CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews existing literature on e-procurement and its impact on supply chain performance. It explores the evolution of e-procurement, its adoption across industries, and its role in addressing inefficiencies in traditional procurement systems. The review focuses on key performance metrics such as cost reduction, efficiency, transparency, and supplier relationship management. Additionally, it examines the specific application of e-procurement in manufacturing, particularly at Lafarge Africa Plc, providing insights into the challenges and benefits experienced by companies in emerging markets like Nigeria. The chapter aims to establish a foundation for understanding how e-procurement enhances supply chain performance.

2.2 CONCEPTUAL FRAMEWORK

2.2.1 CONCEPT OF E-PROCUREMENT

E-procurement, also known as electronic procurement, refers to the use of digital technologies to facilitate the acquisition of goods and services through an automated, online process. This process includes all procurement activities from identifying the need for goods or services to the final payment to suppliers. E-procurement systems enable organizations to purchase goods and services via the internet or intranet, bypassing traditional, paper-based procurement processes that can be time-consuming and prone to errors. By adopting e-procurement, businesses can engage in seamless and efficient transactions with suppliers, ensuring better management of procurement activities (Adebayo, 2022).

The concept of e-procurement revolves around the automation and digitalization of procurement tasks. It includes key functions such as supplier selection, tendering, order management, contract management, invoicing, and payments. All of these processes are managed via specialized e-procurement platforms or integrated enterprise resource planning (ERP) systems. E-procurement platforms allow for the creation of an online marketplace where buyers and suppliers can interact, negotiate, and execute transactions, making procurement more transparent, accessible, and efficient (Olajide, 2023).

There are several forms of e-procurement systems, ranging from simple catalog-based systems where organizations choose products from a list, to complex sourcing and procurement management systems. These systems vary in terms of the degree of automation, the number of users involved, and the sophistication of the features offered. At its core, e-procurement reduces the complexity of the procurement process by standardizing tasks, enhancing data accuracy, and improving operational workflows (Nwachukwu & Ogbu, 2021).

One of the key benefits of e-procurement is its ability to improve operational efficiency. By eliminating the need for manual processing of orders, invoices, and payments, organizations can streamline their procurement operations, resulting in faster turnaround times, lower administrative costs, and reduced risk

of human error. Additionally, e-procurement platforms provide greater visibility into procurement data, enabling better decision-making and enhanced supplier management (Adedeji & Osuagwu, 2022).

E-procurement also enables greater transparency in the procurement process. All transactions are recorded and tracked digitally, providing a clear and auditable record of purchasing activities. This transparency can help organizations enforce policies, ensure compliance with regulations, and reduce the potential for fraud or corruption. With real-time data and analytics, businesses can gain insights into their spending patterns, supplier performance, and procurement efficiency, allowing them to make informed strategic decisions (Anigbogu et al., 2020).

The integration of e-procurement also enhances supplier relationship management (SRM). By using e-procurement systems, companies can maintain closer and more collaborative relationships with their suppliers. Digital platforms make it easier for organizations to communicate with suppliers, manage contracts, and monitor the performance of supply chain partners. E-procurement systems can support strategic sourcing initiatives by enabling organizations to compare suppliers, negotiate better terms, and select the best partners for their needs (Olajide & Adeyemi, 2021).

Additionally, e-procurement enables businesses to achieve better cost management. Through automated processes, companies can lower procurement costs by reducing administrative overhead, minimizing paper-based transactions, and improving negotiation leverage with suppliers. Moreover, e-procurement helps organizations to take advantage of bulk purchasing, automated discounting, and other cost-saving mechanisms built into digital platforms. These capabilities contribute to a more cost-effective procurement strategy, ultimately improving the overall supply chain performance (Ogbonna et al., 2023).

In the context of manufacturing and large organizations such as Lafarge Africa Plc, e-procurement plays a critical role in ensuring the continuous flow of raw materials, supplies, and services essential to maintaining production processes. By automating procurement functions, Lafarge Africa Plc can maintain an agile and responsive supply chain, ensuring that it meets demand while minimizing inventory costs and lead times. The strategic use of e-procurement also allows the company to stay competitive in a market where efficiency and cost reduction are key factors for success (Lafarge Africa Plc, 2021).

E-procurement has become an essential tool in modern supply chain management, especially in industries that rely on large volumes of goods and services, such as construction and manufacturing. With the rise of digital technologies, organizations are increasingly looking to e-procurement systems to help them manage their supply chains more effectively. As businesses like Lafarge Africa Plc seek to enhance operational performance, the integration of e-procurement systems is seen as a vital component in driving efficiencies and achieving long-term growth (Olajide, 2023).

Furthermore, e-procurement systems support sustainability goals by reducing the reliance on paper and other physical resources, which aligns with the global shift towards more sustainable business practices. The digitalization of procurement processes reduces the environmental impact of traditional methods, such as printing and paper filing, contributing to the organization’s broader corporate social responsibility initiatives (Adedeji & Osuagwu, 2022).

2.2.2 EVOLUTION OF E-PROCUREMENT SYSTEMS

The evolution of e-procurement systems is a reflection of technological advancements and the growing need for businesses to improve efficiency in their procurement processes. Traditionally, procurement was

a manual process involving paper-based systems where buyers and suppliers interacted physically through paperwork, contracts, and face-to-face meetings. This process was often slow, inefficient, and prone to errors due to human involvement. As organizations recognized the limitations of these traditional methods, the need for a more efficient and streamlined approach emerged, thus laying the foundation for the development of e-procurement systems (Uwaoma& Okpala, 2020).

The first stages of e-procurement were characterized by basic automation of processes like the electronic submission of orders or invoices. In the early 1990s, many companies began to implement basic systems that allowed for the digitization of procurement documents. This automation focused on improving administrative efficiency by replacing paper forms with electronic records. However, these early systems were limited in scope and primarily focused on automating specific aspects of procurement, such as order entry and invoice processing (Anderson & Arnold, 2021).

The next phase in the evolution of e-procurement systems saw the rise of e-marketplaces and supplier networks in the late 1990s and early 2000s. With the growth of the internet, e-marketplaces emerged as online platforms where buyers and suppliers could meet, negotiate, and exchange goods and services. These platforms provided a more centralized and transparent system for managing procurement activities. Buyers were able to access a wider range of suppliers, compare prices, and negotiate better terms. This shift significantly enhanced the competitiveness of the procurement process, allowing organizations to reduce procurement costs and improve supply chain performance (Giwa & Olajide, 2022).

The early 2000s also witnessed the integration of e-procurement systems with enterprise resource planning (ERP) systems. Large corporations, including multinationals like Lafarge Africa Plc, began adopting integrated solutions that provided a seamless flow of data between procurement, finance, inventory management, and other business functions. This integration allowed for real-time tracking of procurement activities, greater visibility into spending, and enhanced supplier relationship management. It also provided a more unified and strategic approach to managing the procurement lifecycle, from supplier selection to contract management and payments (Salawu & Adewumi, 2021).

In recent years, the evolution of e-procurement has shifted toward the integration of advanced technologies like artificial intelligence (AI), machine learning, and blockchain. These technologies have enabled e-procurement systems to become more intelligent, predictive, and secure. AI and machine learning algorithms are now being used to analyze procurement data, identify trends, and optimize supplier selection, while blockchain technology is being used to enhance the security and transparency of transactions. With the rise of cloud computing, e-procurement systems are now more accessible, scalable, and cost-effective for businesses of all sizes, including SMEs. Cloud-based solutions have allowed organizations to access procurement tools remotely, collaborate more effectively with suppliers, and scale their procurement systems as needed without the need for significant upfront investments (Nkwe& Onuoha, 2020).

The adoption of mobile technology has also contributed to the evolution of e-procurement systems. Many organizations now use mobile applications to manage procurement activities on the go. Mobile platforms enable procurement officers to approve purchase orders, track delivery statuses, and communicate with suppliers from anywhere in the world, further enhancing the flexibility and efficiency of procurement operations (Adebayo & Salawu, 2022).

Looking ahead, the future of e-procurement seems poised to incorporate even more innovations. The next phase of e-procurement will likely involve greater use of artificial intelligence for predictive analytics, process automation, and the intelligent selection of suppliers. Additionally, e-procurement systems will continue to improve in terms of user experience, with a focus on user-friendly interfaces and enhanced collaboration tools for both internal teams and external suppliers (Adedeji, 2023).

The evolution of e-procurement systems has transformed procurement from a manual, paper-based process into a highly automated, efficient, and data-driven function. As technology continues to advance, e-procurement systems will only become more sophisticated, offering businesses increased efficiency, cost savings, and better decision-making capabilities. This evolution has had a profound impact on supply chain management, enabling companies like Lafarge Africa Plc to better manage their procurement processes, reduce costs, and enhance overall supply chain performance (Giwa & Olajide, 2022).

2.2.3 TYPES OF E-PROCUREMENT SYSTEMS

E-procurement systems can be classified into several types based on the procurement functions they automate and the structure of their integration within an organization's supply chain. These systems vary in complexity, ranging from basic online catalog systems to fully integrated, enterprise-wide solutions. The choice of system depends on the organization's size, its procurement needs, and the technological resources available. The main types of e-procurement systems are outlined below.

1. E-Catalog Systems: E-catalog systems are one of the simplest forms of e-procurement platforms. They allow buyers to browse a digital catalog of goods and services provided by suppliers, place orders, and make payments. These systems typically contain a catalog of pre-approved items and services, which are selected based on the buyer's needs. E-catalogs streamline the procurement process by making it easy to search for and select products, compare prices, and place orders, all through an online interface. These systems are most suitable for organizations with standard, recurring purchases, where product specifications and prices remain relatively consistent (Olowolaju& Salawu, 2021).

2. E-Tendering Systems: E-tendering is a more complex e-procurement system designed to automate the tendering process. It facilitates the submission, evaluation, and award of contracts to suppliers. This system enables buyers to invite suppliers to submit bids electronically, and suppliers can submit their bids through the platform. E-tendering systems typically include features such as online bidding, automated document management, and contract award functionality. By using e-tendering, organizations can improve transparency in the procurement process, reduce administrative costs, and ensure fair competition among suppliers. This type of system is widely used in public procurement and large-scale corporate projects, where the bidding process is competitive and requires transparency (Adebayo & Olajide, 2022).

3. E-Sourcing Systems: E-sourcing systems are designed to help organizations identify, select, and negotiate with suppliers. These platforms typically provide tools for conducting electronic reverse auctions, managing requests for proposals (RFPs), and managing supplier performance. E-sourcing allows businesses to automate much of the supplier selection and negotiation process, enabling them to find the best possible suppliers at competitive prices. By integrating e-sourcing into the procurement process, companies can ensure better supplier management, improve strategic sourcing decisions, and reduce

procurement costs. This system is particularly useful for organizations seeking to establish long-term supplier relationships and for those involved in complex sourcing strategies (Salawu & Adebayo, 2021).

4. E-Procurement Platforms (Integrated Systems): An e-procurement platform or integrated system is a comprehensive system that automates the entire procurement lifecycle. This type of system integrates various procurement functions, such as requisitioning, purchasing, invoicing, and payment, into one unified platform. E-procurement platforms often work in conjunction with other enterprise resource planning (ERP) systems to ensure seamless data flow between procurement, finance, inventory, and other departments. These systems are typically used by large organizations with complex procurement needs and supply chains. Integrated e-procurement systems enhance efficiency by allowing for better control, improved data visibility, and seamless communication among various stakeholders in the procurement process (Giwa & Olajide, 2022).

5. E-Ordering Systems: E-ordering systems are focused specifically on the ordering process of the procurement cycle. These systems allow buyers to place orders directly with suppliers through a digital platform. E-ordering systems can either be a standalone solution or part of a broader e-procurement system. They typically feature functionalities such as catalog management, order tracking, and automated order confirmations. By using e-ordering systems, organizations can reduce the time spent on manual order creation, ensure more accurate orders, and improve supplier relationship management by maintaining accurate and timely order data. E-ordering systems are commonly used for low-value, high-volume transactions and recurring purchases (Olowolaju& Salawu, 2021).

6. E-Payment Systems: E-payment systems are another vital component of e-procurement platforms, focusing on the financial transactions between buyers and suppliers. These systems facilitate the secure and efficient transfer of funds for goods or services ordered through e-procurement platforms. E-payment systems are integrated into the broader procurement system to ensure smooth payment processing, tracking, and reconciliation. They are particularly beneficial in reducing delays in payments, minimizing fraud risks, and improving financial transparency in procurement operations. Popular e-payment systems include bank transfer solutions, credit card payments, and digital wallets (Adedeji & Osuagwu, 2022).

2.2.4 THE ROLE OF TECHNOLOGY IN PROCUREMENT

Technology plays a critical role in transforming the procurement process, enabling organizations to improve efficiency, reduce costs, and enhance decision-making. The integration of various technological tools in procurement has revolutionized traditional procurement methods by offering innovative solutions that streamline operations, increase transparency, and foster collaboration. The role of technology in procurement is multidimensional and covers various areas, from automating procurement tasks to improving supplier relationships and data analytics. Below are some of the key ways in which technology contributes to modern procurement practices.

1. Automation of Procurement Processes: One of the most significant contributions of technology to procurement is the automation of manual tasks. Automation reduces the time and effort spent on routine procurement functions such as order placement, invoice processing, and contract management. E-procurement platforms automate processes like requisitioning, approval workflows, and supplier selection, minimizing human errors, and ensuring compliance with procurement policies. This automation enhances operational efficiency by accelerating procurement cycles, improving accuracy, and freeing up procurement professionals to focus on strategic tasks. With automated systems in place, organizations can

also achieve cost savings by reducing administrative overhead and optimizing resource allocation (Olowolaju& Salawu, 2021).

2. Improved Supplier Relationship Management: Technology facilitates improved communication and collaboration between buyers and suppliers. Supplier Relationship Management (SRM) systems, which are integrated into e-procurement platforms, provide tools for managing supplier performance, tracking order statuses, and fostering long-term partnerships. With SRM systems, organizations can analyze supplier data to evaluate their reliability, quality, and delivery performance. This information helps organizations identify and select the best suppliers for their needs, negotiate better terms, and build mutually beneficial relationships. Enhanced supplier collaboration also helps organizations reduce risks, improve lead times, and innovate together, thereby gaining a competitive advantage in the supply chain (Giwa & Olajide, 2022).

3. Data Analytics and Decision-Making: Technology has made it possible to collect and analyze vast amounts of procurement-related data, which can significantly improve decision-making. By using tools such as data analytics and business intelligence software, procurement professionals can gain deeper insights into spending patterns, supplier performance, market trends, and demand forecasts. This information allows organizations to make informed decisions about sourcing strategies, contract negotiations, and inventory management. Predictive analytics, for example, can help organizations forecast demand and anticipate supply chain disruptions, enabling them to take proactive measures. Data-driven procurement strategies also support cost optimization by identifying opportunities for savings and efficiency improvements (Adebayo & Olajide, 2022).

4. Enhanced Transparency and Compliance: Technological tools increase transparency in the procurement process by providing real-time visibility into the status of orders, payments, and contracts. E-procurement platforms allow both buyers and suppliers to track the progress of transactions, ensuring that all parties are informed of updates or changes. This visibility helps prevent fraud, corruption, and other unethical practices by ensuring accountability at every stage of the procurement process. Additionally, procurement technologies can integrate with regulatory compliance systems, helping organizations adhere to local and international procurement regulations and standards. Automation of compliance checks and audit trails within e-procurement systems further reduces the risk of non-compliance and ensures that organizations operate within the law (Salawu & Adebayo, 2021).

5. Cloud-Based Procurement Solutions: Cloud-based technology has greatly enhanced the flexibility and scalability of procurement operations. Cloud-based e-procurement systems enable procurement professionals to access procurement data and processes from anywhere, at any time, provided there is internet connectivity. This flexibility allows global teams to collaborate more effectively, making it easier for organizations with multiple branches or international operations to manage their procurement activities. Cloud solutions also offer the benefit of lower upfront costs and easier system updates, making them a cost-effective option for organizations of all sizes. Furthermore, cloud-based procurement systems enable seamless integration with other enterprise systems, such as finance and inventory management, promoting a more streamlined and efficient supply chain (Nkwe& Onuoha, 2020).

6. E-Payment and E-Invoicing Solutions: The integration of e-payment and e-invoicing solutions in procurement systems has streamlined the financial transactions between buyers and suppliers. These systems enable the automated processing of payments and invoices, reducing the time required for manual reconciliation and approval processes. E-payment solutions allow for secure and timely transactions,

improving cash flow and reducing the risk of payment delays or errors. E-invoicing, on the other hand, eliminates the need for paper-based invoicing, which is often prone to mistakes and delays. By automating these financial transactions, organizations can improve efficiency, reduce administrative costs, and ensure greater accuracy in financial reporting (Adedeji & Osuagwu, 2022).

7. Integration with Other Business Functions: Technology enables procurement to be better integrated with other functions within an organization, such as finance, logistics, and inventory management. Through the integration of procurement systems with Enterprise Resource Planning (ERP) systems, organizations can achieve a more seamless flow of data across departments. This integration reduces the chances of discrepancies in financial records, ensures more accurate inventory management, and improves communication between procurement and other business units. Real-time access to data and reporting also supports better decision-making and enables more effective management of procurement budgets, supplier relationships, and overall supply chain performance (Olowolaju& Salawu, 2021).

2.2.5 BENEFITS OF E-PROCUREMENT IN SUPPLY CHAIN MANAGEMENT

E-procurement has significantly transformed supply chain management by streamlining procurement processes, increasing efficiency, and reducing costs. The integration of digital technologies in procurement systems has brought numerous benefits to organizations, enhancing both operational and strategic outcomes. Below are some of the key benefits of e-procurement in supply chain management:

1. Cost Reduction: One of the most significant benefits of e-procurement is its ability to reduce procurement costs. By automating procurement processes, organizations can eliminate manual interventions, reduce administrative overheads, and optimize supplier selection, which leads to better pricing and more favorable contract terms. Additionally, e-procurement platforms often allow businesses to take advantage of bulk purchasing discounts or more competitive bids, resulting in significant savings. The automation of tasks such as order processing, invoice matching, and payment approval minimizes errors and redundancies, contributing to cost efficiency (Adebayo & Olajide, 2022).

2. Enhanced Operational Efficiency: E-procurement streamlines various aspects of the procurement cycle, from requisition to payment. By digitizing tasks such as supplier management, order creation, approval workflows, and invoice processing, organizations can significantly speed up procurement processes and improve overall operational efficiency. E-procurement systems provide real-time visibility into procurement activities, allowing managers to monitor progress, identify bottlenecks, and make timely decisions to address issues. This increased efficiency not only helps organizations meet their procurement goals faster but also improves overall productivity across the supply chain (Giwa & Olajide, 2022).

3. Improved Transparency and Accountability: E-procurement platforms offer greater transparency in procurement activities, allowing organizations to track every step of the process in real time. With features such as audit trails, tracking systems, and reporting tools, e-procurement provides clear visibility into supplier performance, order status, and financial transactions. This enhanced transparency reduces the risk of fraud and corruption, as it ensures that all stakeholders have access to accurate and up-to-date information. Additionally, automated reporting features help procurement professionals monitor compliance with company policies, regulatory standards, and contractual obligations, fostering greater accountability within the supply chain (Olowolaju& Salawu, 2021).

4. Better Supplier Relationship Management: E-procurement enhances supplier relationship management by offering tools for better communication, collaboration, and performance tracking. With e-procurement systems, organizations can easily evaluate and monitor supplier performance based on criteria such as delivery time, quality, and cost. This data-driven approach enables organizations to select the best suppliers and negotiate better terms. Furthermore, e-procurement platforms foster closer collaboration between buyers and suppliers by providing a shared platform for communication, order tracking, and feedback. The ability to quickly and efficiently resolve issues leads to stronger, more productive supplier relationships (Nkwe& Onuoha, 2020).

5. Streamlined Procurement Processes: E-procurement systems eliminate the inefficiencies associated with traditional procurement methods, such as manual paperwork, faxing, and lengthy approval processes. By digitizing procurement workflows, e-procurement enables faster order processing, approval, and payment cycles. This streamlined process reduces the lead time for acquiring goods and services, ensuring that organizations have the supplies they need when they need them. With the integration of e-procurement across various functions (such as finance, logistics, and inventory management), the entire supply chain becomes more efficient and aligned, which contributes to overall supply chain optimization (Salawu & Adebayo, 2021).

6. Data-Driven Decision-Making: E-procurement systems provide valuable insights through data analytics and reporting tools. By collecting and analyzing procurement data, organizations can gain a deeper understanding of spending patterns, supplier performance, and market trends. This data can be used to make more informed decisions regarding sourcing strategies, supplier negotiations, and inventory management. For example, data-driven decisions can help organizations identify opportunities for cost reduction, optimize inventory levels, and forecast future demand more accurately. As a result, e-procurement contributes to improved decision-making and better alignment of procurement strategies with overall business goals (Adebayo & Olajide, 2022).

7. Increased Compliance and Reduced Risk: E-procurement systems help organizations ensure compliance with both internal procurement policies and external regulations. With features such as automated approval workflows and audit trails, organizations can easily track procurement activities and ensure that they meet all required standards. This reduces the risk of non-compliance, which can lead to fines, legal issues, or reputational damage. E-procurement also helps mitigate supply chain risks by enabling organizations to evaluate and monitor suppliers more effectively. With real-time visibility into supplier performance and contract compliance, organizations can quickly identify potential risks and take corrective action before issues escalate (Giwa & Olajide, 2022).

2.2.6 IMPACT OF E-PROCUREMENT ON SUPPLIER RELATIONSHIP MANAGEMENT

E-procurement has significantly transformed supplier relationship management (SRM) by improving communication, collaboration, and transparency between businesses and their suppliers. One of the key benefits of e-procurement is the enhancement of communication and collaboration. E-procurement systems provide a centralized platform for the exchange of information, allowing both buyers and suppliers to access real-time updates on order statuses, inventory levels, and payment processes. This eliminates the inefficiencies and errors associated with traditional communication methods, such as phone calls and emails, creating a streamlined and transparent working relationship between the two parties (Olowolaju& Salawu, 2021).

Moreover, e-procurement systems facilitate improved supplier performance monitoring by tracking key performance indicators (KPIs), such as delivery accuracy, lead times, and quality. With access to detailed performance data, businesses can evaluate and provide feedback to suppliers in real time, which helps identify top-performing suppliers and those who need improvement. This data-driven approach not only ensures better performance but also contributes to strengthening supplier relationships by making performance evaluations more objective and transparent (Adebayo & Olajide, 2022). The ability to continuously monitor and assess supplier performance enhances collaboration and ensures suppliers consistently meet the buyer's expectations.

E-procurement also contributes to faster response times and streamlined processes. By automating procurement functions, e-procurement systems reduce administrative workloads and enable suppliers to respond more quickly to orders and requests. When orders are placed electronically, suppliers can process them immediately, reducing lead times and ensuring that both parties can meet deadlines more efficiently. This speed enhances the responsiveness of the entire supply chain, benefiting both buyers and suppliers by ensuring timely deliveries and minimizing delays (Adedeji & Osuagwu, 2022). The swift exchange of information and processing helps strengthen the relationship between suppliers and buyers by ensuring reliability and efficiency.

In addition to improving communication and speed, e-procurement supports the development of long-term supplier relationships. By providing a more efficient, transparent, and data-driven procurement process, e-procurement enables organizations to identify suppliers that consistently provide high-quality products and services. This allows businesses to focus on building strategic, long-term partnerships with a smaller pool of trusted suppliers rather than engaging in transactional relationships. Such partnerships lead to collaborative efforts on product innovation, cost-saving initiatives, and process improvements, ultimately benefiting both parties and contributing to mutual growth (Nkwe & Onuoha, 2020).

The reduction of errors and disputes is another important benefit of e-procurement systems. Traditional procurement methods are often prone to errors due to manual documentation and communication, which can lead to discrepancies in orders, delays, and misunderstandings. E-procurement systems help minimize such errors by automating data entry, ensuring that both buyers and suppliers have access to accurate, real-time information. This reduces the likelihood of order discrepancies and payment issues, allowing both parties to focus on building a positive, productive relationship (Adebayo & Olajide, 2022). Fewer errors and misunderstandings contribute to a smoother procurement process and a more reliable relationship.

Additionally, e-procurement systems contribute to cost-effective supplier management. By automating procurement processes, businesses can reduce administrative costs and streamline their procurement functions. Suppliers, in turn, can pass on these cost savings through better pricing and contract terms. E-procurement systems also improve inventory management and demand forecasting, which helps businesses place more accurate orders and avoid overstocking or understocking. This cost efficiency benefits both the buyer and the supplier, improving the overall financial health of both parties (Salawu & Adebayo, 2021). Cost savings resulting from e-procurement enhance supplier relationships by fostering a sense of shared financial benefit.

Furthermore, e-procurement facilitates better alignment between procurement strategies and broader business objectives. By providing detailed insights into procurement activities, e-procurement systems enable organizations to make more informed decisions that support sustainability, quality, and cost-efficiency goals. Suppliers who align with these objectives can become key partners in achieving long-

term strategic goals, contributing to the development of stronger, more reliable relationships (Giwa & Olajide, 2022). The alignment between business and supplier goals creates a more unified approach to achieving success in the supply chain.

E-procurement also promotes supplier diversity by enabling businesses to easily source suppliers from different regions and industries. By utilizing e-procurement platforms, organizations can access a wider pool of suppliers, from small local businesses to large multinational corporations. Supplier diversity not only offers opportunities for cost savings and innovation but also helps mitigate risks by reducing reliance on a single supplier or region. This increased diversity strengthens supplier relationships by offering a broader range of options for collaboration (Nkwe& Onuoha, 2020).

Lastly, e-procurement encourages supplier innovation by providing a platform for continuous feedback and collaboration. Suppliers can share ideas for improving processes, products, and technologies, fostering a culture of innovation within the supply chain. This collaboration between buyers and suppliers leads to the development of more efficient, cost-effective, and innovative solutions, benefiting both parties. Supplier innovation, enabled by e-procurement, contributes to continuous improvement in the supply chain and strengthens the long-term partnership between buyers and suppliers (Olowolaju & Salawu, 2021).

2.3 THEORETICAL FRAMEWORK

The theoretical framework provides a structured approach for understanding and analyzing the relationship between e-procurement and supply chain performance. This study draws on several established theories to offer insights into the mechanisms through which e-procurement influences supply chain operations. The following theories are particularly relevant:

2.3.1 TRANSACTION COST THEORY (TCT)

Transaction Cost Theory, developed by Williamson (1979), is a key framework in understanding the efficiency gains from adopting e-procurement systems in supply chain management. According to TCT, businesses seek to minimize the costs associated with transactions, such as search costs, negotiation costs, and enforcement costs. Traditional procurement methods involve high transaction costs due to manual processes, reliance on intermediaries, and a lack of standardized communication channels. E-procurement systems help reduce these costs by automating key procurement functions, such as order placements, invoicing, and payments.

By leveraging digital platforms, organizations can eliminate the inefficiencies of face-to-face negotiations, paper-based documentation, and other traditional procurement practices, thus minimizing costs associated with transaction processes. Furthermore, e-procurement systems allow for better contract enforcement through automatic tracking of orders and payments, ensuring that agreements are fulfilled with greater accuracy and timeliness. As a result, firms that adopt e-procurement are better positioned to reduce transaction costs and, consequently, enhance supply chain performance. This theory suggests that adopting technology in procurement results in more streamlined and cost-effective operations, leading to better outcomes for businesses and their suppliers (Williamson, 1985).

2.3.2 RESOURCE-BASED VIEW (RBV)

The Resource-Based View (RBV), articulated by Barney (1991), focuses on how firms can leverage their unique resources and capabilities to gain a competitive advantage. According to RBV, the key to

organizational success lies in utilizing valuable, rare, inimitable, and non-substitutable resources that enable the firm to outperform competitors. In the context of e-procurement, the technology itself is considered a strategic resource that can lead to improved procurement processes, better supplier relationships, and enhanced supply chain efficiency.

E-procurement systems allow organizations to tap into advanced technological capabilities that streamline procurement operations, reduce costs, and improve decision-making. These systems provide real-time data, automated processes, and better integration with suppliers, which help organizations make more informed and faster decisions. By deploying e-procurement systems, businesses can gain a strategic advantage over competitors who continue to rely on outdated, manual procurement processes. Additionally, firms that adopt e-procurement are better equipped to manage their supplier relationships, enhance collaboration, and improve overall supply chain performance. RBV suggests that the ability to access and effectively utilize these technological resources enhances a firm's competitive edge in the marketplace (Barney, 1991).

2.2.3 TECHNOLOGY ACCEPTANCE MODEL (TAM)

The Technology Acceptance Model (TAM), proposed by Davis (1989), is a widely used framework for understanding how users accept and adopt new technologies. According to TAM, two key factors—perceived ease of use and perceived usefulness—determine whether individuals or organizations will adopt a particular technology. In the case of e-procurement, if users (i.e., procurement managers, suppliers, and other stakeholders) perceive the system as easy to use and beneficial for enhancing procurement processes, they are more likely to embrace and adopt the technology.

E-procurement systems, when designed with user-friendly interfaces and clear functionalities, can increase the perceived ease of use, which encourages greater user adoption. Moreover, if organizations perceive e-procurement as useful in improving procurement efficiency, reducing errors, and enhancing supplier relationships, the technology will gain widespread acceptance. TAM highlights the importance of user perceptions in the successful implementation of e-procurement systems. It suggests that organizations should focus on improving system usability and ensuring that the system offers clear, measurable benefits to users in order to drive adoption and realize the full potential of e-procurement systems (Davis, 1989).

2.4 EMPIRICAL REVIEW

An empirical review synthesizes previous research findings to highlight the practical impacts of e-procurement on supply chain performance. It assesses how the implementation of e-procurement systems has been observed in different industries, providing valuable insights into its effectiveness and challenges. The empirical studies reviewed below explore various aspects such as the benefits, challenges, and overall influence of e-procurement on supply chain management, particularly in the context of companies and industries similar to those in this study.

A study by Mwirigi et al. (2020) in the Kenyan manufacturing industry found that e-procurement systems reduced order processing times by over 40%. The automation of procurement activities allowed organizations to avoid delays associated with manual procedures and paper-based documentation, improving supply chain efficiency significantly. Similarly, a study by Adeoye & Adebiyi (2021) on Nigerian manufacturing companies revealed that e-procurement improved inventory management and demand forecasting, which contributed to lower stock outs and reduced excess inventory. The research by Jaiswal & Gupta (2022) also emphasized the positive impact of e-procurement on logistics and

procurement functions in the Indian automotive industry. Their findings suggest that implementing e-procurement systems helped organizations increase operational efficiency by automating repetitive tasks and providing real-time data on suppliers, contracts, and shipments. Thus, e-procurement systems can significantly improve operational efficiency and streamline various functions of the supply chain.

Research by Ng & Chang (2020) investigated the relationship between e-procurement systems and supplier performance in the Southeast Asian manufacturing sector. The study concluded that e-procurement enabled more transparent communication between organizations and their suppliers, leading to improved trust, faster responses to orders, and a reduction in disputes. The use of e-procurement allowed for better management of contracts and performance metrics, which in turn led to improved supplier performance and stronger partnerships. In a study of procurement practices in the retail industry, Choi et al. (2021) found that e-procurement systems facilitated real-time information sharing, enabling suppliers to react more quickly to demand fluctuations. This collaboration ultimately resulted in improved service levels, enhanced quality control, and more competitive pricing. Furthermore, the use of supplier portals and online supplier management tools enabled buyers and suppliers to track performance metrics, resolve issues faster, and enhance the quality of the products being delivered. These improvements in supplier relationships have a direct positive impact on supply chain performance.

A study by Mohammed & Abednego (2020) identified significant challenges faced by organizations in the public sector in Kenya when adopting e-procurement systems. One of the primary challenges was the lack of adequate technological infrastructure and digital skills among procurement staff. The study noted that many public organizations struggled to integrate their legacy systems with new e-procurement platforms, which resulted in delays and additional costs. Another challenge highlighted by Salami et al. (2020) in a Nigerian context was the resistance to change among employees. Many procurement officers were hesitant to adopt e-procurement systems due to fears of job displacement and concerns about the complexity of using new technology. This resistance was further compounded by the lack of proper training and support during the implementation phase, which slowed down the transition and hindered the full realization of e-procurement's potential. Despite these challenges, the study by Oko & Okafor (2022) found that businesses in Nigeria that overcame implementation hurdles were able to reap substantial benefits in terms of cost savings and improved procurement practices. Companies that invested in employee training, provided robust technological infrastructure, and ensured strong leadership throughout the implementation process were able to successfully leverage e-procurement systems to improve their supply chain performance.

A case study conducted by Adebayo & Oladapo (2023) focused on Lafarge Africa PLC, a leading cement manufacturer in Nigeria, and its implementation of e-procurement systems to improve supply chain operations. The study revealed that Lafarge Africa adopted an e-procurement platform that integrated all procurement activities across its various business units. This system enabled the company to manage supplier relationships more effectively, reduce procurement cycle times, and achieve significant cost savings. Additionally, the e-procurement system allowed Lafarge to track its procurement activities more efficiently, ensuring better compliance with company policies and regulations. The study found that e-procurement facilitated better inventory management, which helped Lafarge optimize its supply chain. By automating purchasing decisions and improving supplier visibility, the company was able to reduce the time spent on manual procurement processes and focus on strategic decision-making. The use of e-procurement also enabled Lafarge to develop better long-term relationships with suppliers, enhancing collaboration and ensuring the timely delivery of high-quality raw materials for production. Overall, the

research highlighted that Lafarge Africa's use of e-procurement had a positive impact on its supply chain performance, including cost reduction, time savings, and improved supplier management.

In a study by Akintoye et al. (2021), the Nigerian public sector was analyzed for the impact of e-procurement on transparency, accountability, and efficiency. The findings suggested that e-procurement systems improved the procurement process by reducing corruption, enhancing transparency, and providing clear audit trails of procurement activities. Furthermore, the study found that e-procurement helped streamline tendering processes and allowed for a more competitive bidding process, ultimately leading to better value for money in government contracts. The research by Olufemi & Olayinka (2020) on the Nigerian government's e-procurement initiative highlighted that the system improved compliance with procurement regulations and provided better documentation and reporting for government contracts. Although challenges such as resistance to change and lack of technical skills were noted, the overall impact of e-procurement in the public sector was found to be positive, contributing to greater procurement efficiency and reduced administrative costs