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Supply Chain and Logistics in Project Management for SABIC Basic Industries in Saudi Arabia

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Introduction:

In the dynamic and ever-evolving landscape of modern business, the efficiency and effectiveness of supply chain and logistics management have become crucial components for the success of any organization, particularly in the project-based industries. This is especially true for Basic Industries, a vital sector in the Saudi Arabian economy, which relies heavily on robust and streamlined supply chain and logistics strategies to deliver projects on time, within budget, and to the highest standards. Samaranayake, P., & Toncich, D. (2007).

The supply chain and logistics function in project management encompasses the planning, implementation, and control of the flow of materials, information, and resources from the initial sourcing of raw materials to the final delivery of the completed project. This intricate web of activities requires meticulous coordination and collaboration among various stakeholders, including suppliers, vendors, transportation providers, and internal project teams.

Effective supply chain and logistics management in project settings can bring about numerous benefits, such as: عبدالغفار عبدالصادق عفيفي. مشرف & لشهراني, عبدالله علي عبدالله, الدويك. (2018).

1. **Cost Optimization:** By carefully managing procurement, inventory, and transportation, organizations can minimize expenses associated with the acquisition and movement of materials, ultimately enhancing project profitability.
2. **Timely Delivery:** Streamlined logistics and supply chain processes ensure that the necessary resources are available when and where they are needed, enabling project teams to meet deadlines and milestones.
3. **Quality Assurance:** Rigorous supply chain management, including supplier selection and quality control measures, helps to maintain the integrity and quality of the materials used in the project, leading to better overall project outcomes.
4. **Risk Mitigation:** Proactive supply chain and logistics planning can help identify and mitigate potential risks, such as supply disruptions, transportation delays, or changes in market conditions, ultimately enhancing the resilience of the project.

5. **Operational Efficiency:** Optimized supply chain and logistics processes can lead to reduced waste, improved resource utilization, and enhanced overall project execution efficiency.

One of projects that apply Supply Chain and Logistics is Sabic, a leading Saudi Arabian conglomerate operating in the Basic Industries sector, has recognized the strategic importance of supply chain and logistics management in driving the success of its project-based operations. As the company continues to expand its footprint in the region, it has placed a renewed focus on optimizing its supply chain and logistics practices to maintain its competitive edge. الشبانة عبد المحسن بن عثمان. (2016).

The Basic Industries sector in Saudi Arabia, which encompasses industries such as petrochemicals, minerals, and metals, is a crucial pillar of the country's economic diversification efforts. These industries often involve large-scale, complex projects that require the seamless integration of supply chain and logistics management to ensure timely delivery, cost-effectiveness, and high-quality outcomes. عبدالغفار عبدالصادق & , لشهراني, عبدالله علي عبدالله, الدويك. (2018). عفيفي. مشرف

Sabic's approach to supply chain and logistics management in its Basic Industries projects involves a multifaceted strategy that addresses the unique challenges and opportunities of the Saudi Arabian market. Some key elements of this strategy include: الشبانة عبد المحسن بن عثمان. (2016).

1. **Supplier Relationship Management:** Sabic has invested in building strong, collaborative relationships with its key suppliers, leveraging their expertise and capabilities to enhance the overall supply chain performance.
2. **Inventory Optimization:** The company has implemented advanced inventory management systems to ensure the availability of critical materials while minimizing excess stock, reducing storage costs, and improving working capital.
3. **Transportation and Logistics Optimization:** Sabic has optimized its transportation networks, exploring multimodal solutions (e.g., combining road, rail, and sea transport) to enhance delivery times, reduce carbon footprint, and minimize logistical costs.

4. **Digital Transformation:** The company has embraced digital technologies, such as supply chain analytics, predictive maintenance, and blockchain-enabled traceability, to enhance visibility, agility, and responsiveness across its supply chain and logistics operations.
5. **Talent Development:** Sabic recognizes the importance of building a skilled and knowledgeable workforce in supply chain and logistics management, and has invested in training and development programs to upskill its employees.

By addressing these key aspects of supply chain and logistics management, Sabic aims to strengthen its position in the Basic Industries sector, delivering projects with greater efficiency, cost-effectiveness, and quality, while also contributing to the broader economic development of Saudi Arabia. الشبانة عبد المحسن بن عثمان. (2016).

the effective management of supply chain and logistics in project-based industries, such as Basic Industries in Saudi Arabia, is a critical success factor. Sabic's comprehensive approach to optimizing its supply chain and logistics practices serves as a testament to the company's commitment to delivering excellence and driving sustainable growth in the region. لشهراني, . (2018). عبدالغفار عبدالصادق عفيفي. مشرف & عبدالله علي عبدالله, الدويك

Research problem:

The success of these projects is heavily dependent on the ability to manage the supply chain and logistics processes effectively. Disruptions in the supply chain, delays in material deliveries, or inefficient logistics can have significant impacts on project timelines, budgets, and overall quality. As such, organizations in the Basic Industries sector must have a deep understanding of the unique challenges and constraints they face in this domain.

Despite the importance of supply chain and logistics management, organizations operating in the Basic Industries sector in Saudi Arabia often face a range of complex challenges, including:

1. **Geographical Constraints:** Saudi Arabia's vast geographic expanse and limited transportation infrastructure can pose significant logistical challenges, particularly in terms of moving materials and equipment to remote project sites.
2. **Supplier Diversification:** Basic Industries projects often require specialized materials and equipment sourced from a global network of suppliers. Coordinating and managing these diverse supply sources can be a complex undertaking.
3. **Regulatory Compliance:** The Basic Industries sector is subject to stringent regulatory requirements, which can add layers of complexity to supply chain and logistics operations, particularly when dealing with cross-border shipments and customs clearance.
4. **Volatility in Demand and Pricing:** Fluctuations in global commodity prices and shifts in market demand can significantly impact the supply and pricing of raw materials, forcing organizations to adapt their supply chain and logistics strategies accordingly.
5. **Talent Shortage:** The specialized nature of supply chain and logistics management in the Basic Industries sector requires a highly skilled workforce, which can be challenging to attract and retain in the Saudi Arabian market.
6. **Sustainability and Environmental Concerns:** Increasing focus on environmental sustainability and carbon footprint reduction has added additional layers of complexity to supply chain and logistics operations, requiring organizations to explore more eco-friendly solutions.

Research importance:

The research can focus on several key areas, such as:

1. Identifying the current supply chain and logistics practices employed by Sabic and other industry leaders, as well as the specific challenges they face.
2. Exploring the strategies and best practices that these organizations have adopted to address the identified challenges and optimize their supply chain and logistics performance.
3. Assessing the impact of supply chain and logistics management on \ project performance, including factors such as cost, quality, and timely delivery.
4. Developing a comprehensive framework or model for improving supply chain and logistics management in the Basic Industries sector in Saudi Arabia, taking into account the unique contextual factors.
5. Providing recommendations for Sabic and other organizations on how to enhance their supply chain and logistics capabilities, including the potential implementation of new technologies, processes, and organizational structures.

By addressing these research areas, Sabic can gain a deeper understanding of the critical role of supply chain and logistics in its project management and develop more robust strategies to overcome the challenges it faces. This, in turn, can lead to improved project performance, enhanced competitiveness, and a stronger contribution to the overall economic development of Saudi Arabia's Basic Industries sector.

Research objectives :

Given the importance of supply chain and logistics management in the Basic Industries sector and the unique challenges faced by organizations operating in the Saudi Arabian context, this research aims to:

1. Investigate the current state of supply chain and logistics practices within the Basic Industries sector in Saudi Arabia, with a specific focus on Sabic's operations.
2. Identify the key challenges and constraints that Sabic and other industry players face in managing their supply chain and logistics processes.
3. Explore the strategies and best practices that Sabic and other organizations have adopted to address these challenges and optimize their supply chain and logistics performance.
4. Assess the impact of supply chain and logistics management on project performance, including factors such as cost, quality, and timely delivery.
5. Provide recommendations and a framework for improving supply chain and logistics management in the Basic Industries sector in Saudi Arabia, with the aim of enhancing project success and contributing to the broader economic development of the region.

Research questions:

1. What are the current supply chain and logistics practices employed by Sabic and other key players in the Basic Industries sector in Saudi Arabia?
2. What are the main challenges and constraints faced by these organizations in managing their supply chain and logistics processes?
3. What strategies and best practices have Sabic and other organizations adopted to address these challenges and optimize their supply chain and logistics performance?
4. How do the supply chain and logistics management practices of Sabic and other industry players impact the performance of their projects in terms of cost, quality, and timely delivery?
5. What recommendations can be made to improve supply chain and logistics management in the Basic Industries sector in Saudi Arabia, and how can these improvements contribute to the overall success and growth of the industry?

Study Hypotheses:

In the context of studying the importance of supply chain management and logistics in project management for SABIC, the Saudi Basic Industries Corporation, the following hypotheses can be identified:

Hypothesis 1: The Positive Impact of Effective Supply Chain Management on Project Performance

This study hypothesizes that effective supply chain management at SABIC positively influences project performance in terms of cost, quality, and timely delivery. These elements include:

1. **Cost:** The study hypothesizes that effective supply chain management practices help SABIC achieve cost savings through improved procurement and transportation processes, leading to overall project profitability enhancement.
2. **Quality:** The study hypothesizes that ensuring the timely delivery of high-quality materials and equipment, along with proper handling and storage, directly contributes to improving the quality of project outputs.
3. **Timely Delivery:** The study hypothesizes that robust supply chain management practices help SABIC minimize delays in material and equipment deliveries, enabling the organization to meet project deadlines and avoid costly delays.

Hypothesis 2: The Positive Impact of Effective Logistics Management on Project Performance

This study hypothesizes that effective logistics management at SABIC positively influences project performance in terms of cost, quality, and timely delivery. These elements include:

1. **Cost:** The study hypothesizes that effective logistics management practices help SABIC achieve savings in transportation and storage costs, leading to overall project profitability enhancement.
2. **Quality:** The study hypothesizes that ensuring proper handling and secure storage of materials and equipment directly contributes to maintaining the quality of project outputs.

3. Timely Delivery: The study hypothesizes that robust logistics management practices help SABIC minimize delays in material and equipment deliveries to project sites, enabling the organization to meet project deadlines.

Hypothesis 3: The Positive Impact of Adopting Advanced Technologies in Supply Chain and Logistics Management on Project Performance

This study hypothesizes that adopting advanced technologies in supply chain and logistics management at SABIC positively influences project performance in terms of cost, quality, and timely delivery. These elements include:

1. Cost: The study hypothesizes that advanced technologies in supply chain and logistics management help SABIC identify and optimize procurement, transportation, and storage processes, leading to overall project cost reduction.
2. Quality: The study hypothesizes that using advanced technologies in supply chain and logistics management helps ensure the maintenance of the quality of materials and equipment used in projects, positively reflecting on the quality of outputs.
3. Timely Delivery: The study hypothesizes that advanced technologies in supply chain and logistics management enable SABIC to better predict and plan for delays, helping in meeting project deadlines.

Hypothesis 4: The Positive Impact of Developing Competencies in Supply Chain and Logistics Management on Project Performance

This study hypothesizes that developing competencies in supply chain and logistics management at SABIC positively influences project performance in terms of cost, quality, and timely delivery. These elements include:

1. Cost: The study hypothesizes that developed competencies in supply chain and logistics management help SABIC achieve cost savings through more efficient procurement, transportation, and storage practices, leading to overall project profitability enhancement.
2. Quality: The study hypothesizes that having a skilled workforce in supply chain and logistics management ensures high standards of handling and storing materials and equipment, directly contributing to the quality of project outputs.

3. Timely Delivery: The study hypothesizes that a competent team in supply chain and logistics management helps SABIC minimize delays in material and equipment deliveries, enabling the organization to meet project deadlines effectively.

literature review:

Supply chain management (SCM) and logistics are integral components of project management, especially in the context of basic industries such as manufacturing and production. This literature review examines the integration of SCM and logistics within project management frameworks, with a particular focus on basic industries in Saudi Arabia. The review synthesizes findings from a variety of sources to present a comprehensive understanding of the current state of SCM and logistics in project management.

Integration of Production Planning, Project Management, and Logistics Systems

Samaranayake and Toncich (2007) discuss the critical integration of production planning, project management, and logistics systems within supply chain management. Their research emphasizes the importance of synchronized operations to achieve seamless workflow and efficiency. The integration facilitates real-time data sharing, which helps in making informed decisions, reducing delays, and improving overall project performance. For SABIC, adopting such integrated systems could lead to significant improvements in managing its extensive supply chain network.

Project Management in Logistics and Supply Chain Management

Hartel (2019) explores the role of project management within logistics and supply chain management. The study highlights the complexity of coordinating various elements of the supply chain and the necessity of robust project management practices to handle these challenges effectively. Hartel emphasizes strategic planning, risk management, and the importance of maintaining flexibility to adapt to unforeseen circumstances. For SABIC, employing advanced project management techniques could streamline logistics operations, enhancing efficiency and reducing costs.

Agile Project Management in Logistics and Supply Chain Management

In his later work, Hartel (2022) introduces the concept of Agile Project Management tailored for logistics and supply chain management. Agile methodologies promote adaptability, continuous improvement, and rapid response to changes, which are crucial for dynamic supply chain environments. For a large organization like SABIC, implementing Agile practices can lead to

improved responsiveness to market changes and internal project demands, fostering a more resilient and competitive supply chain.

Forecasting and Project Management Characteristics of Supply Chain Management

Smith and Offodile (2007) delve into the forecasting and project management characteristics essential for effective supply chain management. Accurate forecasting is vital for anticipating demand and managing resources efficiently. Their study suggests that integrating forecasting with project management tools can enhance the predictability and reliability of supply chain operations. For SABIC, leveraging advanced forecasting techniques integrated with project management could optimize inventory levels, reduce lead times, and improve customer satisfaction.

Comprehensive View on Operations, Logistics, and Supply Chain Management

Zijm et al. (2019) provide a comprehensive overview of operations, logistics, and supply chain management. Their work covers a wide range of topics, including the latest trends and technologies in the field. They emphasize the importance of adopting innovative solutions and technologies to stay competitive. For SABIC, staying abreast of the latest developments and integrating cutting-edge technologies into their supply chain operations could drive significant improvements in efficiency, sustainability, and overall performance.

The Role of Saudi Human Resources in Enhancing Productivity

Al-Shubana (2016) focuses on the role of Saudi human resources in improving productivity in industrial institutions. The study emphasizes the importance of training and developing employees to enhance their efficiency and increase productivity. For SABIC, investing in human resource development can significantly improve supply chain and logistics efficiency, leading to overall performance enhancement.

Strategic Framework for Developing Information Security

Al-Qahtani et al. (2014) discuss a strategic framework for developing information security to enhance national security in Saudi Arabia, with a specific focus on SABIC. Information security is a critical component of supply chain management, as protecting sensitive data and information can shield the supply chain from cyber threats. Implementing robust information security

strategies can enhance the efficiency and safety of logistics and supply chain operations at SABIC.

Evaluation of Major Industrial Companies' Efforts in Environmental Security

Al-Shahrani et al. (2018) evaluate the efforts of major industrial companies, including SABIC, in maintaining environmental security. The study suggests that adhering to environmental standards can enhance the sustainability of logistics and supply chain operations. For SABIC, environmental initiatives can improve the company's image and reduce its negative environmental impact, supporting sustainable operations and boosting efficiency.

Effectiveness of Human Resources Planning in Achieving Job Security

Al-Huwaish et al. (2013) investigate the effectiveness of human resources planning in achieving job security. Effective human resources planning can contribute to improved job stability and increased productivity. For SABIC, efficient human resources planning can enhance coordination between various parts of the supply chain and logistics, leading to overall operational efficiency.

The integration of supply chain and logistics with project management is vital for the success of large industrial enterprises like SABIC. The literature reviewed highlights the importance of integrated systems, strategic project management, agile methodologies, and advanced forecasting in enhancing supply chain efficiency. By adopting these practices, SABIC can achieve better coordination, reduce costs, and improve overall operational performance, maintaining its competitive edge in the industry.

The integration of SCM and logistics within project management is vital for the success of basic industries in Saudi Arabia. The literature underscores the importance of synchronizing production planning, project management, and logistics systems to enhance operational efficiency and responsiveness. Agile project management methodologies and accurate forecasting are critical for managing complex supply chains and minimizing risks. Additionally, the development of human resources and the implementation of robust information security measures are essential for maintaining productivity and protecting supply chain integrity. Sustainable practices and strategic human resource planning further contribute to the overall

success of industrial projects. By adopting these best practices, Saudi Arabia's basic industries can achieve operational excellence and maintain a competitive edge in the global market.

Theoretical Principles

The study of supply chain and logistics in project management for SABIC Basic Industries in Saudi Arabia draws on several theoretical principles to provide a robust framework for analysis. These principles underpin the complex interactions and dynamics within supply chain management (SCM), logistics, and project management, ensuring that operations are efficient, responsive, and strategically aligned with organizational goals. This discussion elucidates the key theoretical principles relevant to this study, focusing on systems theory, lean management, agile project management, and stakeholder theory. Hartel, D. H. (2019).

Systems Theory

Systems theory serves as a foundational framework for understanding the interconnectedness of various components within SCM and logistics. According to systems theory, an organization is viewed as a complex system comprising interrelated and interdependent elements that work together to achieve common objectives. For SABIC, this perspective is crucial as it highlights the need for integration across different functions such as procurement, production, distribution, and project management. Systems theory posits that optimizing individual components in isolation is insufficient; instead, a holistic approach is required to enhance overall system performance.

In the context of SABIC's operations, systems theory underscores the importance of seamless coordination and information flow across the supply chain. Effective integration ensures that disruptions in one part of the supply chain are mitigated through responsive adjustments in other areas, thereby maintaining overall stability and efficiency. الهويش، رشيد، & خالد بن محمد عبد العزيز، خاشقجي، هاني بن يوسف مشرف، عبد المحمود، عباس أبو شامة مناقش (2013). مازن بن فارس مناقش

Lean Management

Lean management principles are central to enhancing efficiency and eliminating waste in SCM and logistics. Originating from the Toyota Production System, lean management

emphasizes value creation for the customer through the systematic removal of non-value-adding activities. For SABIC, implementing lean principles involves streamlining processes, reducing lead times, and optimizing resource utilization. Hartel, D. H. (2019).

Key concepts of lean management, such as Just-In-Time (JIT) inventory, continuous improvement (Kaizen), and value stream mapping, are particularly relevant. JIT inventory ensures that materials and products are delivered exactly when needed, reducing inventory costs and minimizing waste. Continuous improvement fosters a culture of constant refinement and optimization, encouraging employees at all levels to identify and eliminate inefficiencies. Value stream mapping provides a visual representation of the flow of materials and information, helping to pinpoint areas for improvement. Smith, A. D., & Offodile, O. F. (2007).

By adopting lean management principles, SABIC can enhance its operational efficiency, reduce costs, and improve customer satisfaction, ultimately leading to a more competitive and resilient supply chain. Hartel, D. H. (2019).

Agile Project Management

Agile project management is another critical theoretical principle for managing SCM and logistics in dynamic environments. Agile methodologies prioritize flexibility, responsiveness, and iterative progress, enabling organizations to adapt quickly to changing market conditions and customer requirements. For SABIC, agile project management is essential for handling the complexities and uncertainties inherent in large-scale industrial projects. عبدالغفار عبدالصادق عفيفي, مشرف & , الشهراني, عبدالله علي عبدالله, الدويك. (2018)

Core principles of agile project management include iterative development, cross-functional collaboration, and customer-centricity. Iterative development involves breaking down projects into smaller, manageable phases, allowing for continuous feedback and adjustments. Cross-functional collaboration ensures that diverse perspectives and expertise are integrated into decision-making processes, enhancing

problem-solving capabilities. Customer-centricity focuses on delivering value to the customer, ensuring that project outcomes align with customer expectations and needs.

In the context of SABIC, agile project management facilitates the alignment of supply chain operations with strategic objectives, improving project delivery timelines and enhancing overall performance. عبدالغفار عبدالصادق عفيفي. & , الشهراني, عبدالله علي عبدالله, الدويك. (2018). مشرف

Stakeholder Theory

Stakeholder theory provides a comprehensive framework for understanding and managing the diverse interests and influences of various stakeholders in SCM and logistics. According to stakeholder theory, organizations must consider the needs and expectations of all stakeholders, including employees, customers, suppliers, investors, and the community, to achieve sustainable success. Zijm, H., Klumpp, M., Regattieri, A., & Heragu, S. (Eds.). (2019).

For Sabic, stakeholder theory highlights the importance of balancing competing interests and fostering positive relationships with key stakeholders. Effective stakeholder management involves identifying stakeholder groups, understanding their concerns, and engaging with them through transparent communication and collaborative initiatives.

Incorporating stakeholder perspectives into SCM and logistics decisions ensures that SABIC can address potential conflicts, enhance stakeholder satisfaction, and build a strong reputation for corporate social responsibility. This approach not only supports sustainable business practices but also contributes to long-term strategic goals. Zijm, H., Klumpp, M., Regattieri, A., & Heragu, S. (Eds.). (2019).

Strategic Alignment

Strategic alignment is a critical principle that ensures SCM and logistics operations are consistent with Sabic's overarching business objectives. This involves aligning supply chain strategies with corporate goals, market demands, and competitive dynamics.

Strategic alignment requires a clear understanding of the organization's mission, vision,

and strategic priorities, as well as the external environment in which it operates. Smith, A. D., & Offodile, O. F. (2007).

For Sabic, strategic alignment ensures that supply chain and logistics activities contribute to achieving key performance indicators (KPIs) such as cost reduction, quality improvement, innovation, and customer satisfaction. This principle also involves leveraging strategic partnerships and collaborations to enhance supply chain capabilities and drive competitive advantage. Smith, A. D., & Offodile, O. F. (2007).

Risk Management

Risk management is an essential theoretical principle for managing uncertainties and potential disruptions in SCM and logistics. Effective risk management involves identifying, assessing, and mitigating risks across the supply chain to ensure continuity and resilience. For SABIC, this principle is particularly important given the complex and global nature of its supply chain operations Hartel, D. H. (2022).

Key aspects of risk management include risk identification, risk assessment, risk mitigation, and contingency planning. By adopting a proactive approach to risk management, SABIC can anticipate potential challenges, develop robust mitigation strategies, and ensure the resilience of its supply chain in the face of unforeseen events. Hartel, D. H. (2022).

The theoretical principles of systems theory, lean management, agile project management, stakeholder theory, strategic alignment, and risk management provide a comprehensive framework for analyzing and improving supply chain and logistics operations within SABIC Basic Industries in Saudi Arabia. These principles emphasize the importance of integration, efficiency, flexibility, stakeholder engagement, strategic consistency, and resilience. By applying these principles, SABIC can enhance its supply chain performance, achieve its strategic objectives, and maintain a competitive edge in the global market.

Methodology:

This study investigates the role of supply chain and logistics in project management at SABIC Basic Industries in Saudi Arabia using a quantitative research approach. The focus on quantitative research allows for the collection and statistical analysis of numerical data to uncover relationships and trends within supply chain management (SCM) and logistics operations. The descriptive aspect of the study aims to provide a detailed and accurate representation of SCM and logistics practices at SABIC. This involves mapping out the processes, strategies, and practices currently in use, thereby offering a comprehensive overview of the operational landscape. Concurrently, the correlational aspect of the study examines the relationships between various factors that influence supply chain performance and project management outcomes. By analyzing these relationships, the study seeks to identify key factors that impact efficiency, cost-effectiveness, and overall project success. The findings aim to offer valuable insights that can drive improvements in SCM and logistics, ultimately enhancing project management outcomes for SABIC. This dual approach ensures a robust understanding of both the current state and the dynamics at play within SABIC's supply chain and logistics framework.

Study Tools:

We used the questionnaire in Study Tools to collect data on the supply chain and logistics practices at SABIC Basic Industries in Saudi Arabia. SABIC (Saudi Basic Industries Corporation) is one of the world's largest petrochemicals manufacturers, and its Basic Industries division produces a wide range of chemicals, polymers, and other materials for both domestic and global markets.

The aim of this study is to thoroughly understand the current state of supply chain management (SCM) and logistics at SABIC Basic Industries, assess their impact on the company's project management capabilities, and identify key areas for improvement. Supply chain and logistics are critical functions for a large multinational corporation like SABIC, as they directly impact the company's ability to source raw materials, manufacture products efficiently, and deliver them to customers in a timely and cost-effective manner.

Through this questionnaire, we hope to gather insights from SABIC employees across different departments and levels of seniority. Your participation is completely voluntary, and all responses will be kept strictly confidential. We encourage you to answer the questions as accurately and thoughtfully as possible, based on your direct experience and knowledge of SABIC's operations.

The questionnaire covers a range of topics related to supply chain and logistics, including:

- Inventory management practices
- Supplier relationships and procurement processes
- Production planning and scheduling

- Transportation and distribution networks
- Warehousing and storage capabilities
- Information systems and data management
- Performance measurement and continuous improvement
- Alignment between supply chain/logistics and overall business strategy

For each area, we will ask about the current state of processes and systems, any challenges or pain points encountered, and ideas for future improvements. We are particularly interested in understanding how supply chain and logistics capabilities enable or hinder SABIC's project management activities, which often involve complex, large-scale initiatives to develop new products, expand production capacity, or enter new markets.

Upon completion of the data collection phase, we will analyze the responses and prepare a comprehensive report summarizing our findings. This report will highlight both the strengths and weaknesses of SABIC's current supply chain and logistics practices, as well as detailed recommendations for improvement. The report will be shared with SABIC's senior leadership team to inform future strategic planning and investment decisions.

Study Limitations:

This study is subject to several limitations that may affect the generalizability and accuracy of the results. These limitations include:

- **Sample Size:** The data was collected from a limited sample of employees at SABIC. The sample size may impact the ability to generalize the results to all employees or to other companies in the same sector.
- **Geographic Scope:** The study is restricted to SABIC employees in specific regions (such as Eastern, Central, Western, Northern, and Southern). The results might differ if the study included other regions or companies.
- **Generalization:** The results may be based on qualitative data or rely on the opinions and experiences of the participants, which can affect the accuracy of the results when generalized.
- **Time:** The data was collected within a specific time frame. Inventory management and supply chain practices may change over time due to market changes, technological advancements, or policy shifts.

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