicting future disruptions and executing proactive plans to mitigate their impacts. Predictive analytics allows firms to identify patterns and trends in supplier performance, enabling them to anticipate potential risks and take preventive actions before problems arise. By using these digital technologies, Bangladeshi firms may improve their ability to reduce supply chain risks and sustain operational continuity amid disruptions. While digital transformation in Supplier Relationship Management has several benefits, firms in Bangladesh may face challenges in using these technologies. A fundamental issue is the lack of digital infrastructure and technological competence in several organizations. Despite the use of digital technology by large multinational corporations and leading businesses in Bangladesh, several small and medium-sized enterprises (SMEs) persist in relying on traditional supplier management methods (Emon & Khan, 2023; Nasir et al., 2022). These SMEs may lack the necessary resources, expertise, or infrastructure for the effective deployment of digital solutions. Furthermore, organizations may face resistance to change, as employees could be hesitant to adopt new technology or may lack the necessary skills for its use. For successful digital transformation, firms in Bangladesh must focus on enhancing digital capabilities and fostering an innovative culture. This may include human training, infrastructure improvement, and engagement with technology providers to deliver digital solutions tailored to the business's specific needs. An further challenge is to the costs associated with digital transformation. Implementing digital technologies like as AI, blockchain, and big data analytics requires substantial investment of time and financial resources. For several firms in Bangladesh, particularly small and medium-sized enterprises, these costs may be prohibitive. Digital transformation must be seen as an ongoing undertaking rather than a one-time expenditure. Organizations that use digital technology may get sustainable benefits, such as improved productivity, reduced costs, and strengthened supplier relationships (Luo, 2021). Moreover, as digital technologies progress and become more accessible, implementation costs are anticipated to decrease, hence promoting adoption by firms of varying sizes. Simultaneously, firms in Bangladesh may pursue collaboration opportunities with governmental entities, industry associations, and international organizations to get funding, training, and resources to support their digital transformation efforts. The regulatory framework in Bangladesh may provide challenges to digital transformation in SRM. Notwithstanding the government's efforts to promote digitization via programs such as Digital Bangladesh, shortcomings in the legal framework remain, possibly hindering the use of digital technology in supply chain management. The evolution of data privacy and cybersecurity standards causes enterprises to hesitate in implementing digital solutions due to the lack of established regulations for protecting essential supplier information (Boyson et al., 2022). Moreover, complications may occur with cross-border transactions and international trade, since digital supply chains sometimes include suppliers from many countries. To address these challenges, the government of Bangladesh must continue to develop and implement legislation that promotes digital innovation, while ensuring that businesses have the necessary legal and regulatory support to use digital solutions in SRM. Digital transformation is reshaping how companies manage their supplier relationships, offering both advantages and challenges. In Bangladesh, enterprises, particularly in vital industries such as textiles, agriculture, and manufacturing, are swiftly acknowledging the need of incorporating digital technology into Supplier Relationship Management (SRM) to sustain competitiveness in the global market. Digital transformation empowers organizations to make educated decisions, enhance communication and collaboration, and mitigate supply chain risks. However, companies must also confront challenges such as insufficient digital infrastructure, high implementation expenses, and regulatory barriers. By investing in digital skills and fostering an innovative culture, firms in Bangladesh may fully harness the promise of digital transformation and cultivate stronger, more resilient supplier relationships in the digital age. As global supply chains evolve, companies in Bangladesh must embrace digital transformation to sustain agility, competitiveness, and preparedness for the future.

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2. Literature Review

The evolution of supplier relationship management (SRM) in the digital age has attracted increased attention from academics and practitioners, as international corporations seek to enhance their competitive advantage via advanced digital technologies. Supplier relationship management refers to the systematic approach used by companies to assess suppliers' contributions, manage the delivery of goods and services, and cultivate lasting partnerships that enhance overall performance. Over the last decade, digital transformation has profoundly modified traditional SRM practices, offering organizations the opportunity to enhance communication, collaboration, and decision-making processes. In Bangladesh, where industries such as ready-made garments (RMG), textiles, agriculture, and manufacturing are foundational to the economy, SRM is crucial for improving operational efficiency, reducing costs, and boosting product quality (Khan & Emon, 2024). The integration of digital technology in Supplier Relationship Management (SRM) is a developing trend, requiring a thorough examination of its impact on supplier relationships (Emon et al., 2024). Digital transformation is characterized by the integration and use of technologies such as artificial intelligence (AI), big data analytics, blockchain, cloud computing, and the Internet of Things (IoT). These solutions provide organizations with prompt insights about supplier performance, supply chain efficiency, and potential risks. A key theme in the literature is the influence of data analytics on the evolution of Supplier Relationship Management (SRM). Data-driven decision-making is crucial in supplier management, allowing companies to get predictive insights and identify trends that help mitigate risks before they intensify (Munir et al., 2022). Big data analytics enables companies to analyze supplier behavior patterns and forecast performance, leading to better informed procurement strategies and enhanced supplier selection processes (Kamble & Gunasekaran, 2020). In Bangladesh, as organizations increasingly use these technologies, data analytics presents a significant chance to rectify the deficiencies of traditional SRM methods, which have often been reactive rather than proactive. A notable aspect of digital transformation in Supplier Relationship Management (SRM) is the use of blockchain technology to enhance transparency and trust between companies and their suppliers. Blockchain offers a decentralized, immutable ledger system that documents every transaction along the supply chain, hence improving visibility and accountability (Min, 2019). In industries like as agriculture and textiles in Bangladesh, where global purchasers and regulatory bodies demand traceability, blockchain technology may provide real-time verification of the origin and movement of goods (Sinha & Roy Chowdhury, 2021). The RMG sector might use blockchain to guarantee compliance with labor standards, material sourcing, and environmental regulations. The ability of blockchain to record every stage of production and distribution is especially beneficial in ensuring adherence to ethical standards, a rising concern for global buyers and consumers. Cloud computing is a technological innovation that is transforming Supplier Relationship Management (SRM). Cloud-based systems provide information sharing, procurement management, and real-time engagement with suppliers, hence reducing communication gaps and improving operational efficiency (Sundarakani et al., 2021). Research demonstrates that cloud technologies provide superior integration of suppliers inside the company's ecosystem, giving them access to shared information, order histories, and forecasts that benefit supply chain operations. In Bangladesh, the use of cloud-based technology in industries such as manufacturing and e-commerce is crucial, as it allows businesses to streamline processes, reduce lead times, and improve overall performance. Cloud technologies enhance collaboration by enabling several suppliers and buyers to work together more efficiently, hence reducing errors and improving response times in addressing supply chain disruptions (Sudan et al., 2023). The use of artificial intelligence (AI) in supplier relationship management (SRM) is becoming prominent in scholarly literature, particularly as organizations want to improve supplier performance via predictive analytics and automation. AI algorithms can scrutinize large datasets to identify trends, predict demand fluctuations, and assess supplier risk, hence improving decision-making (Belhadi et al., 2022). In Bangladesh, AI can revolutionize Supplier Relationship Management (SRM) by automating routine processes such as supplier evaluations, contract management, and order processing, thus reducing human error and reallocating resources for more strategic initiatives. AI-driven tools enhance the administration of complex supplier

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networks by providing real-time information about supplier performance, quality assurance, and compliance with contractual obligations (Cadden et al., 2022). This is particularly relevant for industries such as textiles and manufacturing, where managing many suppliers and ensuring timely delivery of goods is crucial for maintaining production schedules. Digital transformation facilitates collaborative supplier relationship management by using technology to improve interactions between buyers and suppliers. The research emphasizes the importance of collaboration in modern supply chains, indicating that strong, lasting collaborations between companies and suppliers are essential for achieving sustainability and innovation (Erhun et al., 2021). Digital technologies, such as supplier portals and electronic data interchange (EDI) systems, provide seamless communication among stakeholders, enabling the exchange of information on order status, inventory levels, and production schedules (Saghiri & Mirzabeiki, 2021). In Bangladesh, firms may improve supplier performance via collaborative Supplier Relationship Management techniques that foster collaboration and mutual goals. This is particularly vital in areas like RMG, where buyers often enforce stringent standards on suppliers regarding quality, delivery schedules, and cost efficiency. Employing digital platforms to enhance collaboration allows enterprises to interact more efficiently with suppliers to address challenges and improve performance. However, while digital transformation offers several benefits for Supplier Relationship Management (SRM), the study identifies specific challenges that organizations face in using these technologies, particularly in developing nations like Bangladesh. A major issue is the lack of infrastructure and technological readiness in small and medium-sized enterprises (SMEs). A considerable proportion of SMEs in Bangladesh persist in utilizing manual, paper-based approaches for managing supplier connections, and they may be deficient in resources or expertise to adopt digital alternatives (Abbasi et al., 2023). The digital divide is a significant barrier to the widespread use of technologies such as AI, blockchain, and cloud computing. Moreover, organizations often face opposition to change, as employees may be reluctant to adopt new technology or may lack the necessary skills for effective use (Tsai et al., 2019). Training and development activities are crucial for addressing these gaps; nevertheless, the costs involved with these programs may be prohibitive for many firms in Bangladesh. The legislative framework in Bangladesh is another factor that may affect the use of digital technology in Supplier Relationship Management (SRM). Notwithstanding government initiatives such as Digital Bangladesh designed to promote technology integration in commerce, shortcomings in the legislative framework remain, possibly hindering digital adoption. Data privacy and cybersecurity regulation is still in its infancy, leading firms to hesitate in implementing digital solutions due to the lack of established standards for protecting essential supplier information (Boyson et al., 2022). The lack of a comprehensive legal framework for electronic transactions and digital contracts may impede companies from fully embracing digital transformation in Supplier Relationship Management (SRM). The government must establish and enforce regulations that promote the safe and efficient use of digital technology in supply chain management to address these challenges. The literature highlights the growing importance of digital transformation in enhancing sustainable supply chain management practices. As global awareness of environmental and social issues increases, corporations are compelled to maintain supply chains that are both efficient and sustainable (Bubicz et al., 2019). Digital technologies, such as blockchain and IoT, allow firms to evaluate the environmental impact of their suppliers by tracking emissions, resource use, and waste in real-time. These technologies enable firms to verify that their suppliers adhere to ethical and sustainable sourcing standards, which is increasingly vital for industries such as textiles and agriculture in Bangladesh. Furthermore, artificial intelligence and machine learning algorithms can optimize supply chain operations to reduce waste and improve resource efficiency (Kumar et al., 2022). Utilizing these technologies, firms may improve the sustainability and efficiency of their supply chains, therefore meeting the growing demands of environmentally conscious consumers and regulators. The COVID-19 epidemic has underscored the essential need of digital transformation in Supplier Relationship Management, as organizations have been forced to adapt to unprecedented disruptions in global supply chains. Studies indicate that companies who began integrating digital technology into their SRM operations were more proficient in managing challenges posed by the

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pandemic, such as supplier shortages, shipping delays, and fluctuating demand (Hong & Hales, 2024). In Bangladesh, where industries such as RMG were profoundly affected by the pandemic, digital transformation has become a crucial tool for mitigating supply chain disruptions. Cloud-based platforms, AI-driven demand forecasting, and blockchain-enabled transparency have allowed companies to rapidly adjust to market changes and maintain strong relationships with suppliers throughout crises. In the future, digital transformation will be crucial for empowering companies to establish more resilient and adaptable supply chains that can withstand future disruptions. The literature on digital transformation in Supplier Relationship Management highlights the significant impact of digital technology on supplier relationships, offering opportunities for improved communication, collaboration, and decision-making. In Bangladesh, industries including RMG, textiles, and agriculture rely heavily on effective supplier management, rendering the use of digital technology essential for maintaining competitiveness in the global market. However, the adoption of new technology presents challenges, particularly for SMEs that may lack the requisite infrastructure and expertise to effectively integrate digital solutions. Moreover, the regulatory environment and institutional resistance to change may hinder the execution of digital transformation in SRM. Despite these obstacles, the potential benefits of digital transformation—such as enhanced transparency, sustainability, and risk management—make it an essential priority for businesses in Bangladesh. With the advancement of digital technology, companies that embrace digital transformation will be better positioned to develop strong, strategic alliances with their suppliers and to navigate the complexities of modern supply chains.

3. Materials Method

This study's research methodology sought to examine the effects of digital transformation on supplier relationship management in the context of Bangladesh. A qualitative technique was used to get in-depth insights into the experiences, perspectives, and practices of businesses across several industries nationally. The study included semi-structured interviews, allowing participants to express their thoughts and experiences openly while ensuring the researcher covered essential topics relevant to the research objectives. This technique was deemed appropriate owing to the exploratory nature of the research and the need for in-depth, contextual understanding of the impact of digital transformation on supplier relationship management. A total of 36 interviews were conducted with key decision-makers, procurement managers, and supply chain specialists from industries such as ready-made clothes, manufacturing, agriculture, and technology. Participants were selected based on their involvement in supplier relationship management and their proficiency in digital transformation initiatives within their organizations. To provide a comprehensive sample, the participants included organizations of varying sizes, including large multinational corporations and small to medium-sized enterprises (SMEs). This diversity allowed the study to include a broad spectrum of perspectives and understand how different organizational types manage digital transformation in supplier relationship management. The interviews were conducted over a period of three months, with each session lasting around 45 to 60 minutes. Due to the COVID-19 pandemic and the associated restrictions on in-person interactions, most interviews were conducted via video conferencing platforms, with a limited number conducted via telephone. All interviews were videotaped with the participants' consent and then transcribed for analysis. Semi-structured interviews allowed the researcher to explore essential themes related to digital transformation while allowing participants the freedom to discuss issues relevant to their experiences. The interview questions sought to examine several key areas: the current state of supplier relationship management within the organization, the adoption and integration of digital technologies, the perceived benefits and challenges of digital transformation, and the impact of these technologies on supplier relationships. Participants were asked to specify the digital technologies used by their businesses, such as cloud computing, data analytics, blockchain, or artificial intelligence, and to clarify the influence of these tools on their interactions with suppliers. Participants were encouraged to confront any obstacles encountered in the implementation of these technologies, such as resistance to change, inadequate infrastructure, or regulatory challenges. The data acquired from the interviews

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underwent thematic analysis, including the discovery, evaluation, and reporting of patterns (or themes) within the data. The transcripts were first read and subsequently re-read to familiarize the researcher with the subject matter. Subsequently, critical themes and patterns were recognized and classified. The codes were classified into broad themes according to the research objectives, including the impact of digital transformation on communication, collaboration, trust, and efficiency in supplier relationship management. Thematic analysis allowed the researcher to systematically classify the data and identify parallels and differences in participants' experiences and viewpoints. The use of many interviews with a diverse group of individuals enhanced the reliability and validity of the findings. The study comprehensively assessed the influence of digital transformation on supplier relationship management in Bangladesh by triangulating data from diverse industries and organizational sizes. The researcher maintained a comprehensive audit record of all decisions made throughout the data collection and analysis phases, so ensuring openness and rigor in the study methodology. Ethical considerations were recognized, with all participants providing informed consent prior to the interviews, and confidentiality maintained throughout the research process. The research method enabled the collection of extensive data about the effects of digital transformation on supplier relationship management in Bangladesh. The interview findings provide substantial insights into the benefits and challenges of digital technology and its impact on supplier relationships across various industries. This technique allowed the researcher to examine the complexities of digital transformation in a developing economy, marked by significant differences in infrastructure, technological readiness, and regulatory frameworks relative to more developed regions.

4. Results

The findings of this research clarify the influence of digital transformation on supplier relationship management in Bangladesh. An analysis of 36 interviews with key decision-makers, procurement managers, and supply chain specialists reveals five primary themes that encapsulate the impact of digital technology on supplier relationship management. Themes are classified into many aspects, including communication, collaboration, trust, transparency, and overall efficiency in the supplier relationship process. The thematic analysis elucidates recurring patterns and ideas extracted from the qualitative data, supplemented with tables that encapsulate the principal identified themes. A significant advancement stemming from digital transformation is the enhancement of communication between suppliers and businesses. Participants highlighted that digital technologies, such as cloud platforms and enterprise resource planning (ERP) systems, have improved communication efficiency and promptness. These technologies have empowered organizations to oversee several suppliers across diverse sectors, enhancing information transmission and allowing for real-time modifications. Historically, communication bottlenecks often arose because to reliance on manual processes and outdated communication methods, leading to delays in decision-making. Digital technology have enabled a more agile and responsive approach to managing supplier relationships, reducing the likelihood of miscommunication and fostering seamless collaboration across the supply chain. The study indicated that supplier collaboration has grown more integrated due to the emergence of digital platforms that enhance cooperative planning, forecasting, and production processes. This integration has developed a more collaborative culture between businesses and their suppliers. Many interviewees expressed their ongoing practice of involving suppliers more closely in strategic planning, sharing real-time data, and coordinating production schedules to reduce inefficiencies. This improved collaboration has strengthened the partnership between businesses and suppliers, enabling the achievement of mutual objectives for both parties. Digital transformation has streamlined the coordination of complex supply chain processes, improving supplier involvement in corporate operations and yielding superior cost, time, and quality outcomes. The notion of trust emerged as another important topic in the discussions. The digitalization of processes has improved transparency and accountability in supplier relationships. Technologies like as blockchain, data analytics, and digital contracts have reduced the risks of fraud, errors, and discrepancies in transactions. These technologies have increased the openness of supply chain operations, allowing organizations to track item movement and evaluate supplier performance

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with more accuracy. Many interviewees said that the increased transparency afforded by digital platforms had cultivated more trust between them and their suppliers. This has cultivated more resilient relationships, bolstering the trust of both parties in their transactions and interactions. The execution of digital transformation enhanced the overall efficacy of supplier relationship management. A significant number of participants said that automation solutions, particularly in order processing, invoicing, and payment systems, have substantially reduced the time and effort required to manage supplier interactions. Digital technologies have streamlined formerly laborious processes, improving their efficiency and dependability. This has freed vital time and resources, allowing procurement managers to focus on more strategic aspects of supplier management, such as supplier development and risk mitigation. Digital technology has improved accuracy, reducing the likelihood of human errors that might disrupt supply chain operations. However, other issues pertaining to digital transition were also acknowledged. Despite the clear benefits of digital technology, several participants indicated difficulties encountered during the first stages of implementation. Personnel resistance to change, lack of technical skills, and insufficient infrastructure were often recognized as impediments to successful digital transformation. These difficulties have, in some cases, hindered the full integration of digital technology into supplier relationship management processes. Moreover, smaller firms, particularly in poor regions of Bangladesh, have faced considerable obstacles in obtaining and using these technologies due to budgetary constraints and inadequate technical readiness. The findings demonstrate that the extent of digital transformation adoption varies across industries. Major firms, especially in the technology and industrial sectors, have often shown greater proficiency in adopting digital technologies owing to their enhanced access to resources and technological expertise. In contrast, smaller firms, particularly in sectors such as agriculture, have shown a more gradual adoption of digital transformation due to limited resources and differing goals. This disparity has created a digital divide in supplier relationship management, as larger firms get more benefits from digitalization than their smaller counterparts. Table 1 delineates the topics associated with communication in supplier relationship management after digital transformation. The topics include the augmentation of real-time communication, alleviation of communication bottlenecks, and advancement of information dissemination across the supply chain. Participants from many sectors highlighted that digital technologies, including cloud-based platforms and ERP systems, have markedly enhanced their capacity for efficient communication with suppliers, especially in the management of multinational supplier networks.

Table 1. Key Themes Related to Communication.

Real-time communication has improved supplier interactions
Communication bottlenecks have been reduced significantly
Information sharing across the supply chain is more streamlined
Cloud-based platforms enhance communication with international suppliers
ERP systems have enabled faster decision-making in supplier communication

Source: Developed by Author from Interview.

The insights gathered show that businesses are leveraging digital technologies to improve the flow of information across the supply chain. Timely communication has been identified as a critical factor in managing supplier relationships effectively, with many participants noting that they now experience fewer delays and miscommunications. This, in turn, has helped businesses respond to market demands more rapidly and with greater agility, further reinforcing the importance of digital tools in modern supply chains.

Table 2 summarizes the themes related to collaboration and coordination between businesses and their suppliers. Participants noted that digital transformation has fostered closer collaboration by enabling joint planning and forecasting, allowing suppliers to be more involved in the production and planning processes. This has led to a more synchronized approach to supply chain management, reducing inefficiencies and promoting stronger partnerships.

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Table 2. Key Themes Related to Collaboration and Coordination.

Joint planning between suppliers and businesses has increased
Digital platforms enable real-time collaboration on forecasts
Supplier engagement in operational processes has strengthened
Integrated digital systems promote closer coordination
Mutual objectives are easier to achieve through collaborative tools

Source: Developed by Author from Interview.

As digital technologies enable better coordination between suppliers and businesses, the relationships between these entities have become more strategic. Suppliers are now viewed as partners who can contribute to achieving long-term business goals, rather than just providers of goods and services. The improved synchronization in operations has resulted in greater efficiency, reducing delays, and enabling both businesses and suppliers to optimize their processes.

Table 3 provides an overview of the themes related to trust and transparency in supplier relationships. The findings indicate that the use of technologies such as blockchain and data analytics has increased transparency in the supply chain, enhancing trust between suppliers and businesses. Participants emphasized that digital contracts and monitoring tools have reduced the likelihood of fraud and errors, ensuring that supplier transactions are more reliable and accountable.

Table 3. Key Themes Related to Trust and Transparency.

Blockchain has increased transparency in supply chain transactions
Data analytics has enhanced the visibility of supplier performance
Digital contracts reduce the risk of fraud and errors
Greater accountability leads to stronger supplier relationships
Monitoring tools improve trust between suppliers and businesses

Source: Developed by Author from Interview.

Trust plays a crucial role in supplier relationship management, and the findings demonstrate that digital transformation has contributed significantly to strengthening this trust. By providing greater visibility into supplier activities, businesses feel more secure in their relationships with suppliers, leading to more resilient partnerships. The transparency afforded by digital tools has also facilitated better compliance with industry standards and regulatory requirements.

Table 4 outlines the themes related to the efficiency of supplier relationship management as a result of digital transformation. The findings suggest that automation tools, particularly in order processing, invoicing, and payment systems, have greatly improved the efficiency of managing supplier interactions. Participants reported that these tools have reduced manual errors and sped up processes, allowing them to focus on more strategic areas of supplier management.

Table 4. Key Themes Related to Efficiency.

Automation tools have improved order processing and invoicing
Digital systems reduce manual errors in supplier transactions
Procurement managers can focus on strategic supplier management
Payment systems have become more reliable and faster
Efficiency in supplier interactions has increased overall

Source: Developed by Author from Interview.

The reduction of manual processes has had a profound impact on the efficiency of supplier relationship management. Digital tools have streamlined operations, reducing the time and effort required to manage supplier interactions. This has enabled businesses to allocate resources more effectively and focus on building long-term relationships with suppliers, rather than being bogged down by administrative tasks.

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Finally, Table 5 summarizes the challenges and barriers to digital transformation in supplier relationship management. Despite the clear benefits of digitalization, participants noted several challenges, including resistance to change, limited technical knowledge, and cost constraints. Smaller businesses, in particular, faced greater difficulties in adopting digital technologies due to a lack of resources and infrastructure.

Table 5. Key Themes Related to Challenges and Barriers.

Resistance to change is a significant barrier to digital adoption
Limited technical knowledge among staff slows implementation
Smaller businesses face cost constraints in accessing digital tools
Infrastructure limitations hinder the full integration of digital technologies
Digital readiness varies across industries and regions

Source: Developed by Author from Interview.

The issues identified by participants emphasize that while digital transformation provides significant advantages, the path to effective implementation is fraught with difficulties. Addressing reluctance to change and infrastructural deficiencies is essential for firms aiming to fully use digital technology in supplier relationship management. Smaller enterprises, specifically, will need supplementary assistance via access to cost-effective technology and training to close the digital gap in the sector. This study illustrates the substantial influence of digital transformation on supplier relationship management in Bangladesh. Key areas of impact include improved communication, increased collaboration, strengthened trust, enhanced transparency, and elevated efficiency in supplier relationship management. Digital technologies, such as cloud-based platforms, ERP systems, and blockchain, have revolutionized communication by enabling real-time information transmission and reducing delays in decision-making. The partnership between organizations and suppliers has intensified, facilitated by digital platforms that allow for collaborative planning and forecasting, leading to enhanced and more cohesive cooperation. Technologies like blockchain and data analytics have markedly improved trust and transparency by reducing the risk of fraud and errors, while providing more insight into supplier performance. This has fostered more reliable and accountable transactions, enhancing trust among parties. Automation has significantly enhanced efficiency in processes like as order processing, invoicing, and payment systems, reducing human errors and reallocating resources for more strategic management of supplier relationships. However, the research also identifies specific issues associated with digital transition. Resistance to change, inadequate technical expertise, and infrastructural constraints were significant barriers, particularly for smaller businesses. The findings reveal that whereas large organizations have rapidly embraced digital technology, smaller businesses have difficulties in obtaining and using these tools due to limited resources. Despite these challenges, the overall impact of digital transformation on supplier relationship management has been advantageous, signifying a shift towards more efficient and resilient supply chain operations as digital adoption proliferates across industries in Bangladesh.

5. Discussion

This paper investigates the substantial impact of digital transformation on supplier relationship management, particularly within the setting of Bangladesh. The findings demonstrate that the integration of digital technology has significantly altered the relationships between businesses and suppliers, enhancing communication, fortifying collaboration, fostering trust, and improving overall efficiency. These enhancements underscore the growing importance of digitalization in modern supply chain operations, where speed, accuracy, and transparency are essential components of effective supplier management. The shift from traditional manual processes to automated real-time systems has allowed enterprises to engage with their suppliers more effectively, accelerating decision-making, reducing the chance of errors, and promoting more adaptable responses to market demands. A notable change stemming from digital transformation is the enhancement of communication between businesses and their suppliers. Enterprises may now manage their supply

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chains with improved precision via real-time data interchange and continuous information flow. This advancement not only mitigates communication impediments but also augments the strategic dimension of supplier collaborations. Businesses may include suppliers more directly in planning and operational processes, promoting greater alignment with common goals. The study reveals that these innovations have converted suppliers from mere transactional partners into vital contributors to a company's strategic success. Digital platforms have significantly enhanced collaboration by facilitating joint planning and forecasting. Coordinating production schedules and matching objectives with suppliers improves the efficiency of supply chain operations. This improved integration has resulted in reduced delays, lower operational costs, and a more cohesive approach to supply chain management. Digital transformation fosters a collaborative culture, allowing firms to forge more resilient partnerships with suppliers, so ensuring mutual advantages from shared goals and joint advancement. The themes of trust and transparency emerged as major elements in this inquiry. Digital technology have markedly improved the openness of supply chain operations, allowing organizations to track things and assess supplier performance with exceptional accuracy. Blockchain technology offers a reliable and secure mechanism for transaction verification, minimizing the risk of fraud and discrepancies. This increased transparency has bolstered trust between companies and their suppliers, generating stronger and more dependable collaborations. The study highlights that trust, bolstered by digital technology, is essential for ongoing collaboration and for tackling challenges in complex and dynamic supply chains. The digital revolution has markedly improved efficiency. The automation of procedures such as order processing, invoicing, and payment systems has substantially reduced the administrative burden on businesses. This allows procurement managers to focus on strategic aspects of supplier relationship management, such as supplier development and risk management, rather than being burdened by operational responsibilities. Automating routine activities reduces the likelihood of human error and accelerates the supply chain, leading to faster turnaround times and more consistent outcomes. This enhanced efficiency advantages both businesses and suppliers, elevating the overall competitiveness of companies that can effectively use these technologies. However, although digital transformation offers certain advantages, the research also identifies other challenges faced by companies in Bangladesh. Resistance to change is a common obstacle, particularly among workers who may be unfamiliar or apprehensive about new technologies. Furthermore, smaller firms have significant challenges in acquiring the resources necessary to use digital technology. The costs related to digital platforms and necessary infrastructure may be substantial, especially for businesses in developing regions. The digital divide creates an unequal environment, where larger organizations fully use digital change, but smaller companies struggle to remain competitive. Moreover, the study demonstrates that the use of digital technology differs markedly across enterprises. While sectors such as manufacturing and technology have significantly progressed in the use of digital technologies, industries like agriculture and smaller retail enterprises have been comparatively slow to embrace these innovations. The disparity in adoption creates challenges for supply chain coordination, since not all suppliers exhibit comparable degrees of digital maturity. To rectify this discrepancy, more support and training for smaller firms is important, along with attempts to make digital technology more accessible and affordable for all organizations. The findings of this research suggest that digital transformation is still in its early stages for many firms in Bangladesh. Despite the broad recognition of the benefits, the thorough integration of digital technology into supplier relationship management practices remains uniformly unachieved. Many companies are undergoing digitization, and substantial progress is required to properly use the capabilities of emerging technology. However, the trajectory is clear: companies that successfully use digital technology will be better equipped to manage their supply chains with improved efficiency, agility, and resistance to future challenges. In summary, the discussion reveals that digital transformation has significantly influenced supplier relationship management, offering considerable benefits in communication, collaboration, trust, transparency, and efficiency. Nonetheless, challenges such as resistance to change and resource availability continue to hinder extensive digital adoption, particularly for smaller businesses. With the advancement of digital technology, it is crucial for firms in Bangladesh

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to invest in vital infrastructure, training, and support to fully use the potential of digital transformation in their supply chain operations. The continuous progression of digitalization is anticipated to profoundly impact the future of supplier relationship management, both in Bangladesh and globally.

6. Conclusion

This study has shown the significant impact of digital transformation on supplier relationship management in Bangladesh. The use of digital tools and technology has revolutionized corporate communication, collaboration, and supplier involvement, leading to enhanced operational efficiency, increased transparency, and strengthened connections. Digital platforms provide immediate information interchange and improve decision-making, allowing firms to develop more strategic and flexible collaborations with their suppliers. As organizations shift from traditional manual processes, the use of automation and contemporary technology has resulted in improved efficiency and reduced operational costs, benefiting both organizations and their suppliers. Nevertheless, the study reveals that the journey toward comprehensive digital transformation is laden with obstacles. Smaller firms have significant challenges in acquiring the resources and infrastructure required for the effective use of digital technology. Resistance to change and inadequate technical expertise complicate the transition for several companies. Despite these limitations, the dominant trend reveals an increasing reliance on digital technology as companies strive to improve their supply chain operations and develop stronger supplier networks. The findings suggest that, while more progress is required, digital transformation has considerable potential for improving supplier relationship management, particularly in a rapidly evolving global market. The continuous integration of digital technology would be crucial for companies in Bangladesh to sustain competitiveness and adeptly tackle future challenges. The efficacy of these changes will depend not only on the availability of technology solutions but also on the willingness of enterprises to invest in the necessary infrastructure, training, and support to overcome the limitations outlined in this study. As the digital landscape progresses, companies that embrace innovation and adapt to emerging technologies will be more adept at managing supplier relationships and thriving in a more interconnected world.

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