

## RESEARCH ARTICLE

## UNDERSTANDING THE INFLUENCE OF DIGITAL TRANSFORMATION ON SUPPLIER RELATIONSHIP MANAGEMENT

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## ABSTRACT

The study explores the impact of digital transformation on supplier relationship management, specifically within the setting of Bangladesh. As digital technologies become more essential to company operations, they have significantly transformed the methods by which firms engage with their suppliers. The study investigates the use of technologies such as cloud-based platforms, ERP systems, blockchain, and automation to promote communication, foster cooperation, establish trust, augment transparency, and maximize efficiency in supply chain operations. The research used qualitative methodologies, conducting interviews with 36 organizations from various sectors in Bangladesh, highlighting the potential and problems associated with digital transformation. Essential results underscore the role of digital technology in enabling real-time communication and information dissemination, hence promoting strategic alliances and collaborative methodologies in supply chain management. The research highlights the significance of digital technologies in enhancing transparency and accountability by increasing the tracking and monitoring of supplier performance, hence reinforcing trust among parties. Nonetheless, the report also highlights obstacles like aversion to change, insufficient technical skills, and budget limitations, especially for smaller enterprises. These obstacles impede the comprehensive use of digital solutions in supplier relationship management. The report indicates that, notwithstanding the challenges, the beneficial effects of digital transformation are unequivocal, providing substantial opportunities for firms to improve supplier relationships, save costs, and bolster resilience in a progressively competitive global marketplace. Ongoing investment in digital infrastructure and training will be crucial for firms in Bangladesh to fully capitalize on the advantages of digital transformation in their supply chains.

## KEYWORDS

Digital transformation, supplier relationship management, supply chain, Bangladesh, collaboration, transparency, technology adoption

## 1. INTRODUCTION

The current wave of digital transformation is significantly changing corporate operations across all sectors, including how firms handle supplier relationships. Digital transformation denotes the incorporation of digital technology throughout all facets of company, resulting in substantial alterations in operational processes and value delivery to consumers. Digital transformation presents both possibilities and difficulties for Supplier Relationship Management (SRM) as firms increasingly depend on innovative technology to enhance and optimize their supplier relationships. In Bangladesh, where enterprises are swiftly embracing digital tools and platforms to improve efficiency and competitiveness, comprehending the impact of digital transformation on Supplier Relationship Management (SRM) is essential. As the global economy grows more linked and supply chains more intricate, Bangladeshi enterprises must adjust to these developments to maintain competitiveness in the international arena.

Supplier Relationship Management is an essential role for every firm, including the procedures and methods used to oversee relationships with external suppliers of products and services. Effective Supplier Relationship Management enables firms to sustain robust supplier relationships, save expenses, enhance quality, and guarantee the prompt delivery of goods and services. Digital transformation has advanced SRM

from conventional, manual methods to automated, data-driven methodologies. This transition enables enterprises to get immediate insights into supplier performance, improve communication, and reduce risks. Technologies include artificial intelligence (AI), blockchain, big data analytics, and cloud computing are propelling this transition, allowing firms to make more informed choices and cultivate stronger, more strategic supplier relationships (Li et al., 2023).

In Bangladesh, especially within the industrial, textile, and e-commerce sectors, the use of these technologies is becoming vital for enhancing supply chain efficiency and resilience. Bangladesh has developed into an expanding economy in recent years, mostly propelled by industries such ready-made garments (RMG), textiles, and agriculture. These sectors depend significantly on efficient supplier management, since they often engage with an extensive network of local and worldwide suppliers to get raw materials and services (Emon, 2023). The Ready-Made Garment (RMG) industry substantially contributes to Bangladesh's economy, representing over 80% of the nation's overall exports (Islam and Halim, 2022). Effectively managing supplier relationships in this industry is essential, as companies must reconcile the requirements of foreign purchasers with the need for economical manufacturing and prompt delivery.

As digital technologies transform supply chain management,

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organizations in Bangladesh must adapt to these changes to maintain competitiveness. Digital transformation may boost transparency, diminish inefficiencies, and promote closer cooperation between suppliers and consumers, so improving the competitiveness of Bangladeshi enterprises in the global market. A primary advantage of digital transformation in Supplier Relationship Management (SRM) is the capacity to use data for enhanced decision-making. Historically, supplier management has depended on manual procedures and subjective evaluations of supplier performance. Nonetheless, the emergence of digital technology allows firms to gather and evaluate extensive data on supplier performance, facilitating more objective, data-driven decision-making.

Big data analytics enables firms to monitor supplier performance in real-time, discern patterns, and anticipate future concerns proactively (Hallikas et al., 2021). This capacity is especially vital in sectors where supplier performance is essential for corporate success, such as manufacturing and retail. In Bangladesh, where several enterprises continue to depend on conventional approaches for managing supplier relationships, the use of digital technologies may markedly enhance efficiency and decision-making. Organizations that adopt digital transformation might get a competitive advantage by enhancing their supply chains and increasing their responsiveness to fluctuating market circumstances. Furthermore, digital transformation may improve communication and cooperation between purchasers and suppliers. In conventional supply chain management, communication between purchasers and suppliers is often disjointed and sluggish, resulting in inefficiencies and misinterpretations.

Nonetheless, the advent of digital platforms and technology enables companies to engage with their suppliers more efficiently and in real-time. Cloud-based collaboration solutions provide real-time information sharing between suppliers and customers, including order data, inventory levels, and production plans, therefore minimizing the possibility of mistakes and delays (Pan et al., 2021). In Bangladesh, where supply networks are intricate and include several stakeholders, these digital solutions may markedly enhance communication and cooperation, resulting in more efficient and transparent supply chains. Moreover, improved communication via digital platforms may cultivate deeper, more collaborative ties between suppliers and buyers, promoting enduring partnerships that are vital for company success. A further critical facet of digital transformation in SRM is the capacity to minimize risks.

Disruptions in the supply chain, either from natural catastrophes, political instability, or worldwide pandemics, may profoundly affect enterprises dependent on suppliers for essential products and services. Digital technologies, like blockchain and artificial intelligence, may assist organizations in alleviating these risks by enhancing visibility and transparency inside their supply chains. Blockchain technology allows organizations to monitor and authenticate each transaction throughout the supply chain, guaranteeing that items are sourced and supplied transparently and securely (Helo and Shamsuzzoha, 2020). This technology is especially pertinent for sectors like agriculture and industry in Bangladesh, where supply chain transparency and traceability are gaining significance.

Furthermore, AI-driven solutions may assist enterprises in forecasting future disruptions and implementing preemptive strategies to alleviate their effects. Predictive analytics enables organizations to discern patterns and trends in supplier performance, allowing them to foresee possible hazards and implement measures prior to the escalation of issues. By embracing these digital technologies, Bangladeshi enterprises may enhance their capacity to mitigate supply chain risks and maintain operational continuity during interruptions. Although digital transformation in Supplier Relationship Management offers various advantages, organizations in Bangladesh may encounter hurdles in the use of these technologies. A primary problem is the lack of digital infrastructure and technology competencies in several enterprises.

Although huge multinational organizations and prominent firms in Bangladesh have started to use digital technology, several small and medium-sized enterprises (SMEs) continue to depend on conventional supplier management approaches (Emon and Khan, 2023; Nasir et al., 2022). These SMEs may be deficient in the resources, skills, or infrastructure required for the efficient implementation of digital solutions. Moreover, firms may encounter resistance to change, as staff could be reluctant to embrace new technology or may lack the requisite skills for their use. To achieve effective digital transformation, organizations in Bangladesh must engage in developing digital competencies and cultivating an innovative culture. This may include personnel training, infrastructure enhancement, and collaboration with technology vendors to provide digital solutions customized to the business's unique requirements. A further difficulty pertains to the

expenses linked to digital transformation. Implementing digital technologies, including AI, blockchain, and big data analytics, requires considerable commitment of both time and financial resources.

For several enterprises in Bangladesh, especially small and medium-sized enterprises, these expenses may be excessive. It is essential to acknowledge that digital transformation is not only a singular investment but a continuous endeavor. Organizations that engage in digital technology may achieve enduring advantages, including enhanced efficiency, decreased expenses, and fortified supplier connections (Luo, 2021). Furthermore, as digital technologies advance and become increasingly accessible, implementation costs are expected to decline, facilitating adoption by enterprises of all sizes. Meanwhile, enterprises in Bangladesh may seek collaborative possibilities with governmental bodies, industry groups, and international organizations to get money, training, and resources that facilitate their digital transformation initiatives.

The regulatory landscape in Bangladesh may provide obstacles to digital transformation in SRM. Despite the government's efforts to advance digitization via projects like Digital Bangladesh, deficiencies in the regulatory environment persist, potentially obstructing the integration of digital technology in supply chain management. Data privacy and cybersecurity standards continue to evolve, leading organizations to hesitate in adopting digital solutions because to the absence of defined norms for safeguarding critical supplier information (Boyson et al., 2022). Additionally, issues may arise with cross-border transactions and international commerce, since digital supply chains sometimes include providers from many nations. To tackle these difficulties, the government of Bangladesh must persist in formulating and executing laws that foster digital innovation, while guaranteeing that enterprises have the necessary legal and regulatory backing to embrace digital solutions in SRM.

Digital transformation is altering how firms handle their supplier relationships, presenting both benefits and problems. In Bangladesh, companies, especially in critical sectors like textiles, agriculture, and manufacturing, are rapidly recognizing the need of integrating digital technology in Supplier Relationship Management (SRM) to maintain competitiveness in the global marketplace. Digital transformation enables enterprises to make informed choices, improve communication and cooperation, and reduce supply chain risks. Nevertheless, firms must also address issues, including inadequate digital infrastructure, elevated implementation costs, and regulatory obstacles. Through the investment in digital capabilities and the promotion of an innovative culture, enterprises in Bangladesh may realize the whole potential of digital transformation and establish more robust and resilient supplier partnerships in the digital era. As global supply chains develop, firms in Bangladesh must adopt digital transformation to maintain agility, competitiveness, and future readiness.

## 2. LITERATURE REVIEW

The advancement of supplier relationship management (SRM) in the digital era has garnered heightened interest from both scholars and professionals, as global enterprises strive to improve their competitive edge via the use of sophisticated digital technology. Supplier relationship management denotes the methodical strategy used by firms to evaluate suppliers' contributions, oversee the distribution of products and services, and establish enduring relationships that improve overall performance. In the last decade, digital transformation has significantly altered conventional SRM procedures, providing enterprises the chance to improve communication, collaboration, and decision-making processes.

In Bangladesh, where sectors like ready-made garments (RMG), textiles, agriculture, and manufacturing underpin the economy, SRM is essential for enhancing operational efficiency, minimizing costs, and elevating product quality. The use of digital technology in Supplier Relationship Management (SRM) is an evolving trend, necessitating a comprehensive analysis of its effects on supplier relationships (Emon et al., 2024). Digital transformation is defined by the incorporation and assimilation of technologies such artificial intelligence (AI), big data analytics, blockchain, cloud computing, and the Internet of Things (IoT). These tools provide enterprises with immediate knowledge about supplier performance, supply chain efficacy, and prospective threats. A primary subject in the literature is the impact of data analytics on the transformation of Supplier Relationship Management (SRM).

Data-driven decision-making has become essential in supplier management, enabling firms to get predictive insights and discern patterns that assist in mitigating risks before they escalate (Munir et al., 2022). Big data analytics allows firms to examine supplier behavior patterns and predict performance, resulting in more educated

procurement strategies and improved supplier selection procedures (Kamble and Gunasekaran, 2020). In Bangladesh, as companies progressively incorporate these technologies, the use of data analytics has substantial opportunity to address the shortcomings of conventional SRM techniques, which have often been reactive rather than proactive. An additional significant facet of digital transformation in Supplier Relationship Management (SRM) is the use of blockchain technology to augment transparency and trust between enterprises and their suppliers.

Blockchain provides a decentralized, immutable ledger system that records every transaction in the supply chain, enhancing visibility and accountability (Min, 2019). In sectors like agriculture and textiles in Bangladesh, where international buyers and regulatory authorities increasingly want traceability, blockchain may provide real-time verification of the provenance and movement of commodities (Sinha and Roy Chowdhury, 2021). The RMG industry may use blockchain to ensure adherence to labor norms, material procurement, and environmental requirements. The capacity of blockchain to document each phase of manufacturing and distribution is particularly advantageous in guaranteeing compliance with ethical norms, a growing worry for worldwide purchasers and consumers. Cloud computing is a digital invention that is revolutionizing Supplier Relationship Management (SRM).

Cloud-based solutions provide information sharing, procurement management, and real-time collaboration with suppliers, hence minimizing communication gaps and enhancing operational efficiency (Sundarakani et al., 2021). The research indicates that cloud technologies provide enhanced integration of suppliers into the company's ecosystem, giving them access to common datasets, order histories, and predictions that help improve supply chain operations. In Bangladesh, the use of cloud-based technologies in sectors like manufacturing and e-commerce is essential, as it enables enterprises to optimize operations, decrease lead times, and enhance overall performance. Cloud systems facilitate cooperation by allowing numerous suppliers and purchasers to cooperate more effectively, hence minimizing mistakes and enhancing reaction times in managing supply chain disruptions (Sudan et al., 2023).

The use of artificial intelligence (AI) in supplier relationship management (SRM) is becoming prevalent in academic literature, especially as companies seek to enhance supplier performance via predictive analytics and automation. AI algorithms can analyze extensive datasets to discern patterns, forecast demand variations, and evaluate supplier risk, hence enhancing decision-making (Belhadi et al., 2022). In Bangladesh, AI has the capacity to transform Supplier Relationship Management (SRM) by facilitating the automation of mundane processes, including supplier assessments, contract administration, and order processing, thereby minimizing human error and reallocating resources for more strategic endeavors. AI-driven technologies facilitate the management of intricate supplier networks by delivering real-time data about supplier performance, quality control, and adherence to contractual commitments (Cadden et al., 2022).

This is especially pertinent for sectors like textiles and manufacturing, where overseeing many suppliers and guaranteeing prompt delivery of items is essential for upholding production timelines. Digital transformation brings collaborative supplier relationship management, using technology to enhance collaborations between buyers and suppliers. The literature underscores the significance of cooperation in contemporary supply chains, highlighting that robust, enduring partnerships between firms and suppliers are crucial for attaining sustainability and innovation (Erhun et al., 2021). Digital solutions, such as supplier portals and electronic data interchange (EDI) systems, provide smooth communication between parties, allowing for the sharing of information about order status, inventory levels, and production plans (Saghir and Mirzabeiki, 2021).

In Bangladesh, organizations may enhance supplier performance by using collaborative Supplier Relationship Management methods that cultivate cooperation and shared objectives. This is especially crucial in sectors such as RMG, where purchasers often impose rigorous requirements on suppliers about quality, delivery timelines, and cost-effectiveness. Utilizing digital platforms to improve cooperation enables organizations to engage more effectively with suppliers to tackle difficulties and boost performance. Nonetheless, while digital transformation has several advantages for Supplier Relationship Management (SRM), the research highlights certain obstacles that enterprises have in adopting these technologies, especially in emerging countries such as Bangladesh. A significant concern is the deficiency of infrastructure and technical preparedness among small and medium-sized firms (SMEs).

A significant number of SMEs in Bangladesh continue to depend on

manual, paper-based methods for maintaining supplier relationships, and they may lack the means or skills to implement digital alternatives (Abbasi et al., 2023). The digital divide is a substantial obstacle to the broad adoption of technologies like AI, blockchain, and cloud computing. Furthermore, firms often encounter resistance to change, as staff may be hesitant to embrace new technology or may lack the requisite skills for optimal use (Tsai et al., 2019). Training and development initiatives are essential for bridging these gaps; yet, the expense associated with these programs might be prohibitive for some enterprises in Bangladesh. The regulatory landscape in Bangladesh is an additional aspect that may influence the use of digital technology in Supplier Relationship Management (SRM). Despite the government's programs like Digital Bangladesh aimed at fostering technological integration in business, deficiencies in the regulatory environment persist, potentially obstructing digital adoption. Data privacy and cybersecurity legislation remain nascent, causing organizations to be reluctant in adopting digital solutions absent defined norms for safeguarding critical supplier information (Boyson et al., 2022).

The absence of a complete legal framework for electronic transactions and digital contracts may inhibit firms from fully adopting digital transformation in Supplier Relationship Management (SRM). The government must formulate and implement rules that facilitate the secure and effective use of digital technology in supply chain management to tackle these difficulties. The literature emphasizes the increasing significance of digital transformation in advancing sustainable supply chain management techniques. With the rising worldwide awareness of environmental and social concerns, companies under pressure to ensure their supply chains are both efficient and sustainable (Bubicz et al., 2019). Digital technologies, like blockchain and IoT, enable companies to assess the environmental effect of their suppliers by monitoring emissions, resource consumption, and waste in real-time.

These technologies allow organizations to confirm that their suppliers comply with ethical and sustainable sourcing policies, which is becoming more crucial for sectors like textiles and agriculture in Bangladesh. Additionally, artificial intelligence and machine learning algorithms may enhance supply chain processes to minimize waste and increase resource efficiency (Kumar et al., 2022). By using these technologies, organizations may enhance the sustainability and efficiency of their supply chains, therefore satisfying the increasing needs of environmentally aware customers and regulators. The COVID-19 pandemic has highlighted the critical significance of digital transformation in Supplier Relationship Management, as companies have been compelled to adjust to extraordinary disruptions in global supply chains.

Research suggests that firms who had initiated the incorporation of digital technology into their SRM processes were more adept at navigating the problems presented by the pandemic, including supplier shortages, transportation delays, and variable demand (Hong and Hales, 2024). In Bangladesh, where sectors like RMG were significantly impacted by the epidemic, digital transformation has emerged as an essential instrument for addressing supply chain disruptions. Cloud-based platforms, AI-driven demand forecasting, and blockchain-enabled transparency have enabled firms to swiftly adapt to market fluctuations and sustain robust partnerships with suppliers throughout crises. In the future, digital transformation will remain essential for enabling firms to develop more robust and flexible supply chains capable of enduring future upheavals.

The literature on digital transformation in Supplier Relationship Management underscores the substantial influence of digital technology on supplier relationships, presenting prospects for enhanced communication, collaboration, and decision-making. In Bangladesh, sectors such as RMG, textiles, and agriculture depend significantly on efficient supplier management, making the use of digital technology crucial for sustaining competitiveness in the global market. Nonetheless, the implementation of new technologies poses obstacles, especially for SMEs that may lack the necessary infrastructure and skills to properly integrate digital solutions. Furthermore, the legislative framework and institutional opposition to change may impede the implementation of digital transformation in SRM. Notwithstanding these hurdles, the prospective advantages of digital transformation—such as improved transparency, sustainability, and risk management—render it a crucial priority for enterprises in Bangladesh. As digital technologies advance, firms that adopt digital transformation will be better equipped to cultivate robust, strategic partnerships with their suppliers and to manage the intricacies of contemporary supply chains.

### 3. MATERIALS METHOD

This study's research approach aimed to investigate the impact of digital transformation on supplier relationship management within the setting of

Bangladesh. A qualitative methodology was used to get comprehensive insights into the experiences, views, and practices of enterprises across many sectors nationwide. The study used semi-structured interviews, enabling participants to articulate their opinions and experiences freely while ensuring the researcher addressed critical subjects pertinent to the research aims. This methodology was considered suitable due to the exploratory characteristics of the study and the need to get comprehensive, contextual insights into the influence of digital transformation on supplier relationship management. A total of 36 interviews were performed with important decision-makers, procurement managers, and supply chain experts from sectors including ready-made clothing, manufacturing, agriculture, and technology.

Participants were chosen based on their engagement in supplier relationship management and their expertise with digital transformation efforts inside their firms. To guarantee a broad sample, the participants included firms of all sizes, including major multinational corporations and small to medium-sized enterprises (SMEs). This variety enabled the research to include a wide array of viewpoints and comprehend how various organization types handle digital transformation in supplier relationship management. The interviews were carried out across three months, with each session lasting roughly 45 to 60 minutes. Owing to the COVID-19 epidemic and the corresponding limitations on face-to-face contacts, the majority of interviews were carried out over video conferencing systems, with a few performed by telephone. All interviews were recorded with the participants' agreement and then transcribed for analysis.

The use of semi-structured interviews enabled the researcher to investigate key themes associated with digital transformation while affording participants the latitude to address topics pertinent to their experiences. The interview questions aimed to investigate several critical domains: the existing condition of supplier relationship management in the organization, the implementation and assimilation of digital technologies, the perceived advantages and obstacles of digital transformation, and the influence of these technologies on supplier relationships. Participants were requested to delineate the digital technologies their firms had used, like cloud computing, data analytics, blockchain, or artificial intelligence, and to elucidate how these tools had impacted their engagements with suppliers. Participants were urged to address any impediments faced during the adoption of these technologies, including reluctance to change, insufficient infrastructure, or regulatory difficulties. The data obtained from the interviews were subjected to thematic analysis, which included the identification, examination, and reporting of patterns (or themes) within the data.

The transcripts were first read and then re-read to acclimate the researcher to the topic. Subsequently, essential themes and patterns were identified and categorized. The codes were categorized into overarching topics aligned with the study goals, including the effects of digital transformation on communication, cooperation, trust, and efficiency in supplier relationship management. Thematic analysis enabled the researcher to methodically categorize the data and discern similarities and disparities in participants' experiences and perspectives. The use of several interviews with a varied cohort of participants contributed to the dependability and validity of the results. The research effectively captured a complete perspective on the impact of digital transformation on supplier relationship management in Bangladesh by triangulating data across various sectors and organization sizes.

The researcher preserved an audit trail of all choices made throughout the data gathering and analysis process, so assuring transparency and rigor in the study technique. Ethical issues were acknowledged, with all participants granting informed permission prior to the interviews, and confidentially maintained throughout the study procedure. The study technique facilitated the acquisition of comprehensive, thorough data about the impact of digital transformation on supplier relationship management in Bangladesh. The interview results provide significant insights into the advantages and obstacles of digital technology and their influence on supplier relationships across diverse sectors. This methodology enabled the researcher to investigate the intricacies of digital transformation within the setting of a developing economy, characterized by distinct disparities in infrastructure, technical preparedness, and regulatory frameworks compared to more established areas.

#### 4. RESULTS

This study's results elucidate the impact of digital transformation on supplier relationship management within the setting of Bangladesh. The examination of 36 interviews with pivotal decision-makers, procurement

managers, and supply chain experts uncovers five principal themes that summarize the influence of digital technology on the management of supplier relationships. Themes are categorized into many dimensions including communication, cooperation, trust, transparency, and overall efficiency within the supplier relationship process. The thematic analysis reveals the repeating patterns and insights derived from the qualitative data, accompanied by tables summarizing the primary discovered themes. A notable development resulting from digital transformation is the improvement of communication between suppliers and enterprises.

Participants emphasized that digital technologies, including cloud platforms and enterprise resource planning (ERP) systems, have enhanced communication efficiency and timeliness. These technologies have enabled corporations to manage several suppliers across various areas, facilitating information exchange and permitting real-time changes. Historically, communication bottlenecks often occurred owing to dependence on manual procedures and antiquated communication channels, resulting in delays in decision-making. Digital technologies have facilitated a more dynamic and responsive method for managing supplier contacts, minimizing the risk of misinterpretation and enabling seamless cooperation across the supply chain.

Furthermore, the survey revealed that supplier cooperation has become increasingly integrated owing to the advent of digital platforms facilitating cooperative planning, forecasting, and manufacturing processes. This integration has fostered a more cooperative culture between enterprises and their suppliers. Numerous participants articulated their current practice of engaging suppliers more intimately in strategic planning, disseminating real-time data, and synchronizing production schedules to mitigate inefficiencies. This enhanced cooperation has fortified the alliance between enterprises and suppliers, facilitating the attainment of shared goals for both sides. Digital transformation has facilitated the coordination of intricate supply chain activities, enhancing supplier engagement in company operations and resulting in better cost, time, and quality results.

The concept of trust was another significant subject that arose in the conversations. The digitization of procedures has enhanced openness and accountability in supplier relationships. Technologies like blockchain, data analytics, and digital contracts have reduced the risks of fraud, mistakes, and inconsistencies in transactions. These technologies have enhanced the transparency of supply chain operations, enabling firms to monitor the flow of items and assess supplier performance with improved precision. Numerous participants observed that the enhanced openness provided by digital platforms has fostered more confidence between them and their suppliers. This has fostered more durable partnerships, enhancing the confidence of both parties in their transactions and interactions. The implementation of digital transformation positively influenced the overall efficiency of supplier relationship management.

A multitude of participants said that automation solutions, especially in order processing, invoicing, and payment systems, had markedly decreased the time and effort needed to handle supplier contacts. Digital technologies have optimized once arduous procedures, enhancing their speed and reliability. This has liberated essential time and resources, enabling procurement managers to concentrate on more strategic facets of supplier management, including supplier development and risk reduction. The use of digital technology has enhanced precision, reducing the probability of human mistakes that may interrupt supply chain operations. Nonetheless, other problems related to digital transformation were also recognized. Although the advantages of digital technology are evident, several participants reported challenges during the earliest phases of deployment.

Resistance to change among personnel, insufficient technical expertise, and inadequate infrastructure were often identified as obstacles to effective digital transformation. These issues have, in some instances, impeded the complete integration of digital technologies into supplier relationship management procedures. Furthermore, smaller enterprises, especially in underdeveloped areas of Bangladesh, have encountered significant challenges in acquiring and using these technologies owing to financial limitations and insufficient technical preparedness. The results indicate that the degree of digital transformation adoption differs across sectors. Large corporations, particularly in the technology and industrial industries, have often been more adept at adopting digital technologies due to their superior access to resources and technical experience.

Conversely, smaller enterprises, especially in industries like agriculture, have shown a slower pace in adopting digital transformation owing to resource constraints and varying objectives. This mismatch has engendered a digital gap in the supplier relationship management domain,

wherein bigger enterprises get more advantages from digitization compared to smaller counterparts. Table 1 presents the themes related to communication in supplier relationship management after digital transformation. The themes include the enhancement of real-time communication, reduction of communication bottlenecks, and improved information sharing across the supply chain. Participants from various industries emphasized that digital tools such as cloud-based platforms and ERP systems have significantly improved their ability to communicate effectively with suppliers, particularly in managing international supplier networks.

<b>Table 1: Key Themes Related to Communication</b>
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.

<b>Table 2: Key Themes Related to Collaboration and Coordination</b>
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.

<b>Table 3: Key Themes Related to Trust and Transparency</b>
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.

<b>Table 4: Key Themes Related to Efficiency</b>
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.

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.

<b>Table 5: Key Themes Related to Challenges and Barriers</b>
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 challenges highlighted by participants underscore the fact that while digital transformation offers substantial benefits, the road to successful adoption is not without its obstacles. Overcoming resistance to change and addressing infrastructure gaps are critical for businesses looking to fully realize the potential of digital technologies in supplier relationship management. Smaller companies, in particular, will need additional support in the form of access to affordable technologies and training to bridge the digital divide within the industry.

This research demonstrates the significant impact of digital transformation on supplier relationship management in Bangladesh. Significant areas of influence include better communication, enhanced cooperation, fortified trust, heightened transparency, and augmented efficiency in managing supplier relationships. Digital technologies, including cloud-based platforms, ERP systems, and blockchain, have transformed communication by facilitating real-time information exchange and minimizing delays in decision-making. The collaboration between enterprises and suppliers has deepened, with digital platforms enabling cooperative planning and forecasting, resulting in stronger, more integrated collaborations. Technologies such as blockchain and data analytics have significantly enhanced trust and transparency by reducing the risk of fraud and mistakes, while offering more insight into supplier performance.

This has cultivated more dependable and responsible transactions, strengthening confidence among parties. Automation has markedly improved efficiency in procedures like order processing, invoicing, and

payment systems, minimizing human mistakes and reallocating resources for more strategic management of supplier relationships. Nonetheless, the report also delineates certain problems linked to digital transformation. Resistance to change, insufficient technical proficiency, and infrastructural limitations were prevalent obstacles, especially for smaller enterprises. The results indicate that whereas major corporations have more quickly adopted digital technology, smaller enterprises have challenges in acquiring and applying these tools owing to resource constraints. Notwithstanding these hurdles, the overall effect of digital transformation on supplier relationship management has been beneficial, indicating a transition towards more efficient and robust supply chain operations as digital adoption expands across sectors in Bangladesh.

## 5. DISCUSSION

The present study examines the significant influence of digital transformation on supplier relationship management, specifically in the context of Bangladesh. The results indicate that the incorporation of digital technologies has profoundly transformed the interactions between organizations and suppliers, optimizing communication, strengthening cooperation, cultivating trust, and increasing overall efficiency. These improvements signify the increasing significance of digitization in contemporary supply chain processes, where speed, precision, and transparency are vital elements of efficient supplier management. The transition from conventional manual procedures to automated real-time systems has enabled organizations to interact with their suppliers more efficiently, expediting decision-making, minimizing mistake risk, and fostering more flexible reactions to market needs.

A significant alteration resulting from digital transformation is the improvement of communication between enterprises and their suppliers. Through real-time data exchange and uninterrupted information flow, enterprises may now administer their supply chains with enhanced accuracy. This development not only alleviates communication bottlenecks but also enhances the strategic aspect of supplier partnerships. Businesses may engage suppliers more directly in planning and operational processes, fostering closer alignment with shared objectives. The analysis indicates that these enhancements have transformed suppliers from simply transactional partners into essential contributors to a company's strategic success. Collaboration has been markedly improved by digital platforms that provide cooperative planning and forecasting. Synchronizing production schedules and aligning goals with suppliers enhances the efficiency of supply chain operations.

This enhanced integration has led to diminished delays, less operating expenses, and a more synchronized strategy for managing supply chain operations. Digital transformation cultivates a collaborative culture, enabling organizations to establish more durable relationships with suppliers, so assuring reciprocal benefits from shared objectives and collective progress. The subject of trust and openness is a significant aspect that arose in this investigation. Digital technologies have significantly enhanced the transparency of supply chain operations, enabling firms to monitor items and evaluate supplier performance with unparalleled precision. Technologies like blockchain provide a dependable and secure method for transaction verification, reducing the risk of fraud and inconsistencies.

This enhanced openness has reinforced confidence between enterprises and their suppliers, fostering more solid and reliable partnerships. The research emphasizes that trust, enhanced by digital technologies, is crucial for sustained cooperation and for addressing difficulties in intricate and evolving supply chains. Digital revolution has significantly enhanced efficiency. The automation of processes like order processing, invoicing, and payment systems has significantly alleviated the administrative strain on enterprises. This enables procurement managers to concentrate on strategic elements of supplier relationship management, including supplier development and risk management, instead of being preoccupied with operational duties. Automating common procedures reduces the probability of human mistake and expedites the supply chain, resulting in quicker turnaround times and more uniform results.

This increased efficiency benefits both enterprises and suppliers, augmenting the total competitiveness of corporations that can successfully use these technologies. Nonetheless, whereas digital transformation has distinct benefits, the report also reveals several hurdles encountered by firms in Bangladesh. Resistance to change is a prevalent challenge, especially among employees who may be unacquainted or uneasy with new technology. Moreover, smaller enterprises have considerable obstacles in obtaining the resources required to use digital technologies. The expenses associated with digital platforms and requisite infrastructure may be exorbitant, particularly for

enterprises operating in underdeveloped areas.

The digital gap engenders an inequitable landscape, whereby bigger enterprises fully capitalize on digital transformation, but smaller companies find it challenging to maintain competitiveness. Furthermore, the research indicates that the implementation of digital technology varies significantly across businesses. Although sectors like industry and technology have advanced considerably in the integration of digital tools, industries such as agriculture and smaller retail businesses have been more sluggish in embracing new advancements. The gap in adoption presents issues for supply chain collaboration, since not all suppliers possess equivalent levels of digital maturity. To address this disparity, more assistance and training for smaller enterprises is essential, alongside initiatives to render digital technology more accessible and cheaper for all organizations.

This study's results indicate that digital transformation remains nascent for several enterprises in Bangladesh. Despite the widespread acknowledgment of the advantages, comprehensive integration of digital technologies into supplier relationship management methods remains unfulfilled universally. Numerous firms are in the midst of digitalization, and significant advancements are necessary to fully harness the potential of new technologies. Nonetheless, the direction is evident: enterprises that effectively integrate digital technologies will be more adept at managing their supply chains with enhanced efficiency, agility, and resilience against forthcoming threats. In summary, the discourse indicates that digital transformation has profoundly impacted supplier relationship management, providing substantial advantages in communication, cooperation, trust, transparency, and efficiency.

However, issues such as reluctance to change and resource accessibility persist as impediments to comprehensive digital adoption, especially for smaller enterprises. As digital technologies advance, it is imperative for companies in Bangladesh to invest in essential infrastructure, training, and support to fully use the promise of digital transformation in their supply chain operations. The ongoing advancement of digitization is expected to significantly influence the future of supplier relationship management, both in Bangladesh and worldwide.

## 6. CONCLUSION

This research has highlighted the substantial influence of digital transformation on supplier relationship management within the setting of Bangladesh. The use of digital tools and technology has transformed corporate communication, collaboration, and engagement with suppliers, resulting in more efficient operations, improved transparency, and fortified relationships. Digital platforms have enabled instantaneous information exchange and enhanced decision-making, enabling corporations to cultivate more strategic and adaptable partnerships with their suppliers. As enterprises transition from conventional manual processes, the use of automation and modern technologies has led to enhanced efficiency and decreased operating expenses, benefitting both enterprises and their suppliers. Nonetheless, the analysis indicates that the path to complete digital transformation is fraught with hurdles. Smaller enterprises, specifically, have substantial obstacles in obtaining the resources and infrastructure necessary for the efficient use of digital technologies.

Resistance to change and insufficient technical proficiency exacerbate the shift for several firms. Notwithstanding these challenges, the prevailing trend indicates a growing dependence on digital technology as enterprises endeavor to enhance their supply chain operations and establish more robust supplier networks. The results indicate that, while more advancements are necessary, digital transformation has significant prospects for enhancing supplier relationship management, especially in a rapidly changing global market. The ongoing integration of digital technologies will be essential for firms in Bangladesh to maintain competitiveness and effectively address future problems. The success of these reforms will hinge not only on the accessibility of technical solutions but also on the readiness of companies to invest in the necessary infrastructure, training, and support to surmount the constraints described in this research. As the digital environment evolves, firms that adopt innovation and adapt to new technologies will be better positioned to manage supplier relationships and succeed in a more linked world.

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