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Review Article

Digital Transformation in Supply Chain Management: Leveraging AI and Big Data for Enhanced Efficiency in the Nigerian Oil Sector

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Abstract

The paper analyzed the impact of digital transformation, specifically through artificial intelligence (AI) and big data, on enhancing supply chain efficiency in the Nigerian oil sector. The research aimed to evaluate how these technologies improve operational performance and identify the challenges and opportunities associated with their implementation. Using a systematic content analysis in reviewing recent related studies, the findings revealed that AI and big data significantly enhance decision-making, predictive maintenance, inventory management, and risk mitigation, contributing to overall supply chain efficiency. However, the study also identifies several challenges, including inadequate infrastructure, a shortage of skilled personnel, and organizational resistance to change. Despite these barriers, the opportunities for optimizing operations and improving supply chain resilience are considerable. The paper concluded that, with targeted investments in technology and workforce development, the Nigerian oil sector can fully leverage AI and big data to achieve sustained operational excellence and competitive advantage in a dynamic global market.

Keywords

Artificial Intelligence, Big Data, Supply Chain Management, Digital Transformation, Nigerian Oil Sector, Operational Efficiency, Risk Management

1. Introduction

In recent years, the global supply chain ecosystem has experienced significant disruptions and rapid advancements in digital technologies. Traditional supply chain management (SCM) methods, which often relied on manual, paper-based processes, are increasingly being replaced by digital solutions that leverage artificial intelligence (AI) and big data. These technological advancements are essential in addressing the complexities of modern supply chains, which span across multiple geographies, involve numerous stakeholders, and are subject to volatility and uncertainty.Digital transformation in supply chain management refers to the integration of advanced technologies, such as AI, big data analytics, the Internet of Things (IoT), and cloud computing, into the various processes involved in managing the supply chain. It enhances visibility, improves decision-making, and drives efficiency by automating and optimizing operations [15]. A key aspect of this transformation is the ability to move away from traditional linear supply chains towards more flexible, intercon-

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nected, and data-driven supply networks [5].

The adoption of AI in SCM allows businesses to forecast demand more accurately, optimize inventory management, and improve logistics by predicting potential delays or disruptions [11]. Similarly, big data provides the ability to collect and analyze vast amounts of information in real-time, enabling companies to gain insights into supplier performance, customer behavior, and market trends [6]. The synergy between AI and big data drives predictive analytics, which facilitates proactive decision-making and mitigates risks before they impact the supply chain.

Big data is transforming supply chain management by improving transparency and efficiency. With access to large datasets from multiple sources—ranging from sensors and RFID tags to social media and transaction records—organizations can track products across the supply chain in real-time. This transparency helps reduce bottlenecks, avoid stockouts, and enhance collaboration between stakeholders [28]. In addition, the predictive power of big data analytics helps companies anticipate demand fluctuations, forecast supplier risks, and optimize procurement strategies, leading to more efficient operations [32].

The use of big data in SCM has proven particularly valuable during times of crisis, such as the COVID-19 pandemic, where disruptions in supply chains were frequent and unpredictable. Companies that utilized big data and AI for scenario planning and demand forecasting were better able to respond to shifting consumer demands and supply chain bottlenecks [12]. This further emphasizes the importance of leveraging technology to build resilience in supply chains.AI also plays a critical role in automating repetitive tasks within the supply chain, which helps organizations reduce costs and improve productivity. AI-driven tools can automate procurement processes, manage supplier relationships, and optimize transport routes in real time [29]. Automation also enhances the ability of organizations to handle complexities and volatility in their supply chains, particularly in global operations, by increasing flexibility and responsiveness [34].

Moreover, machine learning algorithms, a subset of AI, are being used to refine forecasting models, optimize production schedules, and predict future supply chain disruptions [8]. These capabilities allow companies to anticipate issues like demand spikes or supply shortages and adjust their operations accordingly, thus improving overall supply chain efficiency. The integration of AI into SCM not only increases operational efficiency but also drives innovation, enabling companies to develop new business models and value propositions.

Interestingly, the Nigerian oil sector, which is a cornerstone of the country's economy, is heavily reliant on complex and expansive supply chains that span exploration, production, refining, distribution, and exportation. As global markets evolve and the demand for energy increases, the Nigerian oil and gas industry is facing pressures to enhance efficiency, reduce costs, and mitigate the risks associated with volatile market conditions. Digital transformation, particularly the use of AI and big data, presents an opportunity to address these challenges, making the oil supply chain more resilient and efficient.Digital transformation in the oil sector involves the adoption of AI and big data technologies to optimize exploration, production, and distribution processes. In the Nigerian oil sector, where infrastructure challenges, operational inefficiencies, and geopolitical risks are prevalent, the application of these technologies could revolutionize the way supply chains are managed [22]. AI-driven solutions have the potential to improve decision-making through predictive analytics, enabling companies to anticipate disruptions, enhance asset management, and optimize logistics in a way that traditional methods cannot [1].

For instance, AI can be applied to analyze geological data more effectively, leading to improved exploration outcomes and reduced non-productive time (NPT) during drilling operations. In a sector where downtime is costly, these advancements are essential for maintaining competitive operations. Additionally, AI systems can enhance the precision of demand forecasting and inventory management, ensuring that supplies like spare parts and equipment are available when needed, without excess inventory that ties up capital.

Big data is transforming supply chain operations across industries, and the Nigerian oil sector stands to benefit significantly from its application. By harnessing vast datasets from sensors, machinery, and satellite images, oil companies can monitor real-time operations, track the movement of oil from rigs to refineries, and ensure compliance with safety and environmental regulations. This enhanced visibility into the supply chain allows for proactive management of risks such as equipment failures or transport delays, which are common in Nigeria’s challenging operating environment [3].

In addition to operational improvements, big data analytics can be leveraged to optimize production rates by analyzing well performance and reservoir data, thereby reducing waste and increasing the recovery factor. In the Nigerian context, where much of the country's production occurs offshore and in remote locations, the ability to monitor and manage assets remotely through data analytics is particularly valuable [24]. The use of big data also aids in refining processes, helping oil companies identify inefficiencies in their supply chains and reducing costs across the board.While the benefits of AI and big data are evident, the Nigerian oil sector faces several challenges in fully implementing these technologies. One significant hurdle is the lack of digital infrastructure, as many companies in the sector still rely on outdated systems that are ill-suited to handle the volume and complexity of data required for AI and big data solutions [26]. Additionally, issues of data security and the high cost of technology adoption may limit the pace of digital transformation.

There are also challenges related to skills gaps, as the oil industry workforce in Nigeria may not have the necessary expertise to operate advanced AI and data analytics tools. To address these barriers, companies must invest not only in technology but also in workforce development, ensuring that

employees are trained in digital tools and analytics [27].

Despite these challenges, the opportunities for leveraging digital transformation in the Nigerian oil sector are immense. The adoption of AI and big data can significantly reduce operational costs, enhance the efficiency of the supply chain, and increase the overall competitiveness of the Nigerian oil industry. Moreover, digital transformation offers the potential to improve sustainability by enabling more precise management of resources and reducing waste. By adopting these technologies, the Nigerian oil sector can better position itself in the global market, particularly as the energy landscape continues to shift toward greater efficiency and sustainability.

The integration of AI and big data into the supply chains of the Nigerian oil sector presents a significant opportunity to enhance efficiency and resilience. While challenges such as infrastructure limitations and skills shortages remain, the potential benefits in terms of operational cost savings, improved asset management, and better decision-making make digital transformation a critical priority. As the oil sector continues to evolve, companies that embrace AI and big data technologies will be better equipped to navigate the complexities of global energy markets and ensure long-term sustainability. Itis against this backdrop that this paper explored the role of digital transformation in supply chain management in the Nigerian oil sector.

1.1. Statement of the Problem

The Nigerian oil sector faces significant operational inefficiencies, supply chain disruptions, and rising costs due to its reliance on traditional, outdated management systems. These challenges are compounded by infrastructure limitations, unpredictable market conditions, and frequent logistical bottlenecks. Despite the potential of digital transformation—through the use of artificial intelligence (AI) and big data analytics—to optimize supply chain processes, enhance efficiency, and reduce risks, the sector has been slow in adopting these technologies. Limited digital infrastructure, a shortage of skilled personnel, and concerns over data security further hinder this transition. Without leveraging AI and big data, the Nigerian oil sector risks lagging behind global competitors, missing opportunities for improved decision-making, cost reduction, and supply chain resilience. This study aims to address the gap by exploring how digital transformation can be effectively implemented to improve supply chain efficiency in the Nigerian oil sector.

1.2. Objectives of the Study

The main objective of the study is to examine the role of digital transformation in supply chain management in Nigerian Oil Sector. Other specific objectives are;

1. To evaluate the impact of digital transformation, specifically through the use of artificial intelligence (AI) and big data, on enhancing supply chain efficiency in the Nigerian oil sector.
2. To identify the key challenges and opportunities associated with implementing AI and big data technologies in the supply chain management of the Nigerian oil sector, with a focus on improving operational performance and resilience.

2. Literature Review

2.1. Conceptual Review

2.1.1. Digital Transformation

Digital transformation in this paper can be conceptualized asthe process by which organizations integrate digital technologies into all areas of their operations to fundamentally change how they deliver value to customers and stakeholders. This transformation often involves adopting technologies such as artificial intelligence (AI), big data, cloud computing, and the Internet of Things (IoT) to enhance efficiency, innovation, and decision-making [31]. In the context of supply chain management, digital transformation enables companies to move from traditional, linear models to more dynamic, interconnected systems that offer real-time visibility and data-driven optimization [15]. By leveraging digital technologies, organizations can automate processes, improve forecasting accuracy, and enhance operational flexibility, leading to better resource allocation and risk management.

2.1.2. Supply Chain Management

Supply Chain Management (SCM) in this paper can be defined as the coordination and oversight of the flow of goods, services, information, and finances from the initial supplier to the end consumer. It involves managing all activities related to sourcing, procurement, production, logistics, and the collaboration between suppliers, manufacturers, and distributors to meet customer demands efficiently and cost-effectively [9]. In today's business environment, SCM has evolved from simply managing logistics to integrating advanced technologies like AI, big data, and automation, which enhance decision-making, transparency, and responsiveness across the supply chain [18]. Effective SCM allows companies to optimize inventory levels, reduce operational costs, improve delivery times, and mitigate risks, making it critical for maintaining competitiveness in global markets.

2.1.3. Artificial Intelligence (AI)

Artificial Intelligence (AI) in the context of this paper refers to the use of advanced algorithms and machine learning techniques to automate, optimize, and enhance decision-making processes across various supply chain activities. AI enables companies to predict demand, manage inventory, optimize logistics, and forecast potential disruptions by analyzing large datasets in real time [8]. In the Nigerian oil sector,

AI plays a critical role in improving operational efficiency by enabling predictive maintenance, optimizing production schedules, and enhancing supply chain visibility, which are essential for reducing costs and increasing reliability [29]. Through AI, supply chains become more agile and responsive to changes in market conditions, ensuring better resource allocation and decision-making.

2.1.4. Big Data Analytics

Big Data Analytics in the context of this paper refers to the process of collecting, processing, and analyzing vast amounts of structured and unstructured data to gain insights that can optimize decision-making and improve efficiency. In the supply chain, big data analytics allows companies to monitor real-time operations, forecast demand accurately, and enhance inventory management by analyzing trends, patterns, and anomalies from multiple data sources [33]. In the Nigerian oil sector, big data analytics is particularly valuable for improving operational performance by enabling predictive maintenance, optimizing logistics routes, and increasing supply chain transparency [3]. By leveraging these insights, companies can mitigate risks, reduce costs, and increase the agility of their supply chains.

2.2. Theoretical Framework

The Resource-Based View (RBV) Theory

The Resource-Based View (RBV) is a prominent theory in strategic management that supports the study of digital transformation in supply chain management (SCM), especially the integration of artificial intelligence (AI) and big data analytics for enhanced efficiency. Proposed by Barney [4], RBV argues that organizations gain and sustain a competitive advantage by effectively utilizing and developing their internal resources, which are valuable, rare, inimitable, and non-substitutable (VRIN). In the context of supply chain management, digital technologies such as AI and big data analytics can be viewed as critical organizational resources that meet these criteria and thus drive superior performance.

According to RBV, firms that possess advanced digital technologies, coupled with the capability to leverage them, can significantly outperform competitors by optimizing their supply chains. AI and big data analytics represent not just technological tools but strategic resources that offer companies a distinct competitive edge by improving supply chain efficiency, flexibility, and resilience [13]. The RBV emphasizes that these digital capabilities allow firms to develop complex, data-driven supply chain processes that are difficult for competitors to replicate.

AI and big data technologies are valuable because they provide the ability to analyze large volumes of supply chain data in real time, leading to better decision-making. In the Nigerian oil sector, these technologies enable predictive maintenance, optimize production, and enhance supply chain visibility, all of which directly contribute to cost reductions and improved operational efficiency [8]. This value creation aligns with the RBV's assertion that resources must offer clear economic benefits to the firm. In the context of the Nigerian oil industry, the adoption of AI and big data analytics remains relatively rare due to the high costs of implementation and the existing digital infrastructure gap [22]. Companies that successfully integrate these technologies into their supply chain processes can achieve a rare competitive advantage, as they can harness predictive analytics and automation capabilities that are not yet widespread across the sector.

Furthermore, the successful integration and application of AI and big data technologies in SCM involve complex organizational processes, including data collection, model training, and decision-making algorithms that are difficult to imitate. Moreover, the continuous learning and improvement of AI systems through machine learning (ML) means that companies using these systems can maintain a sustainable advantage over competitors who cannot easily replicate the outcomes of these AI-driven models [11]. The synergies created by AI and big data analytics in SCM are non-substitutable in the sense that no other combination of technologies or resources can offer the same level of real-time insights, optimization, and forecasting accuracy. For instance, in the Nigerian oil sector, the ability to anticipate supply chain disruptions, monitor real-time production, and optimize logistics routes through AI-driven analytics is critical, and no alternative approach can deliver the same benefits at scale [3].

The RBV framework denotes that a firm’s digital capabilities can be a source of sustainable competitive advantage if they are effectively integrated into its operational and strategic processes. In the Nigerian oil sector, where logistical challenges, operational inefficiencies, and supply chain disruptions are common, the adoption of AI and big data analytics allows companies to manage risks more proactively and efficiently. For example, using predictive analytics to anticipate equipment failures or supply chain bottlenecks enables firms to minimize costly downtime and improve overall production efficiency [29]. Additionally, the RBV suggests that firms that invest in building digital competencies, such as data-driven decision-making and AI expertise, will be better positioned to adapt to external changes, such as market fluctuations and regulatory shifts. These competencies become embedded in the firm's culture and processes, making it difficult for competitors to imitate or substitute them. In this way, the RBV theory underscores the long-term strategic importance of digital transformation in enhancing the supply chain capabilities of firms in the Nigerian oil sector.

In conclusion, the Resource-Based View (RBV) provides a strong theoretical foundation for understanding the role of digital transformation in supply chain management. By viewing AI and big data analytics as strategic resources that offer value, rarity, inimitability, and non-substitutability, RBV explains how companies can achieve a competitive edge through digital innovation. In the Nigerian oil sector, these technologies are essential for overcoming operational ineffi-

ciencies, optimizing supply chain processes, and ensuring long-term sustainability. Therefore, the RBV supports the study's argument that digital transformation, powered by AI and big data, is crucial for improving supply chain efficiency and maintaining competitiveness.

3. Methodology

Systematic content analysis was the research design adopted in the study. It is a research method used to objectively and qualitatively analyze the content of various forms of communication, such as texts, images, or videos. This method involves defining a clear set of criteria for analyzing the material, coding it into manageable categories, and systematically evaluating the frequency and relationships of specific themes or concepts within the content [17]. This paper analyzed recent related studies to understand the relationships and trends in their findings.

3.1. Artificial Intelligence and Supply Chain Management in the Nigerian Oil Sector

Olawuyi [23] examined how AI can enhance supply chain resilience in the Nigerian oil sector. The study identified several AI applications, including real-time data analytics and risk assessment tools, which help oil companies anticipate disruptions and respond swiftly. The findings suggested that the integration of AI into supply chain management processes can lead to improved resilience against market fluctuations and operational uncertainties.

Also, Olufayo and Onifade [25] explored the use of AI for risk management in the Nigerian oil supply chain. Their research demonstrated that AI can enhance the identification and mitigation of risks associated with supply chain disruptions. By employing AI-driven analytics, oil companies can better assess vulnerabilities, thereby improving their strategic responses to potential threats, such as political instability and environmental concerns.

Furthermore, Abdulrahman et al. [1] explored the role of artificial intelligence in enhancing operational efficiency within the Nigerian oil sector. The study found that AI technologies, particularly predictive analytics and machine learning algorithms, significantly improve decision-making processes, reduce non-productive time (NPT), and enhance overall productivity. The researchers emphasized the need for oil companies to invest in AI capabilities to remain competitive in an evolving market.

In addition, Aghadiuno et al. [3] investigated the application of AI-driven predictive maintenance in the Nigerian oil industry. Their findings indicated that predictive maintenance powered by AI significantly reduces equipment failure rates and maintenance costs, thus enhancing supply chain efficiency. The study highlighted the potential for oil companies to utilize AI to monitor equipment health and optimize maintenance schedules, ultimately leading to increased operational uptime.

And, Iwuchukwu et al. [16] investigated the integration of big data analytics and AI in optimizing supply chain processes in the Nigerian oil sector. The study found that the combined use of these technologies allows for better forecasting, inventory management, and logistics optimization. The authors concluded that leveraging big data with AI enhances decision-making capabilities and operational efficiency within oil companies.

3.2. Big Data Analytics and Supply Chain Management in the Nigerian Oil Sector

Adebayo and Nduka [2] conducted a study focusing on the challenges faced by the Nigerian oil sector in implementing big data analytics in supply chain management. The research identified several barriers, including inadequate infrastructure, lack of skilled personnel, and resistance to change within organizations. The authors argued that overcoming these challenges is essential for the successful adoption of big data analytics in the oil supply chain.

And, Chukwuma et al. [10] investigated the application of big data analytics in risk management within the Nigerian oil supply chain. Their study found that big data analytics enhances the ability to identify, assess, and mitigate risks associated with supply chain disruptions. The authors concluded that effective use of big data analytics enables oil companies to develop more resilient supply chains that can better withstand external shocks.

In the same vein, Nwaogbe et al. [19] explored how big data analytics influences decision-making processes in the Nigerian oil sector. Their study found that companies utilizing big data analytics significantly improve their forecasting accuracy and operational strategies. The research emphasized that integrating big data analytics into supply chain processes enables more informed decisions, leading to enhanced efficiency and reduced operational risks.

More so, Ibrahim et al. [14] examined the role of big data analytics in optimizing supply chain operations in the Nigerian oil industry. Their findings indicated that the use of advanced analytics tools allows companies to streamline logistics, manage inventory more effectively, and respond quickly to market changes. The study concluded that leveraging big data can significantly enhance supply chain performance and competitiveness in the oil sector.

Lastly, Obi et al. [21] explored the integration of big data analytics and the Internet of Things (IoT) in enhancing supply chain management in the Nigerian oil sector. The study highlighted how IoT devices, when combined with big data analytics, can provide real-time insights into supply chain operations. This integration leads to improved operational efficiency, better resource allocation, and enhanced responsiveness to market dynamics.

These studies collectively demonstrate the significant impact of big data analytics on improving supply chain man-

agement within the Nigerian oil sector, emphasizing its potential to enhance decision-making, optimize operations, and mitigate risks.

4. Discussion

The integration of Artificial Intelligence (AI) into supply chain management within the Nigerian oil sector offers several critical advantages, as evidenced by findings from recent studies.

According to Abdulrahman et al. [1], AI technologies significantly boost operational efficiency by improving decision-making processes. By employing predictive analytics and machine learning, oil companies can streamline their operations, minimize delays, and reduce non-productive time (NPT). This increased efficiency leads to cost savings and improved productivity, which are essential in the competitive oil market. Also, Aghadiuno et al. [3] highlighted in their study the role of AI-driven predictive maintenance in enhancing the reliability of equipment and machinery. By utilizing AI to monitor equipment health and predict potential failures, oil companies can optimize maintenance schedules and reduce downtime. This proactive approach not only lowers maintenance costs but also ensures that production remains consistent and reliable, thereby enhancing overall supply chain performance.

Moreover, Olawuyi [23] emphasized that AI technologies enhance supply chain resilience by enabling real-time data analytics and risk assessment. In an industry prone to disruptions—due to factors such as geopolitical issues or fluctuating oil prices—AI helps companies anticipate challenges and adapt quickly. By leveraging AI, oil firms can develop robust contingency plans, thus ensuring that their supply chains remain agile and responsive to changing conditions. And, the integration of big data analytics with AI, as discussed by Iwuchukwu et al. [16], allows for better forecasting and inventory management. AI can analyze historical data and market trends to optimize inventory levels, ensuring that oil companies maintain the right amount of stock to meet demand without overstocking. This optimization reduces carrying costs and enhances the efficiency of the supply chain, contributing to overall operational effectiveness. While, Olufayo and Onifade [22] explored the use of AI in supply chain risk management, noting its ability to identify and mitigate potential risks associated with disruptions. AI can analyze vast amounts of data to assess vulnerabilities and provide insights into strategic responses to threats, such as environmental changes or market volatility. By employing AI-driven risk management strategies, oil companies can better protect their supply chains, reducing the impact of unforeseen events and ensuring continuity in operations.

Interestingly, Big Data Analytics (BDA) has become increasingly vital for optimizing and transforming supply chain management (SCM) in the Nigerian oil sector, as reviewed in recent studies.Nwaogbe et al. [19], evinced that big data analytics significantly enhances decision-making processes by providing more accurate and real-time insights. In the Nigerian oil sector, where market volatility and operational complexities are common, the ability to analyze large volumes of data helps companies improve their forecasting accuracy, allowing them to make better strategic decisions. This relevance is crucial for anticipating demand, managing inventories, and optimizing production schedules, all of which are essential for operational efficiency. In the same vein, Chukwuma et al. [10] highlighted the role of big data analytics in risk management within the supply chain. In the Nigerian oil sector, which is prone to disruptions from environmental, political, and market factors, big data helps companies identify and assess risks early. By leveraging predictive analytics, firms can develop risk mitigation strategies, enhance supply chain resilience, and reduce the likelihood of costly disruptions. This relevance is critical for sustaining smooth operations and maintaining competitiveness in the volatile oil industry.

Adebayo and Nduka [2] pointed out the challenges that come with implementing big data analytics in the Nigerian oil sector, such as the lack of infrastructure and skilled personnel. However, addressing these challenges is key to unlocking the full potential of big data. Overcoming barriers to adoption ensures that companies can fully leverage big data for optimizing their supply chains. The relevance here is in the strategic investments required to enhance digital capabilities, which would enable firms to utilize big data more effectively in their operations. While, Obi et al. [20] demonstrated that the integration of big data analytics with Internet of Things (IoT) devices offers significant advantages in supply chain management. This combination enables oil companies to gather real-time data on equipment performance, inventory levels, and logistics. Real-time insights lead to better resource allocation, faster decision-making, and increased operational efficiency. This relevance is critical in the Nigerian oil sector, where real-time data can enhance the monitoring of supply chain activities and improve overall performance.

5. Conclusion

The paper examined the impact of digital transformation, specifically through the use of artificial intelligence (AI) and big data, on enhancing supply chain efficiency in the Nigerian oil sector. The first objective focused on evaluating how these digital technologies contribute to operational improvements. The findings from recent studies, indicate that AI and big data are crucial drivers of efficiency within the supply chain, particularly by optimizing decision-making, predictive maintenance, and risk management processes. These technologies allow for more accurate forecasting, better inventory management, and real-time monitoring of supply chain activities, ultimately reducing operational costs, minimizing non-productive time (NPT), and improving overall performance. Thus, digital transformation through AI and big data

has the potential to significantly enhance the competitiveness and agility of Nigerian oil companies by streamlining their supply chain operations.

The second objective was to identify the key challenges and opportunities associated with the implementation of AI and big data technologies in supply chain management within the sector. The research from recent studies revealed that, while these technologies offer immense opportunities for boosting supply chain resilience and operational performance, several challenges impede their successful adoption. These include inadequate digital infrastructure, a shortage of skilled professionals, and resistance to technological change within organizations. However, the study also highlighted the growing opportunities that digital transformation brings, such as improved risk management, enhanced supply chain optimization, and the ability to integrate emerging technologies like the Internet of Things (IoT) to further increase real-time visibility. Overcoming the challenges through targeted investments in infrastructure and workforce development will allow the Nigerian oil sector to fully exploit the transformative potential of AI and big data.

In conclusion, AI and big data analytics represent powerful tools for enhancing supply chain efficiency and resilience in the Nigerian oil sector. While challenges exist, the opportunities for improving operational performance, reducing risks, and optimizing supply chain processes make digital transformation a vital component for the future success of the industry. Embracing these technologies will ensure that Nigerian oil companies remain competitive and adaptable in an increasingly digital global economy.

Abbreviations

AI	Artificial Intelligence
SCM	Supply Chain Management
RBV	Resource-Based View
BDA	Big Data Analytics
NPT	Non-Productive Time
IoT	Internet of Things
VRIN	Valuable, Rare, Inimitable, And Non-Substitutable

Author Contributions

Oboho Eteyen is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

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