

The impact of supply chains on the food sector

F&B Chain company located in Jeddah, Saudi Arabia

FADIYAH QASSS
2021205711

Graduation Project – 1
Faculty of Management - Midocean University

Supervisor
Dr. Mona Moustafa Elashry
Faculty member- Faculty of management- Midocean University

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1. Chapter 1: Introduction

2. Introduction

Today the new source of business competition lies outside the walls of organizations, and is determined by how effectively companies link their operations with their supply chain partners such as suppliers, distributors, wholesalers, retailers and end customers (Sonja, Sohal, & Baihaqi, 2007). The forward-looking enterprises today are dynamic; they collaborate with suppliers, customers and even with competitors; share information and knowledge aiming to create a collaborative supply chain that is capable of competing if not leading the particular industry (Koh et al., 2007). Supply chain collaboration has become an integral part of supply chain management (Matopoulos et al., 2007). In the past decade “collaboration” has made the transition from being a purely theoretical concept to becoming a widely adopted supply chain practice (Wiengarten, Humphreys, Cao, Fynes, & McKittrick, 2010). Increased competition and the widespread availability of web-based technologies have led to a rise in supply chain collaboration across a wide range of industry sectors such as the automotive industry (Ireland, 1999; Bagchi & Skjott-Larsen, 2005). Collaboration can be simply understood as a process of decision-making among interdependent parties across the many tiers in the supply chain, which involves joint ownership of decisions and collective responsibility for outcomes (Stank et al., 2001). Collaboration is defined as two or more companies sharing the responsibility of exchanging common planning, management, execution, and performance measurement information (Anthony, 2000). The general idea is that much can be gained from collaborating with supply chain partners. Kenya’s economy has remained largely agriculture based and industrialization remains a key factor in Kenya’s development plans (Government of Kenya, 2007). Food production has always been a precondition for the development of civilization (Kenya Institute for Public Policy Research and Analysis, 2013). According to Munguti, (2013) food processing covers: foods, beverages, dairy, vegetable oil, grain milling, baking and confectionery, fruits and vegetables, meat and fish, honey, nuts, mushroom, etc. Food sector constitutes about a third of the manufacturing sector in Kenya and that the sector

adds value to agricultural produce and therefore its success depends on efficient agriculture sector. The Manufacturing sector contributes about 10% of the Kenya's GDP of which the food sector contributed about a third (33.4%) of the total manufacturing production in 2009. The food processing sector can therefore be a key driver of the economic growth and growth in this sector can have a direct and significant impact on the whole Kenya's economy.

The development of information technology (IT) has rapidly changed the logistics industry. RFID is becoming more and more important in the context of supply chain management (SCM). The implementation of RFID in SCM brings with it the potential to manage the information flow and to support communication and collaboration along the supply chain (SC). A few empirical studies, however, have suggested that it is very difficult to ascertain the performance of RFID applications. This phenomenon has been referred to as the "productivity paradox of IT".

On the other hand, many studies supporting the premise that the implementation of RFID has significant positive effects on SCM have been reviewed by these authors. RFID serves as a key enabler for coordinating and integrating SCM, through the sharing of vital information regarding key SC activities both inside and outside the boundaries of material suppliers, manufacturers, wholesalers, and consumers. RFID has a vast potential in terms of enabling demand forecasts and production schedules in SCM. Introducing RFID into SCM will also produce direct benefits by decreasing the coordination costs, including the costs of integrated decisions, and the transaction risks, which are exploited in the relationship between the SC partners.

The implementation of RFID in SCM for the food and beverage industry has led to a wide range of benefits, including shrinkage reduction, reduced labor costs, and improved customer service. Food and beverage retailers, however, will have to address a number of operational challenges and consumer privacy concerns before they realize these benefits.

Recently, the need for hygiene and safety has become a growing concern. Between 1999 and 2003, the US Food and Drug Administration reported a total of 1,307 recalls of processed food products. In Japan, a massive recall from two Japanese food makers was

also reported in 2002 . The implementation of RFID has been suggested as a good solution to enable tracing capability in the SC of the food and beverage industry. This study was conducted to build a relation model, which is a structural model, to identify the effects of introducing RFID into the SC of the food and beverage industry. SC consists of six activities: procurement, production, transport, sale, warehousing, and administration. This study is based on the premise that RFID will be embedded in a transport box or pallet circulated in the SC. The remainder of this study is organized as follows. The following section presents a literature review that helps underpin the research framework, and the study's hypotheses. The research methodology is presented in the Sect. The results and discussion are presented in Sect. followed by the Sect. "How can food and beverage companies optimize their supply chain collaborations to enhance competitiveness and market performance?"

Research Problem

Collaboration has been referred to as the driving force behind effective supply chain management and, as such, may be considered the ultimate core capability (Sanders & Premus, 2005). However, there's also fairly widespread belief that few firms have truly capitalized on the potential benefits of collaboration (Barratt, 2003; Crum & Palmatier, 2004). Although the potential performance benefits have made collaboration a popular supply chain practice, surveys shows its complex structure has left Kenyan companies struggling with implementing and conducting (Shalle, Guyo, & Amuhaya, 2014). Manufacturing firms especially food and beverage companies has not achieved high levels of collaboration necessary for delivering high. For example, Del Monte Kenya Ltd is the largest exporter of pineapples from Africa to UK, France, Germany, Italy, Belgium and Netherlands (Munyambu, 2015). Also, the company outsources its non-core functions like warehousing, transportation, information technology and distribution from suppliers but, the company has not been fully committed to the establishment of long term relationships with its suppliers and other stakeholders (Karangi, 2013). Del Monte Kenya Ltd has not fully benefitted from outsourcing due to frequent embroiled relationships with suppliers (Karangi, 2013). Recently in Kenya, researchers have highlighted the multidimensional nature of collaboration. Collaboration in buyer-supplier relationships should incorporate information sharing; joint decisions and incentive alignment enhance competitive advantage to the firms

(Shalle et al. 2014). But the study is limited to the buyer-supplier relationships in procurement function. A study by Kamau (2013) focused on the extent to which manufacturing have adopted buyersupplier relationships. Therefore the study fails to demonstrate on how information sharing; joint decisions and incentive alignment are enhanced to create buyer-supplier relationships. All these studies only focus on buyer-supplier relationships, but in collaborative supply chain involves all supply chain partners such as suppliers, distributors, wholesalers, retailers and end customers and who may not necessary buyer or supplier (Sonja, Sohal, & Baihaqi, 2007). Therefore, the purpose of this study was to investigate collaborative supply chain practices in performance of Del Monte Kenya Ltd.

2.1.1. Theoretical Gaps

Based on the provided excerpt, here are some potential theoretical gaps in the research on collaborative supply chain practices in the performance of Del Monte Kenya Ltd:

1. **Limited Scope of Collaboration Studies:** Most existing studies focus on buyer-supplier relationships, particularly in procurement, without addressing collaboration with other key supply chain partners such as distributors, wholesalers, retailers, and end customers (Sonja, Sohal, & Baihaqi, 2007). There is a gap in understanding how collaboration across the entire supply chain can enhance performance.
2. **Multidimensional Nature of Collaboration:** While the multidimensional nature of collaboration, including information sharing, joint decision-making, and incentive alignment, is recognized (Shalle et al., 2014), there is a lack of comprehensive studies exploring how these dimensions are integrated and operationalized across the supply chain to create competitive advantages.
3. **Context-Specific Insights:** Most research focuses on general theories of supply chain collaboration without providing context-specific insights, particularly for Kenyan manufacturing firms like Del Monte Kenya Ltd. There is a need to explore how local factors, such as market dynamics and cultural influences, impact the effectiveness of collaboration practices.

4. Outsourcing and Relationship Management: The impact of outsourcing non-core functions and the challenges associated with managing supplier relationships have been identified (Karangi, 2013), but there is limited theoretical exploration of how firms can overcome these challenges and fully benefit from outsourcing through effective collaboration.
5. Long-term Relationship Commitment: There is a noted lack of commitment to establishing long-term relationships with suppliers and stakeholders (Karangi, 2013).
6. The theoretical understanding of what drives long-term relationship commitment in collaborative supply chains and how it influences performance remains underexplored.
7. Performance Measurement and Benefits Realization: While the potential benefits of collaboration are acknowledged, there is a gap in the literature regarding how firms can effectively measure and realize these benefits, particularly in the context of Kenyan manufacturing firms.
8. Integration of Technology in Collaboration: Although information technology is mentioned as a non-core function outsourced by Del Monte Kenya Ltd, there is a lack of theoretical exploration of how technology integration can enhance collaboration and improve supply chain performance.
9. Collaborative Practices Beyond Buyer-Supplier: There is a theoretical gap in understanding how collaborative practices can be extended beyond traditional buyer-supplier relationships to include other supply chain entities and how this broader collaboration impacts firm performance.
10. Barriers to Effective Collaboration: While challenges in implementing collaboration are mentioned, there is limited theoretical analysis of the specific barriers that Kenyan companies face and how these can be systematically addressed.

Addressing these theoretical gaps can provide a more comprehensive understanding of collaborative supply chain practices and their impact on the performance of firms like Del Monte Kenya Ltd.

2.1.2. Practical Gaps

Based on the provided excerpt and considering practical gaps in the research on collaborative supply chain practices at Del Monte Kenya Ltd, here are some potential areas where practical application and implementation may be lacking:

Practical Gaps

1. Implementation of Comprehensive Collaboration Practices:

- While the concept of collaboration is acknowledged, there is a practical gap in the implementation of comprehensive collaboration practices that include all supply chain partners, not just buyer-supplier relationships. Del Monte Kenya Ltd and similar firms may struggle to practically engage and align with partners such as distributors, wholesalers, retailers, and end customers.

2. Effective Information Sharing:

- Although the importance of information sharing is recognized, there is a lack of practical strategies and tools for effectively sharing information across the supply chain to enhance decision-making and performance.

3. Joint Decision-Making Processes:

- There is a practical gap in establishing effective joint decision-making processes among supply chain partners. This includes developing mechanisms for collaborative planning and aligning incentives to ensure that all parties are working toward common goals.

4. Commitment to Long-term Relationships:

- The lack of commitment to long-term relationships with suppliers and stakeholders highlights a practical gap in establishing trust and building sustainable partnerships. This requires practical approaches to relationship management and collaboration.

5. Utilization of Technology:

- The integration and utilization of technology to facilitate collaboration remain a practical challenge. Firms may lack the necessary technological infrastructure or expertise to leverage information technology for enhancing supply chain collaboration.

6. Overcoming Outsourcing Challenges:

- Practical solutions are needed to address the challenges associated with outsourcing non-core functions. This includes developing strategies to manage supplier relationships effectively and ensuring that outsourcing contributes positively to overall supply chain performance.

7. Performance Measurement Tools:

- There is a lack of practical tools and metrics to measure the impact of collaborative practices on performance. Companies need practical frameworks to assess the benefits and effectiveness of their collaboration efforts.

8. Addressing Barriers to Collaboration:

- Identifying and addressing the specific barriers that hinder effective collaboration in the Kenyan context is a practical gap. This includes understanding cultural, organizational, and operational obstacles and developing strategies to overcome them.

9. Training and Development:

- There is a practical need for training and development programs to enhance the skills and capabilities of employees and managers in implementing and sustaining collaborative practices.

10. Scalability of Collaboration Initiatives:

- Companies may face practical challenges in scaling collaboration initiatives across their supply chain networks. This includes replicating successful practices and adapting them to different contexts and partners.

Addressing these practical gaps can help firms like Del Monte Kenya Ltd to effectively implement collaborative supply chain practices and achieve the potential benefits associated with improved performance and competitiveness.

this research sought to address this main Question:

"How can food and beverage companies effectively implement collaborative supply chain practices to enhance performance and competitiveness applied at F&B Chain Company located in Jeddah, Saudi Arabia?"

Research Significance

The study on collaborative supply chain practices and their impact on the performance of Del Monte Kenya Ltd holds significant value in various dimensions:

Enhancing Supply Chain Efficiency: By identifying effective collaboration practices, this research can help Del Monte Kenya Ltd and similar firms streamline their supply chain processes, leading to increased efficiency and reduced operational costs.

Improving Competitive Advantage: Understanding the role of collaboration in supply chain management can provide firms with a competitive edge by enabling them to better respond to market demands, improve product quality, and enhance customer satisfaction.

Informing Strategic Decision-Making: The findings from this research can inform strategic decision-making within companies by providing insights into how collaborative practices can be leveraged to achieve organizational goals and improve overall performance

Addressing Practical Challenges: The study can identify practical barriers to effective collaboration and offer solutions, helping companies overcome challenges related to implementation, relationship management, and technology utilization.

Contributing to Theoretical Knowledge: By addressing theoretical gaps, this research can contribute to the academic understanding of supply chain collaboration, particularly in the context of Kenyan manufacturing firms, and offer a foundation for future studies.

Guiding Policy and Practice: Policymakers and industry leaders can use the insights from this research to develop policies and best practices that promote collaboration across supply chains, fostering a more integrated and resilient business environment.

Promoting Economic Growth: Improved supply chain collaboration can enhance the performance of manufacturing firms, contributing to economic growth and development by increasing productivity and competitiveness.

Facilitating Relationship Building: The research can highlight the importance of building long-term relationships with supply chain partners, leading to more stable and mutually beneficial partnerships.

Supporting Sustainable Development: By promoting efficient and effective supply chain practices, this research can contribute to sustainability goals by reducing waste, optimizing resource use, and supporting environmentally friendly practices.

Enhancing Employee Skills: The study can identify the skills and capabilities needed for successful collaboration, guiding training and development initiatives that enhance employee competencies and drive organizational success.

Overall, this research has the potential to make a significant impact on both the academic and practical aspects of supply chain management, offering valuable insights that can drive improvements in performance, competitiveness, and sustainability.

At the theoretical level

At the theoretical level, the research on the impact of collaborative supply chain practices in the food and beverage industry could focus on understanding and developing the conceptual frameworks and models that explain how collaboration affects performance and competitiveness. Here is a theoretical-level main research question along with supporting sub-questions:

Theoretical Main Research Question:

"What theoretical frameworks explain the impact of collaborative supply chain practices on the performance and competitiveness of the food and beverage industry?"

Supporting Theoretical Sub-Questions:

1. Which existing supply chain theories best describe the role of collaboration in enhancing supply chain performance in the food and beverage industry?
2. How can the Resource-Based View (RBV) theory be applied to understand the strategic benefits of collaboration in food and beverage supply chains?
3. What insights can be drawn from Transaction Cost Economics (TCE) theory regarding the cost implications of collaborative supply chain practices in the food and beverage sector?
4. How does the Relational View of competitive advantage explain the significance of building long-term collaborative relationships in food and beverage supply chains?
5. What role does Social Exchange Theory play in understanding trust and reciprocity in collaborative supply chain relationships within the food and beverage industry?
6. How can the Theory of Dynamic Capabilities be used to explore the adaptability and innovation resulting from collaborative practices in food and beverage supply chains?
7. What are the theoretical implications of supply chain collaboration for risk management and resilience in the food and beverage industry?
8. How do theoretical models of supply chain integration and alignment explain the impact of collaboration on operational efficiency and effectiveness?
9. What are the theoretical constructs that define successful information sharing and communication in collaborative food and beverage supply chains?
10. How can theoretical frameworks of sustainability and environmental management be integrated into collaborative supply chain models for the food and beverage industry?

These theoretical questions aim to deepen the understanding of the conceptual underpinnings of collaborative supply chain practices and how they can be effectively leveraged to enhance the performance and competitiveness of the food and beverage industry. By exploring these questions, researchers can contribute to the development of robust theories that guide practical implementations and strategic decision-making.

At the practical level

At the practical level, research on the impact of collaborative supply chain practices in the food and beverage industry should focus on real-world applications, strategies, and challenges that companies face when implementing these practices. Here is a practical-level main research question along with supporting sub-questions:

Practical Main Research Question:

"How can food and beverage companies effectively implement collaborative supply chain practices to enhance performance and competitiveness?"

Supporting Practical Sub-Questions:

1. What specific collaborative strategies are most effective for improving supply chain efficiency in the food and beverage industry?
2. How can food and beverage companies overcome common barriers to implementing collaborative supply chain practices, such as trust issues and communication gaps?
3. What are the best practices for fostering strong relationships with supply chain partners, including suppliers, distributors, and retailers, in the food and beverage sector?
4. How can companies in the food and beverage industry leverage technology and digital tools to facilitate collaboration across their supply chains?
5. What role do logistics and transportation partnerships play in enhancing the responsiveness and reliability of food and beverage supply chains?
6. How can food and beverage companies measure the performance impact of collaborative supply chain initiatives and identify areas for improvement?
7. What strategies can be employed to align incentives and objectives among supply chain partners in the food and beverage industry?
8. How can companies in the food and beverage sector ensure compliance with food safety and quality standards through collaborative supply chain practices?

9. What are the practical steps food and beverage companies can take to integrate sustainability and environmental considerations into their collaborative supply chain efforts?
10. How can food and beverage companies manage and mitigate risks associated with supply chain disruptions through collaboration?

These practical questions focus on actionable insights and strategies that food and beverage companies can adopt to effectively implement collaborative supply chain practices, ultimately leading to improved performance, competitiveness, and sustainability.

Research Questions

- What are the key components of effective supply chain collaboration in the food and beverage industry?
- How can technology and data analytics be leveraged to improve supply chain collaboration and decision-making?
- What role do strategic partnerships and alliances play in enhancing supply chain efficiency and competitiveness?
- How can food and beverage companies align their supply chain strategies with sustainability goals to meet consumer and regulatory expectations?
- What are the best practices for managing relationships and communication with supply chain partners to optimize collaboration?

2.2. Research Objectives

- To determine and analyze the essential elements that contribute to successful collaboration within supply chains in the food and beverage industry. This includes understanding the roles of trust, communication, coordination, and shared goals.
- To explore how advanced technologies and data analytics tools can be utilized to enhance supply chain collaboration and decision-making. This objective focuses on identifying technological solutions that facilitate better data sharing, forecasting, and operational

efficiency.

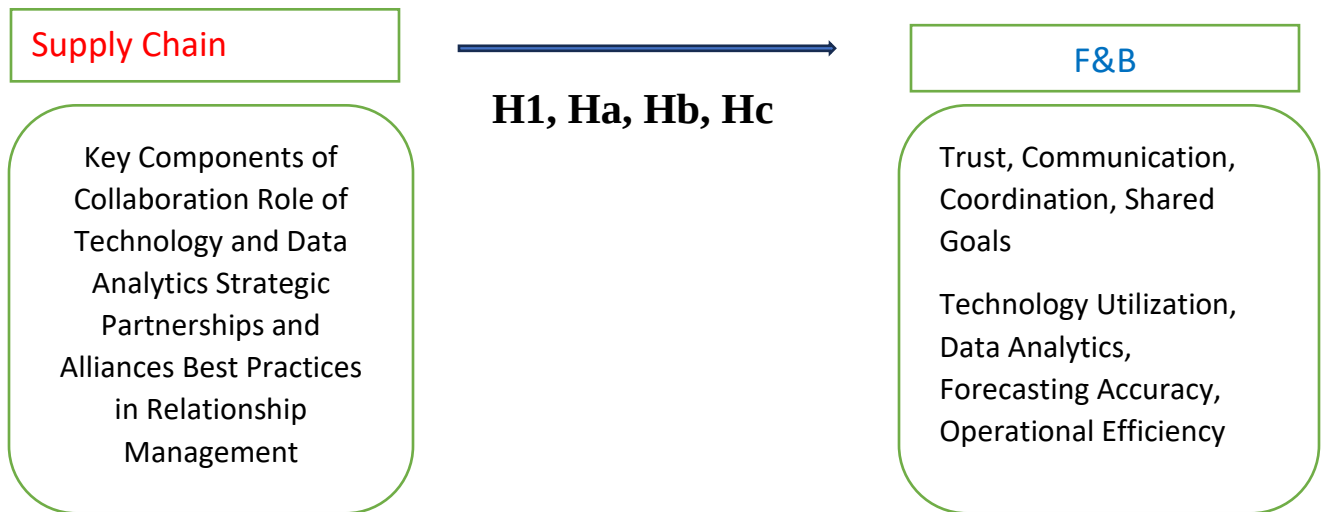
- To evaluate how forming strategic partnerships and alliances can improve supply chain efficiency and competitiveness. This includes examining how collaborative relationships with suppliers, distributors, and other stakeholders contribute to better performance and market advantage.
- To investigate how food and beverage companies can integrate sustainability objectives into their supply chain strategies. This objective aims to understand how alignment with environmental and social goals can meet consumer and regulatory expectations while enhancing overall supply chain performance.
- To identify and document best practices for managing relationships and communication with supply chain partners. This includes exploring effective methods for maintaining positive relationships, resolving conflicts, and ensuring transparent and efficient communication.

2.3. Research Hypotheses

- **H1:** Effective supply chain collaboration in the food and beverage industry is positively associated with key components such as trust, communication, coordination, and shared goals. Companies that excel in these areas will experience enhanced competitiveness and market performance.
- **H2:** The utilization of advanced technologies and data analytics tools significantly improves supply chain collaboration and decision-making in food and beverage companies. Firms that effectively leverage these technologies will achieve greater operational efficiency and market performance.
- **H3:** Strategic partnerships and alliances within the supply chain enhance supply chain efficiency and competitiveness in the food and beverage industry. Companies with strong collaborative relationships with key stakeholders will show improved performance metrics and market position.
- **H4:** Aligning supply chain strategies with sustainability goals positively impacts consumer perceptions and regulatory compliance, leading to improved overall performance and market competitiveness for food and beverage companies.
- **H4:** Aligning supply chain strategies with sustainability goals positively impacts consumer perceptions and regulatory compliance, leading to improved overall performance and market competitiveness for food and beverage companies.

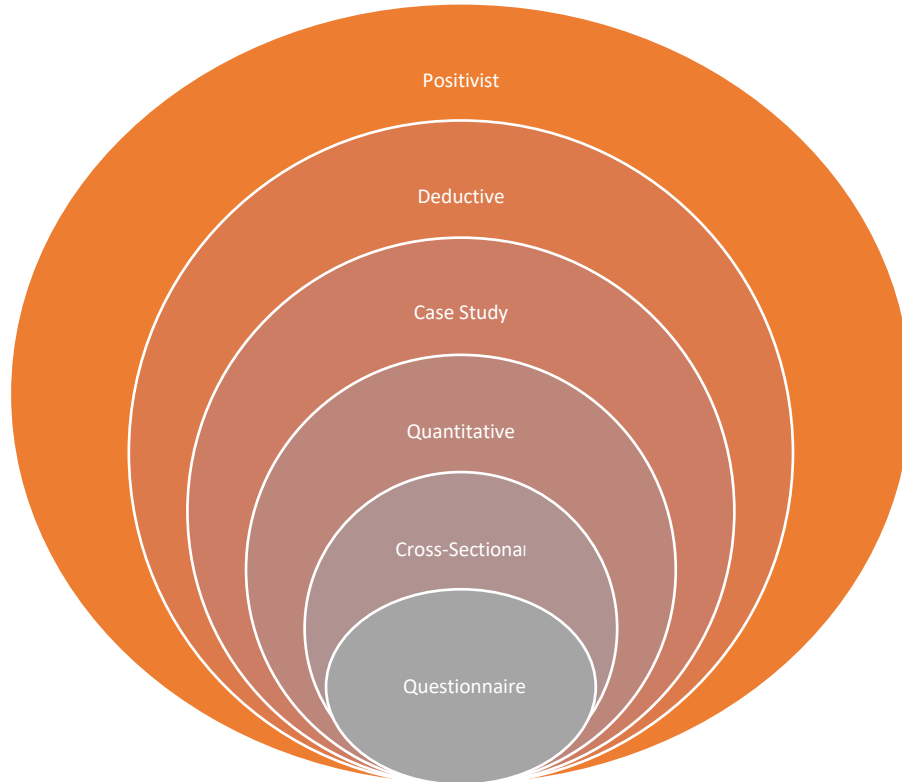
- **H5:** Implementing best practices for managing relationships and communication with supply chain partners leads to more effective collaboration and improved supply chain performance. Food and beverage companies that excel in relationship management will experience better operational outcomes and enhanced market competitiveness.

2.4. Research Model



Research Methodology

- Research Philosophy: Positivist.
- Research Approach: Deductive.
- Research Strategy: Case Study.
- Research Choice: Quantitative.
- Time Horizon: Cross-Sectional.
- Data Collection and Analysis Techniques: Statistical Analysis of Survey (Questionnaire).



Scope of The Study

FB Chain is a revolutionary B2B multichannel sourcing platform dedicated to streamlining wholesale trade in the food and consumer goods sector. Designed to bridge the gap between genuine buyers and authorized suppliers across the Kingdom of Saudi Arabia, FB Chain offers a dynamic solution to meet the ever-changing demands of the market.

2.5. The Suggested Project Structure



3.Chapter 2: Literature Review

3.1. Introduction

Brief introduction for the chapter

3.2. The independent variable

3.3. The dependent variable

3.4. The relationship between the independent and the dependent variables

3.5. Conclusion

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