

Building Resilient Supply Chains: The Role of AI and RPA in Predictive Management and Automation.

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Abstract- This article investigates the critical role of Artificial Intelligence (AI) and Robotic Process Automation (RPA) in improving predictive management and automation for resilient supply chains. Supply chain resilience is becoming increasingly important in today's volatile and unpredictable business climate, where interruptions are widespread. Traditional supply chains frequently struggle to respond quickly to unforeseen difficulties, emphasizing the need for novel techniques to improve resilience. AI technologies provide enhanced predictive analytics capabilities, allowing for proactive risk identification and reduction. Meanwhile, RPA automates repetitive jobs and procedures, increasing efficiency and agility in supply chain operations. By combining AI-driven analytics with RPA automation, businesses may improve supply chain visibility, forecasting accuracy, and responsiveness. This article investigates the synergies between AI and RPA, highlighting real-world examples of effective integration in overcoming difficulties and achieving resilience. Furthermore, it examines recent trends and future directions in AI and RPA for supply chain management, underlining the need for organizations to adopt these technologies to flourish in an ever-changing economy.

Indexed Terms- Supply Chain Resilience, Artificial Intelligence, Robotic Process Automation, Predictive Management, and Automation.

I. INTRODUCTION

Supply chain resilience is the capacity of a supply chain network to withstand disruption and mitigate its effects on revenue, expenses, and customers. Firms can acquire a competitive edge and respond quickly and efficiently to significant changes in the economy,

technology, and market by implementing resilient supply chains. Several parts of the supply chain are prone to operational risk and disruption. As COVID-19 demonstrated, global disasters can have far-reaching consequences for supply chain logistics, suppliers, and workforces.

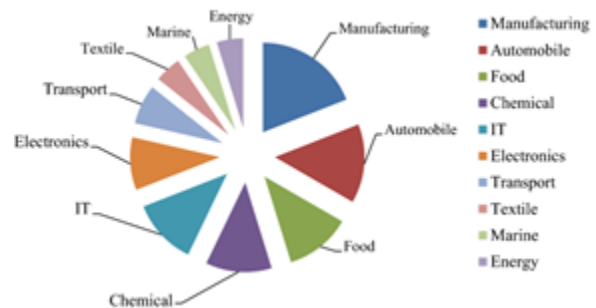


Figure 1: illustrates the application of Supply Chain Resilience (SCR) across different industries.

Unexpected competition, unplanned market shifts, or even abrupt changes in customer purchasing habits can all cause supply chain disruptions. Supply chain resilience is emerging as a competitive differentiator, but it requires a paradigm shift in collaboration. Partners must collaborate to create an environment that enables them to engage and exchange information more quickly, as well as make better decisions. Both robotic process automation (RPA) and artificial intelligence (AI) are technologies that automate tasks, but they accomplish different objectives and employ distinct approaches. AI is the development of intelligent machines that can mimic human reasoning, learning, and problem-solving. It entails the use of advanced algorithms and data analytics to allow robots to learn from data and make decisions based on that knowledge. AI has a wide range of applications, including natural language processing, picture identification, and predictive analytics. RPA, on the other hand, is a software solution that automates routine, rule-based tasks. It

entails utilizing software robots to complete activities including data entry, extraction, and processing. RPA does not require machine learning or artificial intelligence because it is meant to obey predefined rules and decision trees. The primary distinction between AI and RPA is that AI focuses on cognitive tasks that need intelligence, whereas RPA automates repetitive, manual processes. AI is frequently utilized for complicated decision-making and analysis, whereas RPA automates repetitive, time-consuming operations. Both technologies have advantages and can be used together to automate company processes and improve productivity. The global industries are being transformed and revolutionized by the convergence of Robotic Process Automation (RPA) and Artificial Intelligence (AI). Through the synergistic integration of RPA and AI, businesses can achieve operational optimization, heightened efficiency, and unlock unprecedented levels of productivity.

II. UNDERSTANDING RESILIENCE IN SUPPLY CHAINS

The business world is placing significant emphasis on the importance of supply chain resiliency. This concept pertains to the ability of a supply chain to swiftly recover and adapt in the face of unanticipated disruptions. The increasing trend of globalization, combined with the occurrence of unpredictable events like pandemics, political turmoil, and environmental catastrophes, has highlighted the crucial need for supply chain resiliency. Prioritizing resiliency can provide companies with a competitive edge and help mitigate risks associated with their supply chains.

Determinants Impacting the Resilience of Supply Chains:

- The dynamics and interactions between suppliers: Establishing resilient supply chains necessitates the development of robust and collaborative supplier relationships. By fostering close partnerships, facilitating effective communication, and fostering trust, suppliers gain a deeper understanding of the supply chain's requirements and can respond more efficiently to disruptions, thereby enabling swifter recovery.
- Visibility and Clarity of Information: The capacity to access real-time information and establish broad visibility throughout the supply chain is critical for increasing resilience. Transparency enables firms to anticipate potential disruptions, assess the repercussions, and proactively employ risk-mitigation strategies.
- The design and configuration of the supply chain: The supply chain's fundamental design determines its level of resilience. The supply chain's ability to respond to and recover from disruptions is influenced by factors such as network structure, supplier relationships, distribution channels, and inventory policies.
- Pursuing diversification and implementing redundancy measures: Introducing supplier diversification, changing transportation routes, and building different production sites helps reduce the risk of disruptions by incorporating redundancy into the supply chain. Organizations can mitigate the impact of disruptions in localized locations by utilizing numerous suppliers and alternative distribution methods.

The obstacles encountered by conventional supply chains:

1. Manual procedures: Numerous conventional supply chains rely on manual procedures for tasks such as order processing, inventory management, and data entry. However, these manual operations are prone to errors, inefficiencies, and delays.
2. Forecasting errors: Conventional forecasting approaches frequently rely on historical data and simplified models, which can result in incorrect demand estimates and inventory imbalances. As a result, this might lead to stockouts or surplus inventory, which reduces supply chain efficiency and profits.
3. Operational rigidity: When it comes to reacting to changing market conditions, fluctuating client preferences, and unforeseen occurrences, traditional supply chains may lack flexibility and agility. This inflexibility can result in excess inventories, missed opportunities, and decreased competitiveness.
4. Interruptions in the supply chain: Natural disasters, geopolitical incidents, transit delays, and supplier issues all have the potential to

disrupt conventional supply chains. These disturbances have the potential to disrupt production plans, create delivery delays, and reduce customer satisfaction.

5. The lack of comprehensive visibility: Conventional supply chains generally struggle to acquire complete insight across the whole supply network, limiting their capacity to properly check inventory levels, assess supplier performance, and forecast potential interruptions.

III. THE ROLE OF AI IN PREDICTIVE MANAGEMENT

While many businesses are still fighting to recover from the epidemic, a few, such as supply chains, have taken advantage of the chance to implement modern technologies on a massive scale. One of the most cutting-edge technologies that companies need to adopt to stay ahead of the competition is artificial intelligence (AI), which has the power to completely change processes, decision-making, and overall efficiency.

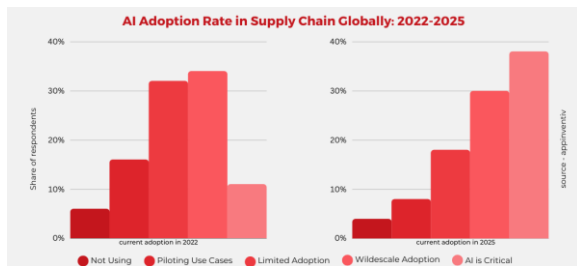


Figure 2: AI Adoption Rate in Supply Chain Globally: 2022-2025

Utilizations of AI in predictive analytics: AI has had a revolutionary impact on predictive analytics across industries, bringing creative solutions to a wide range of difficulties. The scope of AI applications in predictive analytics ranges from demand forecasting to healthcare diagnostics, radically altering how businesses function and make choices. Demand forecasting is an important application of AI in predictive analytics. AI algorithms may reliably forecast future product or service demand by analyzing previous sales data, market trends, and external factors such as weather patterns. This allows firms to manage inventory levels, production schedules, and resource allocation,

resulting in increased efficiency and cost savings. Another important area where AI excels is predictive maintenance. AI-powered systems can predict equipment breakdowns ahead of time by evaluating data from sensors, maintenance logs, and operational characteristics. This strategic strategy allows firms to properly schedule maintenance work, reduce downtime, and lower maintenance expenses. AI also helps forecast client attrition. AI models can detect patterns of impending customer churn by analyzing customer behavior, transaction history, and engagement indicators. This enables businesses to execute focused retention initiatives, such as personalized offers or loyalty programs, resulting in increased client retention and loyalty. AI has proven useful in fraud detection, particularly in banking and cybersecurity. AI systems can quickly detect unusual actions that could suggest fraud or cyber threats by analyzing transaction data, user behavior patterns, and previous fraud patterns. These real-time detection capabilities help firms reduce financial losses, prevent fraudulent activity, and preserve sensitive data. AI-driven predictive analytics is critical for optimizing supply chain operations. AI-powered systems can find inefficiencies and chances for improvement by evaluating massive volumes of data such as supplier performance, transportation routes, and market demand. This enables firms to cut costs, increase efficiency, and improve overall supply chain performance. Furthermore, AI is transforming healthcare diagnostics by analyzing medical imaging data to help healthcare practitioners diagnose diseases and discover irregularities. AI-powered diagnostic solutions improve diagnostic accuracy, speed up the diagnosis process, and improve patient outcomes, resulting in better healthcare delivery and care. AI is widely used in the financial sector to assess risk, score credit, and predict market trends. Artificial intelligence algorithms can assess credit risk, detect fraudulent activity, and forecast market movements by analyzing financial data, credit histories, and market indicators. This allows financial organizations to make more informed decisions, effectively manage risk exposure, and protect against future losses.

The advantages of AI in expanding visibility and improving forecasting accuracy in the supply chain:

One of the key benefits of AI in supply chain management is increased visibility. AI-powered systems can analyze massive volumes of data from a variety of sources, including past sales data, inventory levels, and external factors like as weather patterns and economic trends. AI algorithms generate meaningful insights into supply chain operations by digesting this data in real-time. This allows them to analyze inventory levels, evaluate supplier performance, and anticipate any bottlenecks or disruptions. Organizations with improved visibility may make more informed decisions, reduce risks, and optimize supply chain processes for greater efficiency and responsiveness.

AI improves predicting accuracy by utilizing advanced analytics approaches. Traditional forecasting approaches frequently rely on historical data and simplified models, resulting in mistakes and inefficiencies. In contrast, AI systems can examine massive datasets, detect complicated patterns and connections, and produce more accurate demand estimates. Organizations may better forecast demand changes, adjust inventory levels, and allocate resources by taking seasonality, promotions, and consumer behavior into account. This allows them to better fulfill consumer demand, avoid stockouts, and minimize surplus inventory, resulting in cost savings and higher customer satisfaction. AI enables businesses to respond rapidly to changes in market conditions and client preferences. AI-powered solutions assist firms in identifying emerging trends and adapting their plans by continuously evaluating data and updating forecasts in real-time. This agility allows firms to adapt quickly to changes in demand, supply outages, or other unforeseen occurrences, reducing their impact on operations and ensuring supply chain continuity.

Case studies showing the efficacy of AI in predictive management:

A noteworthy example is Walmart's use of AI-powered predictive analytics to optimize inventory management and boost supply chain efficiency. Walmart's AI algorithms estimate demand for

thousands of products based on previous sales data, weather trends, and local events. This allows the store to maintain appropriate inventory levels, avoid stockouts, and save carrying costs. Walmart's predictive skills enable it to respond rapidly to shifting customer demand and market trends, assuring product availability and increasing overall customer happiness.

In the healthcare sector, IBM's Watson Health platform highlights AI's predictive management capabilities. Watson Health helps healthcare providers diagnose diseases, identify treatment options, and forecast patient outcomes by analyzing patient data, medical records, and research literature using artificial intelligence algorithms. Healthcare businesses can use AI-driven predictive analytics to increase diagnosis accuracy, tailor treatment plans, and improve patient care, resulting in better health outcomes and lower healthcare costs.

Another significant case study is Amazon, which uses AI-powered predictive analytics to optimize supply chain operations and improve customer experience. Amazon's AI algorithms evaluate large amounts of data, such as consumer preferences, browsing history, and purchase behavior, to forecast product demand and make personalized suggestions. This predictive technology helps Amazon to precisely forecast demand, manage inventory efficiently, and accelerate order fulfillment, resulting in increased customer pleasure and loyalty.

IV. APPLYING ROBOTIC PROCESS AUTOMATION (RPA) TO SUPPLY CHAIN AUTOMATION

RPA is revolutionizing processes across various industries, and the supply chain sector is no different. This powerful technology has the potential to enhance logistics capacity, improve accuracy, and make a significant impact on customers, among its many advantages.

When compared to other automation technologies, RPA stands out for its ease of implementation. It seamlessly integrates with other technological initiatives, such as business process automation,

machine learning, and artificial intelligence (AI), creating a synergistic effect.

RPA provides multiple benefits to supply chain automation, radically changing how businesses manage operations and streamline processes. One key advantage of RPA is a noticeable increase in efficiency and production. RPA software robots save employees time by automating repetitive and time-consuming operations like data input, order processing, and inventory management, allowing them to focus on higher-value activities. This automation eliminates errors, shortens processing times, and boosts throughput, resulting in higher operational efficiency and cost savings. RPA improves accuracy and compliance. RPA robots carry out activities with precision and consistency, considerably lowering the chance of human error. Adherence to predefined rules and regulations ensures regulatory compliance and organizational policy. As a result, data quality improves, rework is reduced, and the risk of fines or penalties for noncompliance is reduced.

Important RPA features in supply chain operations:

- Automated handling and processing of data: RPA bots automate data entry activities by extracting and entering data from a variety of sources, including invoices, purchase orders, and shipping papers. This automated procedure reduces errors and speeds up processing time.
- Demand Prediction and Planning: To estimate demand, RPA can use historical sales data, market trends, and other pertinent criteria. It may automatically alter production schedules and inventory levels depending on demand forecasts, thereby improving resource allocation and lowering excess inventory expenses.
- Customer care and support: RPA can improve customer service by automating repetitive questions, updating order statuses, and processing returns. It can also evaluate consumer feedback data to discover areas for improvement in product quality or service delivery.
- Steady Improvement: Process performance metrics can be tracked by RPA bots, which can also identify areas for efficiency gains. They can

make suggestions for improving processes or increasing automation to continuously streamline supply chain operations.

- Visibility across the supply chain: Continuous tracking and monitoring of commodities throughout the supply chain is made possible by RPA. It may collect data from a variety of sources, including IoT devices, sensors, and RFID tags, to provide useful insights regarding shipments' location and status. This allows for proactive management of delays or disruptions to ensure that activities run smoothly.

RPA implementation examples in supply chain operations:

The full order-to-cash process can be automated by RPA robots, including duties like order entry, invoice preparation, payment processing, and shipment tracking. Organizations can improve customer satisfaction, reduce errors, and speed up order processing by automating these routine operations. RPA robots can continuously monitor inventory levels, estimate demand, and autonomously generate purchase orders based on established criteria and thresholds. This automation maintains proper inventory levels, avoids stockouts, and eliminates surplus inventory, resulting in cost savings and better inventory management. RPA can be used to automate data entry and reconciliation duties within supply chain finance and accounting systems. RPA robots can extract information from invoices, receipts, and financial documents, validate and reconcile transactions across numerous systems, and generate financial reports automatically. This automation increases data accuracy, lowers manual work, and ensures regulatory compliance.

Challenges and Factors to Consider when Implementing RPA for Supply Chain Automation:

While deploying Robotic Process Automation (RPA) in supply chain automation provides various benefits, firms must also overcome several problems and factors. One of these problems is the complexity of the current supply chain operations. With various systems, data sources, and stakeholders involved, automating these activities with RPA can be difficult. Before implementing RPA, organizations must

carefully assess and streamline existing processes to ensure compatibility and efficacy. Another problem is the requirement for data integration and compatibility. RPA robots obtain and process data from a variety of sources, including legacy systems, databases, and external applications. RPA's performance in the supply chain relies on seamless integration and compatibility with various systems and data types. Data security and compliance are other important issues when implementing RPA in the supply chain. RPA robots manage sensitive data and carry out tasks including regulatory requirements and compliance obligations. To preserve data privacy and maintain regulatory compliance, organizations must put in place strong security measures, encryption techniques, and access controls. Change management and staff preparedness are important difficulties for RPA adoption. RPA implementation may entail organizational restructuring, process redesign, and personnel upskilling to incorporate automation technology. Overcoming resistance to change, building employee buy-in, and addressing concerns about job displacement necessitate effective change management tactics and thorough staff training programs. Scalability and maintenance are also essential factors when adopting RPA. RPA provides scalability by allowing firms to modify their automation levels based on demand, but managing a large number of RPA robots can be difficult. To ensure the scalability and reliability of RPA deployments across the supply chain, organizations must invest in robust infrastructure, monitoring tools, and maintenance processes. Cost factors play an important part in RPA adoption. While RPA can result in long-term cost savings and operational efficiencies, there are upfront expenditures for software licenses, infrastructure investments, and implementation services. Organizations must do rigorous cost-benefit evaluations and provide a clear ROI framework to justify RPA investments and assure long-term benefits.

V. THE INTEGRATION OF AI AND RPA FOR DEVELOPING RESILIENT SUPPLY CHAINS

AI-driven analytics helps businesses make informed decisions about supplier selection, demand forecasting, inventory management, and other areas

by extracting insightful information from large datasets. RPA enhances AI by automating data processing activities like data entry and validation, allowing businesses to quickly and effectively use AI insights to speed up decision-making.

Improving predictive management with RPA automation and AI-driven insights:

AI-powered analysis enables businesses to study large data sets from a variety of sources, including historical sales data, market trends, and external factors such as weather patterns and geopolitical events. AI algorithms may find patterns, correlations, and trends in data using advanced analytics techniques such as machine learning and predictive modeling, providing important insights into future demand, market conditions, and supply chain hazards. These AI-generated insights enable firms to make more informed decisions about inventory management, production scheduling, and supplier selection, optimizing supply chain operations for greater efficiency and responsiveness. For example, AI systems can foresee demand variations, allowing businesses to alter inventory levels and manufacturing schedules to match client demands while reducing excess inventory and stockouts.

RPA automation enhances AI-generated insights by automating repetitive and rule-based tasks in predictive management processes. RPA bots can automate data processing processes like data entry, validation, and reconciliation, allowing enterprises to process enormous amounts of data quickly and reliably. This automation frees up employees' time to focus on higher-value tasks like data analysis, decision-making, and strategy planning. In addition, RPA automation improves the scalability and dependability of predictive management processes by assuring uniform and repeated task execution. RPA bots may conduct work constantly, around the clock, lowering processing times and increasing total productivity. This scalability enables firms to handle growing data volumes while also adapting to changing business needs and market situations more efficiently. RPA automation improves the agility and responsiveness of predictive management processes by allowing firms to make adjustments quickly and efficiently. RPA bots are quickly changed and

deployed to meet changes in data sources, business rules, or process workflows, allowing enterprises to constantly iterate and improve their predictive models.

Examples from real-world applications where combining AI and RPA has improved resilience:

1. Maersk, a multinational shipping corporation, efficiently uses AI and RPA to enhance supply chain operations and increase resilience. Maersk anticipates demand swings and potential disruptions using AI-powered predictive analytics that take into account past shipping data, market trends, and weather patterns. This allows for proactive adjustments in operations to ensure supply chain continuity. RPA automates manual activities like as document processing and invoice reconciliation, lowering errors and increasing efficiency.
2. Walmart, a renowned retailer, illustrates the effective use of AI and RPA to improve supply chain resilience. Walmart predicts demand and optimizes inventory levels by analyzing sales data, consumer behavior, and market trends using AI-powered predictive analytics. RPA automation is used to automate order processing, inventory replenishment, and supplier communication, allowing for quick answers to changing client demand, risk reduction, and operational continuity.
3. Pfizer, the pharmaceutical giant, has integrated AI and RPA to improve supply chain resilience and assure the timely delivery of crucial pharmaceuticals. Pfizer uses AI-powered predictive analytics to forecast demand, manage manufacturing schedules, and identify supply chain risks by evaluating sales data, market trends, and regulatory requirements. RPA automation makes operations like order processing and inventory management more accurate, efficient, and responsive.

VI. DIFFICULTIES AND PROSPECTS

For businesses seeking to increase productivity, resilience, and competitiveness in their supply chains, integrating AI and RPA offers both potential and challenges. While these technologies have dramatic

benefits, overcoming obstacles is required to realize their full potential. Future advancements in AI and RPA provide promising solutions to these challenges. A significant challenge is the availability and quality of data. AI systems rely on clean, high-quality data to provide accurate insights and predictions. However, enterprises frequently encounter fragmented data sources, inconsistent formats, and data silos. To address this issue, firms should invest in data integration tools, governance structures, and quality control methods. Future directions in AI and RPA include developments in data integration technologies such as data lakes and data fabric, which allow for effective analysis of data from several sources. The alignment of AI with business objectives is critical for successful implementation. Organizations must establish their goals, identify relevant use cases, and link AI activities to strategic priorities. Collaboration between stakeholders and data scientists ensures that AI solutions address real-world business concerns and provide value. Future AI directions include explainable AI (XAI) tools, which improve transparency and trust in AI-driven decision-making. Another issue is the lack of talent and abilities. Implementing AI and RPA necessitates skills in data science and automation technologies, which are in short supply. Organizations should invest in training and recruitment, as well as cultivate an innovative learning environment. Future directions include low-code and no-code platforms, which will make AI and RPA more accessible to everyone. Resistance to change within an organization can stymie adoption. Employees may fear job loss or see automation as a danger. This difficulty demands change management methods, good communication, and stakeholder engagement. Highlighting the benefits of automation and creating human-centric solutions empowers people, while AI and RPA tackle tedious chores. Security and compliance are critical factors when deploying AI and RPA. The processing of sensitive data and access to vital systems raises privacy and security concerns. Robust security, access controls, and compliance frameworks are required. Future directions will include privacy-preserving AI techniques and secure-by-design RPA platforms that prioritize security and compliance. Addressing these problems and embracing future trends in AI and RPA will allow enterprises to fully exploit these

technologies, increasing supply chain processes and achieving overall business success.

CONCLUSION

Finally, the integration of Artificial Intelligence (AI) and Robotic Process Automation (RPA) in supply chains has the potential to transform how businesses manage their operations, optimize procedures, and minimize risks. While implementing AI and RPA offers challenges, overcoming these constraints can result in significant benefits and increase innovation, efficiency, and competitiveness in supply chain management.

AI-powered predictive analytics enables firms to forecast demand variations, identify supply chain risks, and improve operations in advance. By analyzing massive volumes of data in real-time, AI algorithms provide significant insights into market trends, customer preferences, and supply chain dynamics, allowing businesses to make informed decisions and respond rapidly to changing business conditions. RPA automation supports AI by automating repetitive and rule-based tasks in supply chain processes, thereby streamlining operations, decreasing errors, and increasing overall efficiency. RPA robots speed up decision-making, increase productivity, and let workers devote more time to higher-value tasks like data analysis, decision-making, and strategy planning. Integrating AI with RPA improves supply chain agility and responsiveness by allowing firms to react swiftly to changing market conditions, consumer requests, and supply chain interruptions. Real-time visibility into supply chain processes, improved cooperation among supply chain partners, and optimized workflows allow enterprises to respond quickly to challenges while maintaining operational continuity. Despite the benefits of AI and RPA, enterprises must solve many hurdles to enable successful implementation. The primary hurdles that enterprises must overcome to properly employ AI and RPA in their supply chains include data quality and availability, alignment with business objectives, a talent shortage, organizational reluctance to change, and security and regulatory concerns.

Looking ahead, potential developments in AI and RPA provide promising solutions to these difficulties, as well as new opportunities for supply chain innovation and growth. Advancements in data integration technologies, explainable AI approaches, low-code and no-code platforms, human-centric automation solutions, privacy-preserving AI techniques, and secure-by-design RPA platforms will allow enterprises to use AI and RPA in a safe, responsible, and successful manner.

REFERENCES

- [1] Singh, C. S., Soni, G., & Badhotiya, G. K. (2019, July 30). Performance indicators for supply chain resilience: review and conceptual framework. <https://doi.org/10.1007/s40092-019-00322-2>
- [2] Bradaschia, M., & Pereira, S. C. F. (2015). Building Resilient Supply Chains Through Flexibility: a Case Study in Healthcare. *Journal of Operations and Supply Chain Management*, 8(2), 120–133. <https://doi.org/10.12660/joscmv8n2p120-133>
- [3] Davis, A. (2015). Building Cyber-Resilience into Supply Chains. *Technology Innovation Management Review*, 5(4), 19–27. <https://doi.org/10.22215/timreview887>
- [4] Boyes, H. (2015). Cybersecurity and Cyber-Resilient Supply Chains. *Technology Innovation Management Review*, 5(4), 28–34. <https://doi.org/10.22215/timreview888>
- [5] Sherbaz Khan, D. M. A. D. A. S. (2023). THE ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN SHAPING SUSTAINABLE AND RESILIENT DIGITAL SUPPLY CHAINS. *Pakistan Journal of International Affairs*, 6(3). <https://doi.org/10.52337/pjia.v6i3.894>
- [6] Abe, M., & Ye, L. (2013). Building Resilient Supply Chains against Natural Disasters: The Cases of Japan and Thailand. *Global Business Review*, 14(4), 567–586. <https://doi.org/10.1177/0972150913501606>
- [7] Supply Chain Resilience | Aavenir. (n.d.). Retrieved from <https://aavenir.com/glossary/supply-chain-resilience/>

- [8] Jha, R. (2023, May 15). Artificial Intelligence (AI) Vs. Robotic Process Automation (RPA). Retrieved from <https://www.linkedin.com/pulse/artificial-intelligence-ai-vs-robotic-process-automation-rajoo-jha>
- [9] RPA and AI: Transforming Industries. (n.d.). Retrieved from <https://www.vizio.ai/blog/rpa-and-ai-transforming-industries>
- [10] Benefits of RPA in supply chain: can RPA boost logistics workflow. (n.d.). Retrieved from <https://business.canon.com.au/insights/benefits-of-rpa-in-supply-chain-can-rpa-boost-logistics-workflow>
- [11] T. (2023, August 28). What is the Role of AI in Supply Chain Management in the Middle East? Retrieved from <https://www.linkedin.com/pulse/what-role-ai-supply-chain-management-middle-east-tnta>