

ECOLE DES HAUTES ETUDES COMMERCIALES



**Master's dissertation for the attainment of a Master's degree
in Commercial Sciences**

Option: international affairs

Topic

The impact of supply chain integration on the
performance of the company The Case of SARL-
IECO Emballage

Elaborated by:

Mohamed-Lamine ABDESSELAMYENE

Supervised by:

Dr. Hakima BOUDIFA

Maitre de conférences à EHEC

10th Batch

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ملخص

في بيئة الأعمال المتغيرة باستمرار اليوم ، يجب على الشركات تكييف وتحسين عملياتها باستمرار لتظل قادرة على المنافسة. تركز هذه الدراسة على دراسة تأثير تكامل سلسلة التوريد على الأداء التجاري ، بهدف تحسين رضا العملاء ، وخفض التكاليف التشغيلية ، وتعزيز الكفاءة العامة لدفع الربحية وتحقيق النجاح على المدى الطويل.

من خلال تحليل العناصر الرئيسية لتكامل سلسلة التوريد ، بما في ذلك تكامل الموردين ، والتكامل الداخلي ، وتكامل العملاء ، بالإضافة إلى أفضل الممارسات والتحديات المرتبطة بها ، توضح الدراسة كيف أن التخطيط الدقيق والتعاون بين جميع شركاء سلسلة التوريد ضروريان للتنفيذ الناجح. بالاعتماد على الأدبيات الموجودة حول إدارة سلسلة التوريد والتكامل

تؤكد النتائج على أهمية الاستفادة من التكامل للحصول على حصة أكبر في السوق وتلبية متطلبات العملاء المتطورة

الكلمات الرئيسية: تكامل سلسلة التوريد، إدارة سلسلة التوريد، تكامل الموردين، التكامل الداخلي، تكامل العملاء، الأداء التجاري.

Abstract

In today's ever-changing business environment, companies must continuously adapt and optimize their operations to remain competitive. This study focuses on examining the impact of supply chain integration on commercial performance, with a goal of improving customer satisfaction, reducing operational costs, and enhancing overall efficiency to drive profitability and achieve long-term success.

By analyzing the key elements of supply chain integration, including supplier integration, internal integration, and customer integration, as well as best practices and associated challenges, the study demonstrates how careful planning and collaboration among all supply chain partners are essential for successful implementation. Drawing on existing literature on supply chain management and integration,

the findings underscore the importance of leveraging integration to gain a greater market share and meet evolving customer demands.

Mots clés: Intégration de la chaîne d'approvisionnement, gestion de la chaîne d'approvisionnement, intégration des fournisseurs, intégration interne, intégration des clients, performance commerciale.

Résumé

Dans l'environnement des affaires en constante évolution d'aujourd'hui, les entreprises doivent continuellement s'adapter et optimiser leurs opérations pour rester compétitives. Cette étude se concentre sur l'examen de l'impact de l'intégration de la chaîne d'approvisionnement sur la performance commerciale, dans le but d'améliorer la satisfaction des clients, de réduire les coûts opérationnels et d'améliorer l'efficacité globale pour stimuler la rentabilité et atteindre le succès à long terme.

En analysant les éléments clés de l'intégration de la chaîne d'approvisionnement, tels que l'intégration des fournisseurs, l'intégration interne et l'intégration des clients, ainsi que les meilleures pratiques et les défis associés, l'étude démontre comment une planification minutieuse et une collaboration entre tous les partenaires de la chaîne d'approvisionnement sont essentielles pour une mise en œuvre réussie. En s'appuyant sur la littérature existante sur la gestion et l'intégration de la chaîne d'approvisionnement, les résultats soulignent l'importance de l'intégration pour gagner une plus grande part de marché et répondre aux demandes évolutives des clients.

Mots clés : Intégration de la chaîne d'approvisionnement, gestion de la chaîne d'approvisionnement, intégration des fournisseurs, intégration interne, intégration des clients, performance commerciale.

Acknowledgment

First of all, all thanks for Allah who gave me the power and the courage the almighty without him none of this work would have been done on time.

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Special thanks to SARL IECO staff for welcoming me and sharing their knowledge with me,

Finally, special thanks to all people who participated closely or far in the realization of this work.

Dedication

I dedicate this work to my loving parents, who have been my source of inspiration and biggest supporters throughout my life. Mom and Dad, you instilled in me the strength and perseverance to achieve my dreams, and the courage to overcome any challenge that comes my way. Thank you for always believing in me and encouraging me to grow as an individual. I would not be where I am today without your unconditional love, support and sacrifice. This achievement is as much yours as it is mine.

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I also dedicate this to my supervisor, teachers, friends, and mentors who have enriched my life with knowledge and wisdom. You taught me to push beyond perceived boundaries and limitations, and to develop a growth mindset. The life lessons I have learned from each of you are ones I will cherish forever. Thank you for being a part of this journey with me.

And finally, I dedicate this work to all those who dare to dream big, work hard, and never give up in the face of adversities or setbacks. Always believe in yourself and stay determined. The path may not be easy, but the rewards of perseverance and hard work will be worth it. I hope this may inspire you to remain focused on your goals and continue striving for excellence. The sky is the limit! No words can express my gratitude, so I present my deepest appreciation to them.

Mohammed Lamine

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List of abbreviations

Abbreviation	Meaning
%	percent
AI	Artificial intelligence
APS	Advanced planning system
CLV	Cost life Value
CPFR	Collaborative planning forecasting replenishment
CRM	Customer resource management
ECR	Efficient consumer response
ERP	Enterprise resource planning
FMS	New product information
IoT	Internet of things
ISO	International Organization of standardization
JITD	Just in time delivery
KPIs	Key performance indicators
LIS	Just In Time Delivery
APS	Advanced planning system
NAFTA	North American free trade agreement
NPI	New product information
OEM	Original equipment manufacturer
ROI	Return on investment
SC	Supply chain
SCM	Supply chain management
VMI	Vendor management inventory

Summary

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Introduction

Background:

The world is facing constant changes in the business requirements for maintaining a competitive environment, meeting customer needs, overcoming the business challenges stimulated by the rise of digital technology, and integrating the new innovations in the business environment across its various sectors, in a way that improves its operations, achieves customer satisfaction and business objectives, and gains a greater market share.

To adapt to these changes and stay ahead in the competition, business need to continuously innovate and implement new strategies to improve their operations, products and services, This requires a deep understanding of the market trends and customer preferences, as well as the ability to leverage the latest technologies and tools to enhance business processes and streamline operations.

Overall, staying competitive in today's business landscape requires a combination of innovation, customer-centricity, agility, and a willingness to embrace new technologies and trends. By continuously evolving and adapting to the changing market dynamics, businesses can achieve sustainable growth and success in the long run.

Furthermore, businesses must also consider the impact of global events and economic conditions on their operations. For example, the outbreak of pandemics, such as COVID-19, has disrupted global supply chains and forced businesses to adapt to new ways of working and delivering products and services.

To navigate these challenges, businesses need to adopt a proactive and flexible approach to their operations. This includes investing in technology and automation, building resilient supply chains, developing contingency plans, and collaborating with partners and stakeholders to mitigate risks and seize new opportunities.

Study purpose and objectives:

The general purpose of this study is to investigate the impact of the supply chain integration on the performance of the company, The study aims to identify the key drivers of successful supply chain integration and assess the impact of integration on key performance indicators such as cost, quality, flexibility and customer satisfaction, The study also aims to examine the potential risks

and challenges associated with supply chain integration and explore strategies for mitigating these risks.

Problem statement:

Based on the research experience in the Sarl IECO company and through unstructured interviews with a group of managers, it was shown that many challenges and obstacles were confronting supply chain management which in turn affected the overall performance at these organizations. First, different departments are concerned with achieving their own objectives separately. Second, supply chain activities and processes are performed by different departments without specialized people. Third, continuous changes in rules and regulation. Finally, continuous changing in customer needs and requirements due to tough competitions among the organizations. Consequently, this lead to difficulties in integrating supply chain activities and processes, which delay providing products and services to customers in suitable place at suitable time and losing of competitive advantage. Therefore, the managers believed that its worth to study the topic of supply chain integration

Study design:

The current study is considered as a causality study, because it aims at investigating the cause/effect relationship between supply chain integration elements and commercial performance at a packaging company. It starts with literature review and experts' interviews to develop the currently used measurement model and explore the supply chain integration profile of packaging company, a questionnaire was used to collect data from different people inside the organization.

Unit of Analysis:

The survey unit of analysis is composing of all workers at three levels (top level, middle level and supervisors) who are working at Sarl IECO Emballage. And who will be available at the time of distributing the questionnaires and who will fill it.

Questionnaire Variables:

The questionnaire variables are divided into two parts as shown in **Appendix N1** and 2:

- 1- First part contains demographic dimensions related to gender, age, academic qualification, position, department, and experience.
- 2- Second part is composing of both independent and dependent variables as follows:

a- Independent Variables (Supply Chain Integration): Based on literature review, we identified three variables that contribute to the Sarl IECO company (supplier integration, internal integration, and customer integration) each variable was measured by 8 items and the total were 24 items (from item 1 to item 24 in the questionnaire).

b- Dependent Variable (Commercial Performance): Based on literature review, the researcher has identified five dimensions related to operational performance (cost, quality, and flexibility) each dimension was measured by 4 items and the total items were 16 items (from item 25 to item 36 in the questionnaire).

All items were measured by five-point Likert-type scale to take the advantage of respondent's perceptions, varying from value 1 (strongly agree) to value 5 (strongly disagree) that was used through the study questionnaire.

Statistical methods and procedures

the data which can be obtained is considered valuable to serve the research purposes as its considered preliminary study in this field, so data were collected for the SARL IECO EMBALLAGE by using questionnaire to collect the data and examine the topic of supply chain integration and its effect on the company performance, one hundred (100) questionnaires were distributed to the company members of the company. And we collected 80 questionnaires which form 80% of the total questionnaires. Python and SPSS was used to analyze the impact of supply chain integration on commercial performance

Study hypotheses:

Based on the problem statement and its elements, the following hypotheses can be derived:

Ho.1: Supply chain integration elements do not have direct impact on commercial performance at the Sarl IECO

The main hypothesis can be divided into three hypotheses according to the supply chain integration elements (variables) as follows:

Ho.1.1: Supplier integration does not have direct impact on commercial performance at the sarl IECO

Ho.1.2: Internal integration does not have direct impact on commercial performance at the Sarl IECO

Ho.1.3: Customer integration does not have direct impact on operational performance at the Sarl IECO

Chapter One: Supply Chain Foundations

Chapter One: Supply chain foundations

Supply chain management has become an increasingly important area of focus for many businesses in recent years. A supply chain involves the flow of goods, services, and information from raw materials suppliers to manufacturers, distributors, retailers, and ultimately to consumers. Logistics is a key component of the supply chain, encompassing all the activities involved in the movement and storage of goods and materials.

Achieving supply chain integration is critical for companies seeking to improve their supply chain performance. This involves aligning the various functions within the supply chain

In this chapter, we will explore the foundations of supply chain management, including the flows and objectives of supply chains, the relationship between supply chain and logistics, and the key elements and costs of achieving supply chain integration. We will also discuss best practices for achieving supply chain integration and how to overcome common challenges.

Section 01: Supply chains and management

1. 1. Supply chains:

Over the last thirty years, the field of business management has experienced significant transformations and advancements, Numerous traditional business management have been scrutinized, while new approaches and ideas have been introduced, such as business process re-engineering, strategic management, lean thinking, agile manufacturing, balanced scorecard, blue ocean strategy, and many others.

1.1.1. Defining supply chains:

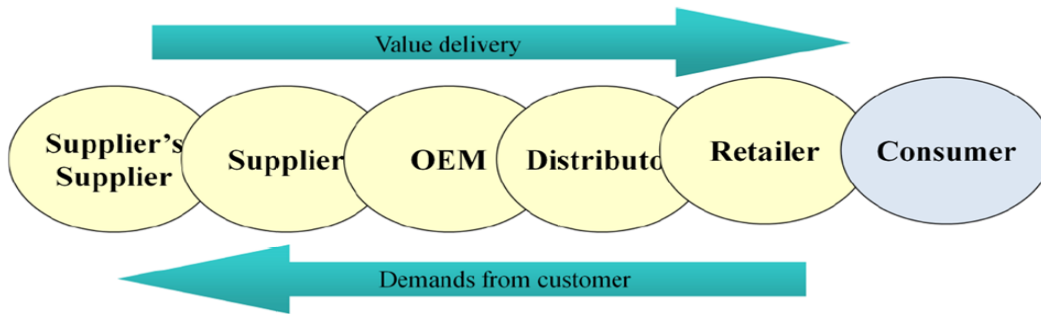
There are so many definitions of the supply chains as many of those who cared to write about it. And Dr.Dawei defines supply chain as¹:

“A supply chain is a network of individuals and companies who are involved in creating a product and delivering it to the consumer. Links on the chain begin with the producers of the raw materials and end when the van delivers the finished product to the end user”.

It is a comprehensive system that involves a range of activities, processes and sub-processes, including procurement, operations, transportations, and warehousing.

The ultimate goal of the supply chain is to deliver products and/or services to the end consumer or customer, beginning with the procurement of raw materials and equipment. These inputs are then transformed into semi-finished products, which undergo further processing to produce the final products.

¹ DAWEI(L), “*Fundamentals of supply chain management*” , Ventus Publishing Aps, 2011, p.09

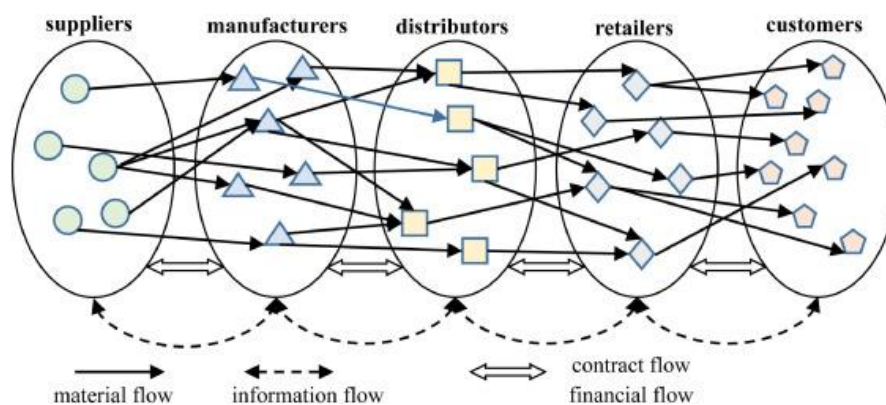
Figure 1: A basic supply chain model

Source: Dawei (L), Fundamentals of supply chain management, p.10

The product and/or service created by a supply chain for the end consumer is located at the end of the supply chain. Therefore, the main purpose of the supply chain is to serve the consumer in the market. The extent of which supply chain can effectively serve its consumers determines its competitive advantage in the marketplace.

1.1.2. Supply chains complexity:

It is easy to comprehend that supply chains in the real world are more complex than the one illustrated in figure 1, the reality is that it is not a 'chain', but rather a 'network', especially when you take into account that there are various suppliers and customers for each participating company in the chain. Moreover, there can be nested chains within the larger chains.

Figure 2: Risk transmission in a complex supply chain

Source: Jiepeng Wang, Hong Zhou, "Risk transmission in complex supply chain network with multi-drivers"

As supply chains extend globally, the complexity arising from the interactions between many dispersed supply chain partners has intensified². This complexity manifests itself in several forms including a larger number of components and interconnections in the supply network structure³, higher levels of uncertainty from various sources, and the dynamic and emergent behaviors that result from non-linear interactions between supply chain partners.

1.1.3. Supply chain flows:

Describing the supply chain can vary depending on the perspective from which it is viewed, if we see the supply chain primarily as a series of activities that add value to a product or service, we may call it value chain, On the other hand, if we see the supply chain as a flows of demands originating from consumers and extending to upstream suppliers, we may call it demand chain, Both terms refer to the same concept of the network of suppliers, manufacturers, distributors, and retailers involved in bringing a product to the market⁴.

Given the extensive interconnections among organizations in the business world, it can be challenging to establish clear boundaries for supply chains. To address this issue, it is crucial to have a grasp of the four essential flows that constitute a supply chain⁵:

- **Material flow:** The entire process of manufacturing involves material movement from raw material at the beginning of the supply chain to the finished products at the end.
- **Information flow:** Every supply chain utilizes information flows, which include demand, forecasting production, scheduling, design and new product information (NPI) flows. Unlike material flows, information flows can run both upstream and downstream, these flows are unique for each specific supply chain and hold immense value, which is why they are guarded against other supply chains.

² MANUJ (I), MENTZER (J), "Global supply chain risk management strategies", International Journal of Physical Distribution & Logistics Management, 2008,192-223.

³ CHOI (T), KRAUSE(D), "The supply base and its complexity: implications for transaction costs, risks, responsiveness, and innovation", Journal of Operations Management,2006, 637-652.

⁴ DAWEI(L), "Fundamentals of supply chain management", Ventus Publishing Aps, 2011, p.10

⁵ DAWEI(L), "Fundamentals of supply chain management", Ventus Publishing Aps, 2011, p.11

- **Finance flow:** Every supply chain involves a financial flow, which refers to the movement of money throughout the supply chain. Without this flow, the supply chain is likely to fail. However, each supply chain has only one source of finance has led to the development of the ‘single entity’ perspective of a supply chain.
- **Commercial flow:** Supply chain characterized by a transactional commercial flow, whereby the ownership of the materials flowing through the supply chain changes hands from one company to another, from supplier to buyer. This transfer of ownership occurs repeatedly throughout the supply chain as a result of buying and selling process.

1.1.4. Supply chain risks:

Supply chain risks can have a significant impact on a business's operations and bottom line. These risks can arise from a variety of sources, including natural disasters, political instability, supplier bankruptcy, and supply chain disruptions. For example, the COVID-19 pandemic has caused significant disruptions to global supply chains, leading to shortages of critical goods and delays in delivery times. To mitigate these risks, businesses should develop contingency plans and invest in building resilient supply chains. This may involve diversifying suppliers, investing in technology, and developing alternative transportation routes. A recent study by McKinsey & Company found that companies that prioritize supply chain resilience are better equipped to manage disruptions and recover more quickly when they occur⁶.

According to a study by the Business Continuity Institute, the top three causes of supply chain disruptions are unplanned IT and telecommunications outages, cyber attacks, and adverse weather. Such events can ripple through supply chains and amplify risks by causing delays, shortages, increased costs, and losses that threaten business continuity and resilience⁷.

⁶ McKinsey & Company, "Supply chain resilience: A bold response to disruption", 2021

⁷ MITROFF (I) & ANAGNOS (G), "Managing crises before they happen: What every executive and manager needs to know about crisis management", AMACOM, 2001, P.96

1.1.5. Supply chains into the future

Supply chain management is undergoing rapid and accelerating changes due to two distinct factors: The first is the internal pressure for change, resulting from the managerial and technical advancements within the system. These include⁸:

The advancement of computing technology has resulted in faster and more intelligent systems that can efficiently manage information flows, leading to what is known as ‘time compression’, with high speed computing and data transmission, user demands can be met almost instantly regardless of location.

The existence of adaptable computer facilities provides supply chain companies with ability to conduct ‘dynamic simulation’ of logistic problems. The majority of logistic issues involve multiple variables, which can be challenging to manage.

Finally, the realization of the systems nature of the supply chain and the significant impact of ‘trade-off’, it is necessary to understand the importance of measuring total costs and utilizing advanced management accounting techniques.

The second set of pressures for change comes from the wider economy, again these include some factors⁹:

The economy’s current trends indicate a potential for uncertainty in the growth of consumer markets. As a result, manufacturing and retail organizations will need to be prepared to manage markets that may fluctuate in size with little warning. To remain competitive in this challenging global marketplace, successful business and logistics strategies must be built on flexible and effective options.

As consumers become more selective and demanding, the life cycle of the products are getting shorter. This calls for systems that can support quicker product development and more adaptable distributions methods.

⁸ QUAYLE (M), “*Purchasing and Supply Chain Management: Strategies and Realities*”, IRM Press, University of Glamorgan, UK, 2006, P.14

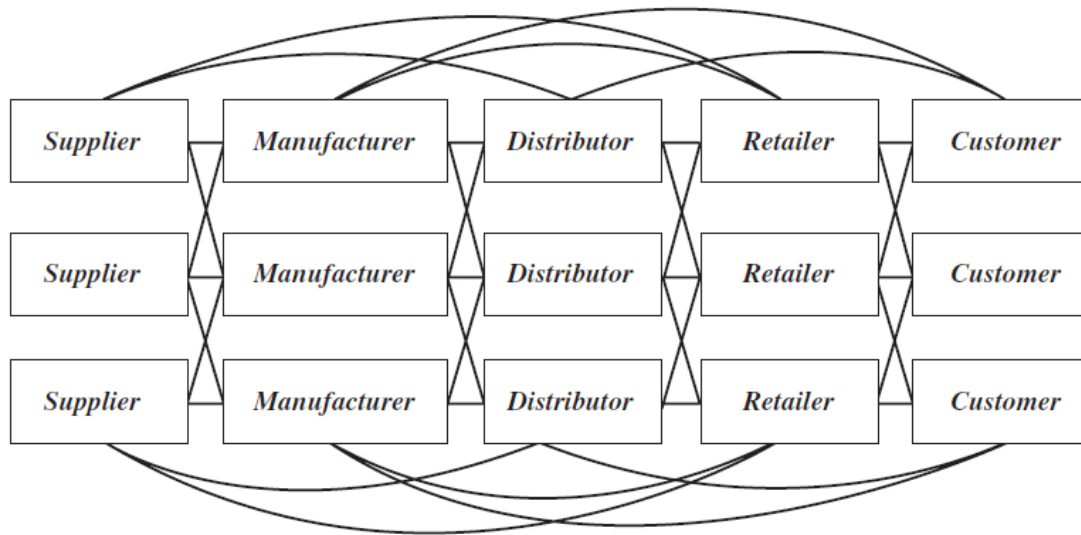
⁹ QUAYLE (M), “*Purchasing and Supply Chain Management: Strategies and Realities*”, Pearson Education Limited, 2006, P.16

The production function has undergone a shift from mass production to flexible manufacturing systems FMS. This transition allows companies to swiftly switch production from one product to another.

Within the marketing function, changes in distribution channels have resulted in a concentration of buying power and an increased focus on enhancing distribution service levels, particularly Just-In-Time delivery. As a result, producers and retailers are collaborating and utilizing shared information systems facilitate Just-In-Time delivery.

In other words, the future of supply chains is likely to be shaped by emerging technologies such as the Internet of Things (IoT), artificial intelligence (AI), and Blockchain. These technologies have the potential to transform the way supply chains operate by enabling greater visibility, transparency, and efficiency. For instance, IoT sensors can provide real-time data on the location and condition of products in transit while AI algorithms can optimize supply chain operations and reduce costs. Additionally, blockchain technology can increase transparency and trust by allowing all parties in the supply chain to access a shared ledger of information. As these technologies continue to develop and become more widespread, supply chain managers will need to adapt to new ways of working and embrace the opportunities and challenges that the future holds¹⁰.

¹⁰CHEN (Y) & PULRAJ (A). “*Toward a theory of blockchain-enabled supply chain management: Implications for supply chain design*”, Journal of Supply Chain Management, 2020, P.3-13.

Figure 3: Supply chain flows

Source: Chopra (S), Meindl (S), “supply chain management strategy”, P.03

1.1.6. The objective of supply chains:

Every supply chain's goal should be to optimize the total value created, which is also referred to as the supply chain surplus. This surplus is the gap between the customer's perceived value of the final product and the expenses incurred by the entire supply chain in fulfilling the customer's demand¹¹.

$$\text{Supply Chain Surplus} = \text{Customer Value} - \text{Supply Cost}$$

The value of the final product will differ for each customer and can be approximated as the highest amount the customer is willing to pay for it. The variance between the product's value and its price is retained by the customer as consumer surplus. The remaining portion of the supply chain surplus contributes to the supply chain's profitability.

¹¹ CHOPRA (S) & MEINDL(P), “Supply Chain Management Strategy, Planning, and Operation”, Pearson education, 2016, P.03

1.2. Supply chain management and logistics:

1.2.1 Logistics:

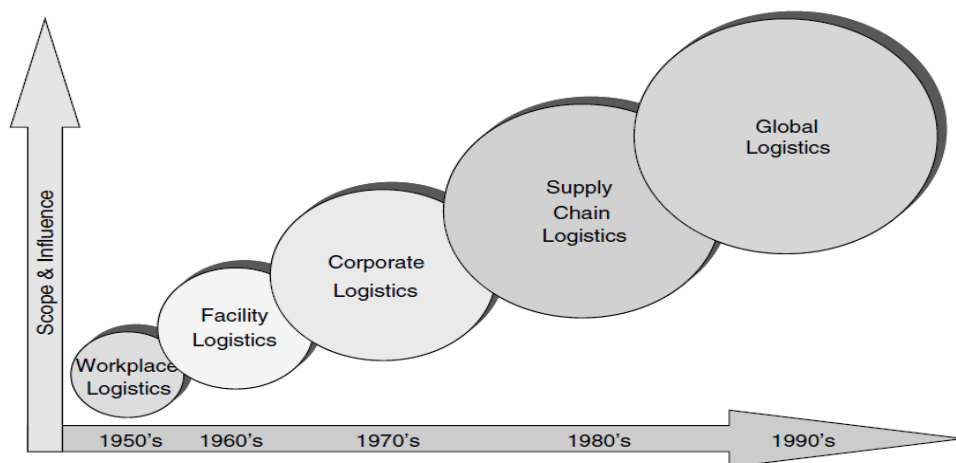
According to Mentzer et al. (2001), “logistics is the process of planning, implementing and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods and related information from point of origin to point of consumption for the purpose of conforming to customer requirements”¹².

The definition of logistics can become confusing when it is contextualized and mixed up with various buzzwords and objectives associated with logistics, as well as the interdependent processes that comprise it¹³.

1.2.2 Logistics phases:

The five phases of logistics are workplace logistics, facility logistics, corporate logistics, supply chain logistics, and global logistics¹⁴.

Figure 4: Evolution of logistics



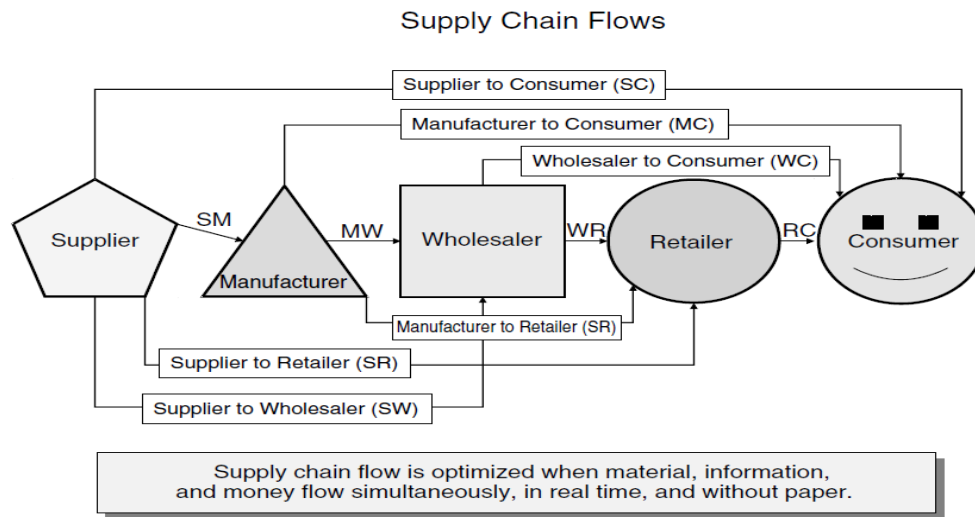
Source: FRAZELLE, supply chain strategy The Logistics of Supply Chain Management P.06

¹² MENTZER (J), DEWITT (W), KEEBLER (J), SMITH (C) and ZACHARIA (Z), "Defining Supply Chain Management"? Journal of Business Logistics, 2001, P. 1–25.

¹³ FRAZELLE (E) ,“Supply chain strategy_ the logistics of supply chain management”, McGraw-Hill, 2002, p.16

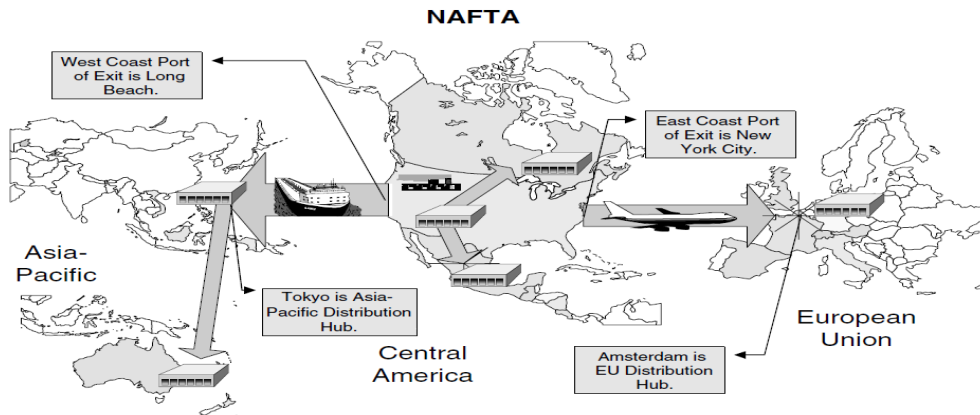
¹⁴ IBID

- **Workplace logistics:** involves the movement of materials within a single workstation, its primary goal is to optimize the actions of an individual operating a machine or working along an assembly line.
- **Facility logistics:** it is the movement of materials between workstations, includes both interworkstation and intrafacility transportation. This can occur in a range of settings, such as factory, terminal warehouse, or distribution center. However, material handling has recently fallen out of use because of its connection to activities that do not add value to the overall process.
- **Corporate logistics:** involves the movement of both flow material and flow of information between different facilities and processes within a corporation, including interworkstation, inter-facility, and intra-corporate transportation. Depending on the type of business, these logistics activities may take place between a manufacturer's factories and warehouses, a wholesaler's distribution centers.
- **Supply chain logistics:** encompasses the flow of material, information, and money between different corporations and entities involved in a supply chain. This involves coordinating the movement of goods, data and funds across various stages of the supply chain to ensure timely delivery and effective communication among all parties involved.

Figure 5: supply chain logistics

Source: FRAZELLE, Supply chain strategy, P.08

- **Global logistics:** it's the movement of goods, data, and finances between nations. It establishes a connection between the providers of our suppliers and the receivers of our customers worldwide. The growth of global logistics has been remarkable in recent years, owing to the expansion of international trade blocs, globalization, and the ease of purchasing and selling goods on web platforms. Compared to domestic logistics, global logistics is much more intricate since it involve multiple transfers, players, languages, currencies, time zones, and culture that are inherent to international commerce.

Figure 6: global logistics flows

Source: FRAZELLE, supply chain strategy, P.07

1.2.3 The difference between logistics and supply chain management:

There is a lot of confusing about the terms logistics and supply chain management, we can distinguish the two by explaining that supply chain management is the network of facilities (warehouses, factories, terminals, ports, stores, and homes), vehicles (trains, trucks, and ocean vessels), and logistic information systems (LIS), connected by an enterprise's supplier's suppliers and its customer's customers. Logistics activities (customer response, inventory management, supply, transportation, and warehousing) connect and activate the objects in the supply chain. To borrow a sports analogy, logistics is the game played in the supply chain arena.

Logistics is primarily concerned with ensuring that products are delivered to customers on time and in good condition. In contrast, SCM takes a customer-centric approach, seeking to understand customer needs and preferences and designing supply chains that meet those requirements¹⁵.

¹⁵ CHRISTOPHER (M), Logistics & supply chain management, Pearson Education Limited, 2016, P.100

1.2.4 Supply chain management:

The term ‘supply chain management’ as it is currently understood first appeared in recognizable media and literature in the early 1980s, Specifically, it was mentioned in Financial times article by Oliver and Webber in 1982 that described an organization’s range of activities in procuring and managing suppliers. However, the initial publications on supply chain management in 1980s primarily focused on purchasing activities and cost reduction¹⁶.

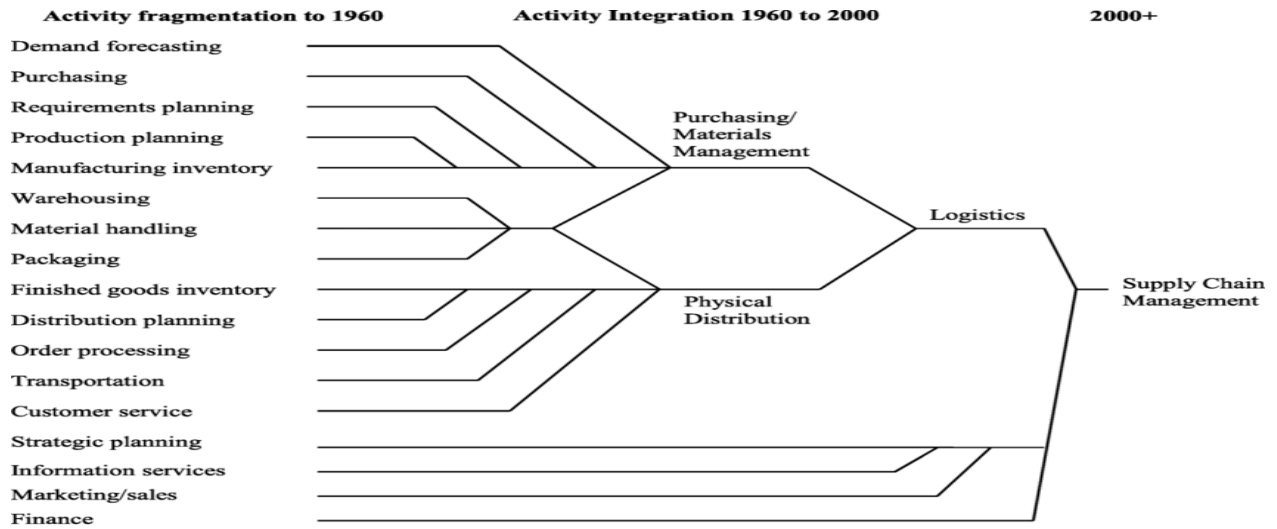
There are many different definitions of the supply chain management. In addition, the supply chain forum SCF defines the supply chain management as an integration of key business processes from the end user through suppliers that provide goods, services and information that add value for customers¹⁷.

According to Christopher (M)¹⁸ *“Supply chain management is the coordination of activities involved in the production and delivery of products and services from suppliers, through manufacturing and distribution to the final customer, with the aim of creating value for all parties involved in the process”*.

¹⁶ OLIVER (R) & WEBBER (D), “Supply-chain management: Logistics catches up with strategy”, pp. 63-75

¹⁷ MENTZER (J), DEWITT (W) and KEEBLER(J) Min (S), “Defining supply chain management, Journal of business logistics”, 2001, P.1-25.

¹⁸ CHRISTOPHER (M), “Logistics & supply chain management”, Pearson UK, 2016, P.102

Figure 7: Supply chain management evolution

Source: Ballou, 2007

source: https://www.researchgate.net/figure/Evolution-of-supply-chain-management_fig3_333014015 [accessed 28 May, 2023]

Although, there are some situations when speed is important in a Supply Chain and the speed pertinence can therefore not be disregarded. Speed is crucial in supply chain under the following situations, when products are urgently needed, when products are valuable in relation to their weight or are expensive to manage. Distribution can also present challenges, such as the risk of theft, physical damage, high interest rates for long transport times, and the need for special care during transportation¹⁹

1.2.5 The role of supply chain management:

To begin with, it is important to acknowledge that globalization and internationalization have become inevitable aspects of modern-day business. As a result, devising effective international logistics strategies poses a significant challenge for any management team.²⁰

Of course we know that supply chain management plays crucial role in the success of an organization that produces or distributes goods and services. SCM involves the management of

¹⁹ MBANG (A) & JANVIER-JAMES (G), "A new introduction to supply chains and supply chain management: Definitions and theories perspective", Journal of Industrial Engineering and Management Science, 2019, P.1-16.

²⁰ QUAYLE (M), "Purchasing and Supply chain management strategies and realities", P.104

all activities that are involved in the production and delivery of goods and services, from the procurement of raw materials and components to the delivery of finished products to the end consumer.

The main goal here is to ensure that the right product is delivered to the right place at the right time and at the lowest possible cost. This involves managing the flow of goods, information, and finances across the entire supply chain, from suppliers to customers, some of the key activities include:

- **Procurement:** which means identifying, selecting, and managing suppliers who can provide the raw materials, components, and service required for production.
- **Inventory management:** involves managing the inventory levels to ensure that the right amount of stock is available at the right time and at the right location.
- **Logistics management:** This involves managing the physical movements of goods through the supply chain, including transportation, warehousing, and distribution.
- **Quality control:** This involves ensuring that all products and services meet the required quality standards and specifications.

Overall, SCM help organizations to improve efficiency, reduce costs, and enhance customer satisfaction by ensuring that products and services are delivered on time and on the most cost-effective manner possible.

Section 02: Achieving Supply chain integration

Supply chain integration is becoming increasingly important in today's global and interconnected business environment, as companies seek to optimize their operations, reduce costs, and improve customer satisfaction. In this section, we will explore the benefits of supply chain integration, the various approaches to integration, and the challenges that organizations may face in implementing an integrated supply chain strategy.

Supply chain integration refers to the coordination and collaboration between different entities within a supply chain, including suppliers, manufacturers, distributors, and retailers, to achieve common goals and improve overall performance.

1.1. The concept of integration:

According to a paper by Christopher, M. and Ryals, L. (1999), supply chain integration involves the effective coordination of all supply chain activities through the alignment of key business processes and the sharing of information among all supply chain partners, to optimize the performance of the entire supply chain .

An integrated supply chain refers to a collaborative effort between customers and suppliers who utilize management techniques to enhance their collective performance in producing, distributing, and supporting a final product. Although it may be linked to the various divisions within a large corporation, the participants in an integrated supply chain are independent companies who are joined together by trust, shared goals, and voluntary contractual agreements.

To a certain degree, all supply chains are integrated. One goal of enhancing integration is to concentrate and synchronize the pertinent resources of each participant to meet the requirements of the supply chain and enhance its overall performance.

Integrated supply chains are based on the principle that all parties involved should benefit from the relationship in a sustainable, long-term manner. These supply chains are characterized by partnerships built on extensive and transparent communication²¹.

²¹ Committee on Supply Chain Integration, “*Surviving supply chain integration: strategies for small manufacturers*”, National Academy Press, 2000, p.27

Optimizing supply chain integration is an ongoing process that requires collaboration between companies, customers, and suppliers. The process can only be successful when all participants work together to enhance their relationships and maintain awareness of key activities at all levels of the chain.

1.2. Costs of integration

Supply chain integration can come with significant costs, complexities, and risks that are comparable to those of integrating and operating a corporation of similar size. As a result, many integration efforts have been limited in scope. The following are some of the major costs involved²²:

- Time devoted to managing, training, and support
- Investment in supply chain integration software and compatible information systems throughout the chain
- Risks of production stoppages

Due to the high level of interconnectedness and interdependence within highly integrated supply chains, disruptions can have a significant impact on production. It is important to recognize the risk of production stoppages, especially in supply chains that rely heavily on just-in-time manufacturing with minimal inventories and sole-source suppliers. In such supply chain, the timely delivery of quality components and services is crucial, and failure by even one participant can quickly bring other parts of the chain to a halt. This can occur even with the best suppliers and logistics providers.

1.3. Benefits of integration:

The primary objective of integrating supply chains is to achieve cost savings by reducing inventory. This can be accomplished by improving the speed of material flow throughout the supply chain and minimizing safety stock.²³

²² Committee on Supply Chain Integration, “Surviving supply chain integration: strategies for small manufacturers”, National Academy Press, 2000, p.27

²³ Committee on Supply Chain Integration, “Surviving supply chain integration: strategies for small manufacturers”, National Academy Press, 2000, p.33

By minimizing the number of redundant suppliers, it is possible to decrease product costs. This can be achieved by augmenting production levels at the remaining suppliers and reducing the expenses related to supply chain management.

Other benefits of supply chain integration are listed below²⁴:

- Faster response to changing market demands
- Lower cost manufacturing operations
- Increased competitiveness and profitability

1.4. Supply chain integration elements:

Chopra and Meindl (2007) propose that for a better understanding of the supply chain integration, supply chain management can be categorized into three macro processes (stages):

- **Customer relationship management:** Strategic process of selecting customers that a firm can most profitably serve and shaping interactions between a company and these customers. The ultimate goal is to optimize the current and future value of customers for the company²⁵.
- **Internal supply chain management:** It involves managing the flow of goods and services within an organization. It encompasses all the activities involved in the procurement, production, and distribution of goods and services to meet the demands of the organization's customers.
- **Supplier relationship management:** Strategic approach to managing an organization's interactions with its suppliers. Effective SRM involves developing and maintaining strong relationships with suppliers, collaborating on joint initiatives, and optimizing the value of the entire supply chain.

²⁴ Committee on Supply Chain Integration, "Surviving supply chain integration: strategies for small manufacturers", National Academy Press, 2000, p.34

²⁵ KUMAR(V), REINARTZ(W), "*Customer relationship management : concept, strategy, and tools*", Springer, 2006 P.05

Initially, organizations focused primarily on managing their internal processes to achieve profitability and customer satisfaction. This involves managing the various departments and functions within the organization effectively.

Effective supply chain management requires both internal and external coordination and collaboration. Therefore, the concept of supply chain integration has emerged to bring the gap between various processes and activities. Proper alignment of all processes, activities, roles, and stages is necessary to support the supply strategy.

One of the most popular software systems used for this purpose is basic Enterprise Resource Planning (ERP), which facilitates the integration of the three primary stages of the supply chain.

In 2012, Huo investigated the effects of supply chain integration on various aspects of company performance, including supplier-related, customer-related, and financial performance. The study analyzed the three components of supply chain integration, namely supplier integration, internal integration, and customer integration. The findings revealed that internal integration positively influences the external integration, which in turn, directly and indirectly enhances overall company performance²⁶.

1.4.1 Supplier Integration

Supplier integration refers to the process of establishing close relationships with suppliers and incorporating them into the company's supply chain management system. This involves sharing information and collaborating on various aspects of the supply chain, including product design, production planning, and inventory management²⁷.

Suppliers play a critical role in ensuring the smooth functioning of organizational operations by providing the necessary inputs. They are the primary and sole source of these inputs, making them essential to the production of goods and/or services required to meet customer demands.

²⁶ HUO(B),(2012), "The impact of supply chain integration on company performance: An organizational capability perspective", Supply Chain Management: An International Journal, <https://doi.org/10.1108/13598541211272013>

²⁷ LIANG (L) & GARGEYA (V), "Supply chain integration and performance: A review of the evidence", Supply Chain Management: An International Journal, 130-145. <https://doi.org/10.1108/13598541311306303>

The quality of the suppliers and the righteousness of their selection will have direct implications on the supply chain's long-term competitiveness²⁸.

1.4.2 Internal integration:

Internal integration is a crucial aspect for both suppliers and customers in the supply chain, serving as a linchpin for stability and continuity among all parties involved. Without it, neither supplier nor customer integration can be achieved.

In order to achieve internal integration, firms need to develop a common understanding of their overall objectives, and each function's objectives must be aligned with the overall objectives. It is only when each function understands its role in the supply chain and aligns its objectives with the overall objectives that the firm can achieve internal integration.²⁹

1.4.3 Customer Integration:

Customer integration is the process of involving customers in the design, development, and delivery of products or services. The aim of customer integration is to enhance customer satisfaction and loyalty by understanding their needs and preferences. This can be achieved through various means such as customer surveys, focus group, and customer co-creation activities.

Heizer and Render emphasize that customer integration is critical in today's highly competitive business environment as it provides organizations with a unique advantage by creating a customer-centric culture³⁰.

1.5. Supply chain integration practices

Leenders and Johnson (2000) noted that in recent years, there has been a growing recognition of the significance of integrating suppliers, manufacturers, and customers. According to Pagell

²⁸ DAWEI(L), "*Fundamentals of supply chain management*", Ventus Publishing Aps, 2011, P.88

²⁹ CHOPRA (S) & MEINDL (P)(2016), "*Supply Chain Management: Strategy, planning, and Operation*"

³⁰ HEIZER(J) & RENDER (B), "*Principles of operations management*", 2017, Pearson

supply chain integration practices involves the collaborative process of interaction and cooperation among companies within a supply chain³¹.

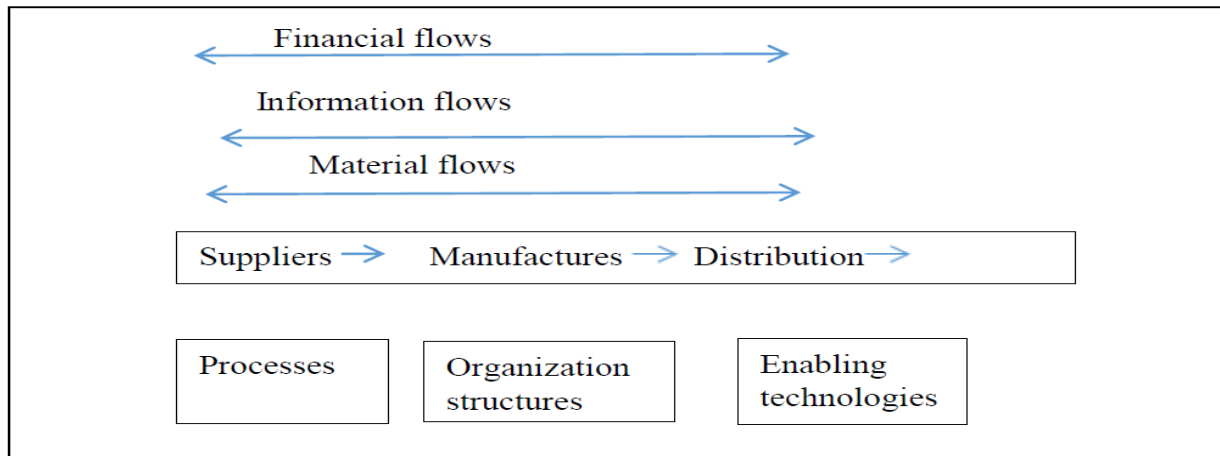
Zailani and Rajagopal (2005) categorized supply chain integration practices into two types: Internal and External integration practices. This means that the process of supply chain integration involves both internal collaboration within a company's various departments and external collaboration with other companies within the supply chain.

In practice, supply chain integration engaged by firms contain: Customer Relationship Management (CRM) practices, Vendor Managed Inventory (VMI) practices, Collaborative Planning, Forecasting, and Replenishment (CPFR) practices, Just-In-Time Distribution (JITD) practices and Efficient Consumer Response (ECR) practices. Similarly, firms that adopt Advanced Planning Systems (APS) have the capability to incorporate supplier inventory and capacity limitations into their scheduling processes, enabling them to integrate production decisions throughout the supply chain.

These integration practices have the potential to deliver competitive advantages, such as increased added value, greater efficiencies, and improved client satisfaction³².

³¹ PAGELL (M) , “*Understanding the factors that enable and inhibit the integration of operations, purchasing and logistics*”. Journal of Operations Management, 2004, 22(5), 459-487. <https://doi.org/10.1016/j.jom.2004.06.003>

³² STOCK (J) BOYER (S) and HARON (H), “*Developing a deeper understanding of supply chain integration*”, Journal of Supply Chain Management, 2011, p.6-12.

Figure 8: Integrated model of supply chain

Source: Akkermans et al. 2003, p. 286.

Supply chain integration practices involve a group of three or more entities that participate directly in value-adding processes, with the aim of achieving streamlined and efficient flows of products, services, finances, and decisions from source of customer in both upstream and downstream directions³³. This implies that evaluating the performance of each supply chain practice is necessary to determine its impact on integrating the overall supply chain processes effectively.

The process of achieving supply chain integration should involve a sequential progression from internal logistics process integration to external integration with suppliers and customers. The first step towards integration involves automating and standardizing internal logistics functions, introducing new technology, and implementing formalized, centralized organizational structures to continuously monitor and control performance. The next step involves information sharing and strategic linkages with suppliers and customers, as well as standardizing logistics processes across firms to facilitate external integration³⁴.

³³ MENTZER(J), DEWITT (W), KEEBLER (J), MIN (S) & ZACHARIA (Z), “*Defining supply chain management*”, Journal of Business Logistics, 22(2), 1-25. <https://doi.org/10.1002/j.2158-1592.2001.tb00001.x>

³⁴ BOWERX (D) , “*Strategic logistics management*”, New York: McGraw-Hill, 1989

2.5.1 Vendor Management Inventory (VMI) practices:

Vendor Managed Inventory (VMI) practices refer to a supply chain optimization strategy whereby the supplier is granted access to the customer's inventory data and tasked with the responsibility of maintaining inventory levels that meet the customer's requirements³⁵. In a VMI partnership, the supplier take charge of inventory replenishment for the businesses involved. Essentially, Vendor Managed Inventory is a cooperative arrangement between a manufacturer/supplier and a retailer/distributor, wherein the supplier gains visibility into the retailer's inventory and demand information, enabling them to manage the inventory more efficiently.

Toni and Zamalo (2005) identified some of the primary features of Vendor Managed Inventory (VMI) as reduced lead times for replenishment and reliable and frequent deliveries that optimize production and transport planning³⁶. They also observed that long-term collaboration between the supplier and firm enables the supplier to allocate their production capacity efficiently and establish the minimum and maximum inventory levels for the customer. VMI serves as an excellent example of how businesses can enhance the efficiency of their material flows by collaborating with their suppliers.

2.5.2 Efficient Consumer Response (ECR) Practices:

Efficient Consumer Response (ECR) is a collaborative approach adopted by suppliers and distributors channels with the aim of offering ultimate consumers the utmost value, optional service, and a wide range of products, by harmonizing the requirements from the company's supply chain with those of the customers. ECR is often referred to as both a system and a movement. Originating in Europe, it was designed to eliminate unnecessary costs in the supply chain and address the need for a prompt and adequate response to consumer demands³⁷. The main aim of ECR is to enhance swift and effective responses to shifts and patterns in consumer behavior through the establishment of shared goals and streamlined business producers. Through

³⁵ CHRISTOPHER (M), "*Logistics & Supply Chain Management*", 2016, P.80

³⁶ TONI (A) & ZAMOLO (D), "*Vendor Managed Inventory: a survey of Italian firms*", *International Journal of Physical Distribution & Logistics Management*, 35(2), 88-106. <https://doi.org/10.1108/09600030510584082>

³⁷ FERRE (P) & DEL CASTILLO (E), "Efficient consumer response: A strategy for customer-focused supply chain management", *International Journal of Logistics Management*, p. 29-41. <https://doi.org/10.1108/09574099610805321>

the ECR program, an arrangement for vertical cooperation is created between autonomous manufacturers and suppliers with respect to restocking, product selection, and packaging.

2.5.3 Automotive Network Exchange (ANX) Practices:

The ANX is generally designed to provide a more dependable, secure, and rapid communication platform compared to the open internet³⁸. The main goal of the Automotive Network Exchange (ANX) is to establish a standardized method for parts suppliers to effectively communicate with and obtain order information from automotive manufacturers³⁹.

2.5.4 Customer Relationship Management (CRM) Practices:

Customer Relationship Management (CRM) practices refer to an exclusive approach that effectively integrates various functions that engage with customers, such as sales, marketing, customer service, field support, and other related areas. The need for CRM arises from the fact that customers are not all alike. Companies can increase the overall value of their customer portfolio by comprehending the drivers and profitability of their customers and customizing their offerings accordingly⁴⁰.

Strong relationships with the supply chain members, including customers is crucial for improving organizational performance. According to Goldenberg (2000), CRM is more than just technology applications for marketing, sales, and services. Successful implementation of CRM can help firms to establish a customer-driven, technology-integrated, cross-functional business process management strategy that maximizes relationships.

2.5.5 Distribution requirements Planning (DRP) Practices:

The concept of Distribution Requirements Planning (DRP) involves identifying the requirements to restock inventory at regional warehouses. The DRP system starts the pull process in the supply chain by combining customer orders with forecasts. The use of Distribution

³⁸ GUASEKARAN (A) and NGAI (E)(2004), “*information systems in supply chain integration and management*”, European Journal Of Operation Research, p. 269-295.

³⁹ GRAHAM (G), HARDAKER (G), “*Automotive Network Exchange: A new global Communications Standard for the Automotive Industry*”, SAE Technical Paper, 1997,

⁴⁰ Chen, I.J. and Popovich, K. (2003) “Understanding Customer Relationship Management (CRM): People, Process, and technology,” Business Process Management Journal, pp.672-688.

Requirements Planning enables the establishments and maintenance of a fully integrated supply chain.

The time-phased order point method utilizes DRP logic to transform planned orders at the regional warehouse level into gross requirements for the supplying source. When dealing with multilevel distribution networks, the explosion process can extend through the different tiers of regional warehouses, such as the master warehouse and factory warehouse, among others. This output can then serve as input for the master production schedule⁴¹.

2.5.6 Enterprise Resource Planning (ERP) Practices:

Enterprise Resource Planning (ERP) system is a type of business software that integrates and consolidates data across a company into a single system capable of supporting the needs of the entire enterprise. The objective of ERP systems is to improve critical operations across the organization, including purchasing, accounting, manufacturing, and sales⁴².

ERP systems can improve a company's competitive edge in multiple ways, including:

- **Infrastructures:** The ERP system offers a comprehensive, integrated data management solution to support enterprise values creation.
- **Human resource management:** People are company's most valuable asset, even if they do not appear such on financial statements.

Overall, an ERP system can enhance a company's ability to compete by improving its data management capabilities and recognizing the importance of its human resources.

⁴¹ HUOGOS (M), *"Essentials of supply chain management"*, John Wiley & Sons, 2018, p.104

⁴² BRADFORD (M), *"Modern ERP: Select, implement, and use today's advanced business systems"*, Pearson Education, Inc, p. 26.

Conclusion:

Supply chains are complex systems that involve the flow of materials and information between various entities to enable the production and distribution of goods and services to end customers.

Achieving integration across supply chain functions and partners is key to maximizing the benefits of supply chain management. When supply chain integration is done right, it can lead to significant cost savings, improved customer service, faster product innovation, and competitive advantage. However, it requires investment in technology and relationships to enable seamless connectivity and coordination.

As supply chains become more global and dynamic, the challenges of integration will only increase. However, the potential benefits to those companies that are able to achieve higher levels of supply chain integration will also multiply.

The practices and examples discussed in this chapter provide a blueprint for companies looking to further integrate their supply chains to gain a competitive edge. Overall, supply chain integration should be an imperative, not an option, for companies operating in today's fast-paced global marketplace.

Chapter Two: Commercial Performance Measurement

Chapter Two: Commercial performance measurements:

The chapter on performance will explore the fundamental concepts of measuring and evaluating performance in different areas of business. The chapter is divided into two sections: the first section will introduce the general concepts of performance, including the definition of performance, key performance indicators, and performance measurement frameworks. The second section will focus specifically on commercial performance, discussing how performance is measured and evaluated in the context of sales, marketing, and other commercial activities.

This chapter aims to provide a comprehensive understanding of performance management in business and equip readers with the tools and knowledge necessary to measure and improve performance in their own organizations.

Section01: General concepts of performance:

1.1. Definition of the performance concept:

According to the International Organization of Standardization (ISO), performance is defined as “*the measurable results of an organization, part of organization, or individual against planned goals.*”⁴³ [ISO 9000:2015, Clause 3.6.5].

For KHEMAKHEM (A): “*the term performance for a responsibility center, such as workshop, department, unit, company, or branch, refers to the level of efficiency and productivity achieved in meeting the objectives that were set and accepted by the center*”⁴⁴

All models that present the concept of performance come to the same conclusion that it is a complex construct that it is difficult to comprehend due to its many dimensions.

Its extensively used in all aspects of management, including performance management, performance measures, performance evaluation, and performance estimation. In recent years, this

⁴³ International Organization for Standardization (ISO), ISO 9000:2015 Quality management systems-Fundamentals and vocabulary. Clause 3.6.5, 2015 Geneva, Switzerland: ISO.

⁴⁴ KHEMAKHEM(A): “*La dynamique du controle de gestion*”, edition Dunod, Paris, 1992, p.311

concept has been employed in management literature to assess a company's implementation of declared sustainable development strategies⁴⁵.

The performance of a company can be characterized as the degree to which it attains desired outcomes in proportion to the effort expended and resources utilized. The concepts of efficiency and effectiveness play a significant role in determining the level of performance.

Generally, performance may refer to four main concepts which are cited in management literature⁴⁶.

- **Effectiveness:** the extent to which an organization or individual achieves its goals and objectives.
- **Efficiency:** the ability to complete tasks with minimum waste of resources.
- **Productivity:** the measure of output generated in relation to the inputs used.
- **Quality:** the degree to which products, services, or processes meet or exceed customer expectations.

1.2. Characteristics of performance:

The performance can be described by the following characteristics:

- The outcome will vary based on the objective that needs to be achieved.
- Direct observation and measurement of it can be challenging

The performance of a company is often measured by its financial results, such as revenue growth, profitability, and return on investment. However, there are other characteristics that can also contribute to a company's performance. For instance, a company that has a strong culture of innovation and a commitment to continuous learning and development may be more likely to outperform its competitors in the long run.

⁴⁵ RENAUD (A), BERLAND (N), 'Mesure de la performance globale des entreprises', France, 2007, p.2

⁴⁶ BEHESHTI (H) MARANDI (S) & BAKHSHAYESH (A), "A systematic review of performance measurement in supply chain management: Bibliometric and content analysis", Journal of Cleaner Production, 2020, 256, 120521. <https://doi.org/10.1016/j.jclepro.2020.120521>

1.3. Organizational performance:

The effectiveness of an organization is significantly influenced by its performance measures. In today's business landscape, it is no longer enough for companies to concentrate solely on enhancing their internal processes while disregarding the operations of their suppliers and customers. By measuring the organization's performance, a better comprehension of the organization can be achieved, leading to improvements in its overall performance⁴⁷.

Charan and al. (2008) argue that companies need to shift their focus towards the performance measurement of the organizations they partner with. This emerging requirement highlights the importance of monitoring the performance of business partners to ensure that they meet the expected standards. By paying close attention to the performance of partner organizations, companies can identify potential risks and opportunities, which can help to improve their own performance⁴⁸. By studying the impact of supply chain integration practices on organizational performance, companies can gain insights into how to improve their performance by aligning their supply chain strategies with their business objectives.

According to Rosenzweig et al. (2003), the current business environment's complexity and unpredictability necessitate that firms adopt supply chain integration practices. They assert that firms with highly integrated supply chains are more likely to gain a competitive edge over their rivals by sharing information and operational knowledge among members of the supply chain⁴⁹.

Empirical studies have yielded mixed results regarding the effects of supplier and customer integration practices on various performance measures. Wong, Boon-itt, and Wong (2011) found that supplier integration practices have a positive impact on product quality. In

⁴⁷ CHARAN (R), DROTTER (S) & NOEL (J) (2008), "*The leadership pipeline: How to build the leadership powered company*", John Wiley & Sons

⁴⁸ IBID

⁴⁹ ROSENZWEIG (E), ROTH (A) & DEAN (J), "*The influence of an integration strategy on competitive capabilities and business performance: an exploratory study of consumer products manufacturers*", Journal of Operations Management, 2003, 21(4), 437-456. [https://doi.org/10.1016/s0272-6963\(03\)00018-1](https://doi.org/10.1016/s0272-6963(03)00018-1)

contrast, Swink, Narasimhan, and Wang (2007) reported a significantly negative relationship between supplier integration practices and product quality⁵⁰.

Using a portfolio of performance measures is more beneficial than relying only on traditional profitability measures, according to Tangen (2004). To establish a precise link between supply chain integration practices and specific organizational outcomes, the performance analyzed in the studies is defined in terms of:

1.3.1. Financial performance:

According to Narasimhan and Jayaram (1998), the investment return is one of the variables used to measure the performance construct. Additionally, Chen, Paulraj, and Lado (2004) found that profit percentage on sales and invoicing gross value are also important variables.

Financial performance refers to how well a company uses its assets to generate profits. It is an important measure of a company's overall health and sustainability. Financial performance is usually assessed by analyzing financial statements such as the income statement, balance sheet, and cash flow statement. Common financial performance metrics include return on investment, profit margin, and cash flow. Therefore, understanding and improving financial performance is a critical goal for companies to achieve long-term success⁵¹.

1.3.2. Quality performance:

According to Heizer and Render (2005), quality is a critical performance measure in purchasing. It encompasses various aspects such as accuracy, adherence to technical specifications, and effective sales leadership in promoting products with quality characteristics⁵², as noted by Carr and Kaynak (2007). Garvin (1998) further elaborates on the concept by dividing it into five perspectives: transcendent vision, product, user, production, and value. In addition, he identifies

⁵⁰ SWINK (M), NARASIMHAN (R) & Wang (C), Managing beyond the factory walls: Effects of four types of strategic integration on manufacturing plant performance. *Journal of Operations Management*, 2007, 25(1), p.148-164. <https://doi.org/10.1016/j.jom.2006.02.007>

⁵¹ WONG (K) & ZHANG (J), "*The impact of intellectual capital on financial performance: Evidence from Australia*", *Journal of Applied Accounting Research*, 2016, P. 259-278.

⁵² HEIZER (J) & RENDER (B), "*Operations management*", Upper Saddle River, NJ: Prentice Hall, 2005.

eight dimensions of quality: performance characteristics, reliability, conformity, durability, customer service, aesthetics, and perceived quality⁵³.

1.3.3. Delivery/ Reliability Performance:

According to Coyle and al. (2003), there are three dimensions of delivery: delivery speed, product lead time, and product reliability. Delivery speed refers to the capability to minimize the time between receiving an order and delivering it to the customer as quickly as possible⁵⁴. It also incorporates the production lead time, which is the time between placing an order and receiving the product or service. This helps customers get accurate estimates of the delivery time. Delivery reliability, on the other hand, involves delivering the desired quality as promised.

1.3.4. Flexibility Performance:

According to Chopra and Meindl (2004), there are four dimensions of flexibility: customer service flexibility, order flexibility, location flexibility, and delivery time flexibility; Customer service flexibility refers to the ability to fulfill special requests from customers. Order flexibility involves the ability to modify order size, volume or composition during logistics operation. Location flexibility pertains to the ability to service customers from alternative warehouse locations. Delivery time flexibility, on the other hand, is the ability to accommodate delivery times for specific customers⁵⁵.

1.3.5. Cost Performance:

According to Narasimhan and Jayaram (1998), the concept of low unitary cost products is associated with production⁵⁶. On the other hand, Fynes, Voss and Burca (2005) suggest that the strategy of offering a cheaper or similarly priced product compared to competitors is also relevant.

⁵³ GARVIN (D), “*Managing quality: The strategic and competitive edge*”. Simon and Schuster, 1998

⁵⁴ COYLE (J), LANGLEY (C), NOVACK (R) & GIBSON (B)(2003)” *Supply chain management: a logistics perspective*”. South-Western Educational Publishing, 2003

⁵⁵ CHOPRA (S) & MEINDL (P), “*Supply chain management: strategy, planning, and operation*”. Pearson Education, 2004, P.102

⁵⁶ NARASIMHAN (R) & JAYARAM(J), “*Causal linkages in competitive strategy: An exploratory study*”, Journal of Business Research, P.139-155.

1.3.6. Strategic performance:

Strategic performance refers to the ability of an organization to effectively implement and achieve its strategic goals and objectives. It involves monitoring and evaluating performance against key performance indicators (KPIs) and taking corrective actions as necessary. According to Keegan and Green (2015), strategic performance can be assessed using a variety of tools such as balanced scorecards, strategy maps, and dashboards⁵⁷.

1.3.7. Competitive performance:

Competitive performance refers to the ability of a firm to effectively compete in the marketplace. It involves the development and implementation of strategies to gain a competitive advantage over rivals. According to Porter (1990), competitive advantage arises from the ability to deliver superior value to customers at a lower cost than competitors, or by providing unique and desirable features that are not offered by rivals. Effective competitive performance management can help firms to maintain and improve their market position, increase profitability, and sustain long-term success⁵⁸.

1.4. Performance Measurements:

Performance measurement refers to the process of quantifying and evaluating the performance of an organization, process, or system. It involves the identification and tracking of key performance indicators (KPIs) that are aligned with the goals and objectives of the organization. Performance measurements can take various forms, such as financial performance, customer satisfaction, employee satisfaction, and operational performance. The use of multiple measures can provide a more comprehensive view of performance and can help organizations to balance short-term and long-term goals.⁵⁹

The main purpose of measuring a company's performance is to compare its actual results with the desired outcomes. To accomplish this, various criteria and metrics are utilized.

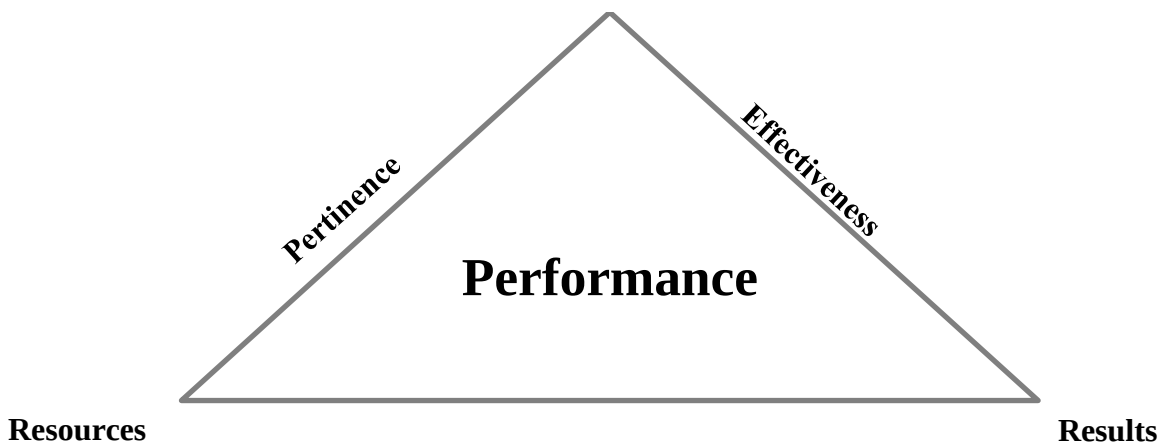
⁵⁷ KEEGAN (A) & GREEN (M), "Competing through strategic performance measurement: The value of strategic performance measurement", Journal of Strategy and Management, P.192-211.

⁵⁸ PORTER (M), "The competitive advantage of nations", Harvard Business Review, 1990, P.73-93.

⁵⁹ NEELY (A) (2007), "Business performance measurement: theory and practice", Cambridge University Press.

- It acts as a foundation for initiating the process of strategizing and predicting future outcomes within the organization.
- It promote alignment and coordination across teams and departments. By defining common metrics and objectives, organizations can ensure that everyone is working towards the same goals and aligned with the overall strategy.
- It facilitate communication between different levels of the organization by providing a common language and understanding of performance metrics. By sharing performance data and progress updates, teams can collaborate more effectively and make better-informed decisions.
- Higher achievement of performance index results in increased distribution of staff bonuses and greater potential for the company to acquire additional resources.

Figure 9: Performance triangle



Source: Catherine Fournier, and al. « Tension entre indicateurs de production et indicateurs de sécurité » <https://www.researchgate.net/figure/Performance-triangle-Hubault-1998>

1.5. The importance of performance measuring:

Performance measurements are critical for organizations seeking to improve their operations and achieve their strategic objectives. By measuring and tracking performance metrics, organizations can assess their progress towards their goals, identify areas that require improvement, and make data-driven decisions. Performance measurements provide a clear understanding of the effectiveness of business processes, resource utilization, and employee performance. Additionally, they provide objective feedback that can help managers identify areas for training and development, as well as areas where resources can be optimized. By using performance measurements to align individual and organizational goals, organizations can improve employee motivation and engagement, which in turn can lead to increased productivity and profitability. Ultimately, performance measurements are essential for monitoring and improving organizational performance, driving innovation and growth, and achieving long-term success. And if the company chooses to measure its performance, it is typically for the following purpose:

- **Measure to improve:**

Performance measurement is an essential tool for companies to identify both internal and external factors that impact their activities. In addition to identifying opportunities and threats, performance measurement also enables organizations to identify levers for improvement. It is important to note that while the establishment of a relevant set of indicators and a performance measurement approach are necessary for the evaluation phase, they represent only the initial step in a broader process of managing the company's activities.

- **Measure to innovate:**

Measuring performance plays a crucial role in fostering learning within an organization, enabling the development of process control and the exploitation of a sustainable competitive advantage. By doing so, it becomes feasible to identify both threats and opportunities, empowering the organization to take informed action at a later stage.

- **Measure to communicate:**

Measuring performance within a company serves as a means of effective communication. By quantifying and tracking key performance indicators, organizations can convey valuable information about their progress, achievements, and areas for improvement to various stakeholders. Performance measurement provides a common language for communication, allowing management, employees, investors, and other relevant parties to have a clear understanding of the company's performance and its alignment with strategic goals.

1.6. Performance indicators:

Performance indicators, also known as key performance indicators (KPIs), are essential tools for measuring and evaluating the performance of an organization. They provide quantifiable metrics that enable companies to assess their progress, effectiveness, and efficiency in achieving their goals. Performance indicators serve as benchmarks for monitoring performance over time, identifying areas for improvement, and making data-driven decisions. These indicators can be financial, operational, customer-focused, or employee-related, depending on the specific objectives and priorities of the organization. By using performance indicators, organizations can better track their progress, align their activities with strategic objectives, and drive continuous improvement⁶⁰.

An indicator is an integral component of an overarching strategy. It is essential to ensure the coherence and alignment of all indicators utilized across different levels within the company. This consistency check guarantees that the indicators employed throughout the organization are interconnected and support the overall strategic objectives.

It is important to note that the metrics and methods used for measuring performance may vary depending on the organization's industry, goals, and context. It is advisable to select a combination of measures that align with the organization's strategic priorities and provide a

⁶⁰ KAPLAN (R) & NORTON (D) (1992) ,“*The balanced scorecard: Measures that drive performance*”, Harvard Business Review, P.71-79

comprehensive view of its performance. And, to measure an organization's performance, the performance indicators must be compared:

- By comparing current performance indicators with values from previous years. By conducting such comparisons, organizations can gain valuable insights into their progress and growth.
- Analyzing performance trends over time allows for the identification of patterns, changes, and improvements. It enables organizations to assess the effectiveness of their strategies, initiatives, and operational processes, and make informed decisions based on historical data.

1.7. The types of indicators:

Certainly! Here are some types of indicators commonly used to measure company performance:

1.7.1. Lagging Indicators:

These indicators measure past performance and provide a retrospective view of the company's success. Examples include financial statements, historical sales figures, and customer satisfaction surveys. Lagging indicators are often used to assess the overall health and profitability of the company⁶¹.

1.7.2. Key Result Indicators (KRIs):

KRIs **are** specific indicators aligned with critical success factors in an organization. They focus on measuring the achievement of key objectives and performance targets. KRIs are often used in conjunction with Key Performance Indicators (KPIs) to provide a holistic view of company performance⁶².

1.7.3. Balanced Scorecard Indicators:

The balanced scorecard is a strategic performance management framework that considers multiple dimensions of company performance. It includes indicators in

⁶¹ Harvard Business Review - "*Leading and Lagging Indicators: Understanding the Difference*"

⁶² The KPI Institute - "*Key Result Indicators (KRIs): A Definitive Guide*"

four key areas: financial, customer, internal processes, and learning and growth. The balanced scorecard approach ensures a more comprehensive evaluation of the company's overall performance and alignment with its strategic goals⁶³.

1.7.4. Operational Efficiency Indicators:

These indicators assess the effectiveness and efficiency of operational processes within the company. Examples include production cycle time, inventory turnover, and cost per unit. Operational efficiency indicators help identify bottlenecks, areas of waste, and opportunities for improvement⁶⁴.

1.8. Operational performance metrics:

Operational performance metrics are a critical aspect of measuring a company's overall performance. These metrics provide insight into the efficiency and effectiveness of a company's operations, including production, supply chain management, and quality control. Examples of operational performance metrics include production efficiency, inventory turnover ratio, and quality metrics.

By tracking operational performance metrics, companies can identify areas for improvement and make data-driven decisions to optimize their operations. These metrics also help companies to benchmark their performance against industry standards and identify best practices. For example, a study by the Aberdeen Group found that companies that regularly track operational performance metrics are more likely to achieve their business goals than those that do not⁶⁵.

1.9. Efficiency and Productivity indicators:

Efficiency and productivity indicators are crucial metrics for measuring a company's performance. These indicators provide valuable insight into the efficiency and effectiveness of a company's operations, allowing managers to identify areas for improvement and make data-

⁶³ Harvard Business Review - "*The Balanced Scorecard—Measures that Drive Performance*"

⁶⁴ International Journal of Operations & Production Management - "*Measuring operational efficiency using overall equipment effectiveness (OEE): A case study*"

⁶⁵ ABERDEEN GROUP, "*Operational KPIs: The Key Metrics for Measuring Performance*". Retrieved from <https://www.aberdeen.com/research/12134/rr-operational-kpis/content.aspx>

driven decisions to optimize their processes. Examples of efficiency and productivity indicators include labor productivity, machine utilization, and cycle time.

Efficiency and productivity indicators play a crucial role in helping companies to optimize their operations and improve their bottom line. By tracking these indicators, companies can identify areas for improvement and make data-driven decisions to improve their processes and increase efficiency. For example, a study by the McKinsey Global Institute found that companies that effectively use productivity and efficiency indicators are able to achieve significant improvements in their operations, resulting in increased profitability and growth⁶⁶.

1.10. Quality and Customer Satisfaction Measures:

Quality and customer satisfaction measures play a crucial role in assessing the performance of organizations. Quality measures focus on evaluating the level of excellence and conformance to specifications of products or services delivered by a company. These measures often include metrics such as defect rate, which quantifies the percentage of defective products that do not meet quality standards. On the other hand, customer satisfaction measures gauge the perceptions and contentment of customers with the products, services, or experiences provided by a company. Customer satisfaction scores (CSAT) are commonly used to capture customer feedback and assess their overall satisfaction. By understanding and monitoring these metrics, companies can identify areas for improvement, enhance their products or services, and ultimately foster long-term customer loyalty and retention⁶⁷.

1.11. Supply chain and inventory performance metrics:

Supply chain and inventory performance metrics are critical for measuring the effectiveness of a company's supply chain management processes. These metrics provide insight into the efficiency and effectiveness of a company's supply chain, including its ability to manage inventory levels, fulfill orders, and meet customer demand. Examples of supply chain and

⁶⁶ McKinsey Global Institute. (2015). Global Growth: Can Productivity Save the Day in an Aging World? Retrieved from <https://www.mckinsey.com/featured-insights/employment-and-growth/can-productivity-save-the-day-in-an-aging-world>

⁶⁷ ANDERSON (E), FORNELL (C), & Lehmann (D) (1994), "*Customer satisfaction, market share, and profitability*", Findings from Sweden. Journal of Marketing, 1994, p.53-66.

inventory performance metrics include inventory turnover ratio, order lead time, and order fill rate.

By tracking supply chain and inventory performance metrics, companies can identify areas for improvement and make data-driven decisions to optimize their supply chain management processes. These metrics also help companies to identify potential bottlenecks and inefficiencies in their supply chain, allowing them to make adjustments and improve overall performance. For example, a study by the Council of Supply Chain Management Professionals found that companies that effectively manage their supply chain and inventory performance metrics are able to achieve significant improvements in customer service, cost reduction, and profitability⁶⁸.

⁶⁸ Council of Supply Chain Management Professionals. (2017). Supply Chain Management and Logistics: Optimizing Performance and Value Creation. Retrieved from https://cscmp.org/CSCMP/Educate/SCM_Logistics_Optimizing_Performance_and_Value_Creation/CSCMP/Educate/SCM_Logistics_Optimizing_Performance_and_Value_Creation.aspx?hkey=4b9a0477-cfd0-47d9-9f96-5f7f2a3b7f8b

Section 2: Commercial performance

2.1. Definitions:

Commercial performance refers to the ability of a company to successfully generate revenue and profits through the sale of goods or services, while effectively managing costs and resources. It is a critical aspect of a company's overall performance, as it directly impacts its financial health and long-term viability. Commercial performance can be measured through a variety of metrics, such as revenue growth, profit margins, customer acquisition and retention rates, and market share.

According to a study by Foss et al. (2019), commercial performance is influenced by a range of factors, including the quality of a company's products or services, its pricing strategy, its sales and marketing efforts, and its ability to effectively manage its supply chain and distribution channels. The study notes that companies that are able to effectively manage these factors are more likely to achieve sustained commercial success, while those that struggle in one or more areas may experience challenges in achieving their business goals⁶⁹.

According to a study by Anderson et al. (2018), commercial performance is influenced by a range of internal and external factors, such as market conditions, customer preferences, and the company's organizational structure and culture. The study notes that companies that are able to effectively manage these factors are more likely to achieve sustained commercial success and outperform their competitors. Effective commercial performance management requires a holistic approach that incorporates data analytics, strategic planning, and continuous improvement processes⁷⁰.

⁶⁹ FOSS (N), LAURSEN (K) & PEDERSEN (T), “*Linking Commercial Performance to Research and Development and Other Intangible Assets*”, California Management Review, 2019, 36-52. doi:10.1177/0008125618818649)

⁷⁰ ANDERSON (P), BOWER (J) & MITROFF (I), “*The Future of Commercial Performance Management*”. Journal of Business Strategy, 2018, P.35-43. doi:10.1108/jbs-11-2017-0154

2.2. The determinants of commercial performance:

There are several determinants of commercial performance, which can vary depending on the industry and context. Here are some common factors that influence commercial performance:

2.2.1. Product or Service Quality:

The quality of a company's products or services is a key factor in determining its commercial performance. High-quality products or services are more likely to attract and retain customers, which can lead to increased revenue and profitability.

2.2.2. Supply Chain Management:

Effective supply chain management is critical for ensuring that a company's products or services are delivered to customers in a timely and cost-effective manner. Poor supply chain management can lead to delays, stockouts, and increased costs, which can negatively impact commercial performance.

2.2.3. Customer Experience:

The customer experience is a key determinant of commercial performance, as satisfied customers are more likely to become repeat customers and recommend a company's products or services to others.

2.2.4. Organizational Culture:

A company's organizational culture can have a significant impact on its commercial performance. A positive culture that prioritizes innovation, collaboration, and customer focus can help to drive commercial success, while a negative culture that values short-term gains over long-term sustainability may undermine commercial performance.

These determinants are often interrelated and require a holistic approach to manage effectively. Companies that are able to effectively manage these factors are more likely to achieve sustained commercial success and outperform their competitors⁷¹.

2.3. The levers of commercial performance:

The levers of commercial performance are the key drivers that a company can use to improve its commercial performance. Here are some common levers that companies can use⁷²:

- **Product or Service Innovation:** Developing new or improved products or services can help a company to maintain its competitive edge, attract new customers, and increase revenue.
- **Distribution Channel Optimization:** Optimizing distribution channels can help a company to improve the efficiency of its supply chain and reduce costs, while ensuring that products or services are delivered to customers in a timely and cost-effective manner.
- **Customer Experience Management:** Providing a superior customer experience can help a company to differentiate itself from competitors, increase customer loyalty, and drive revenue growth.
- **Organizational Alignment:** Ensuring that all departments and functions are aligned around common commercial objectives and goals can help a company to improve coordination and collaboration, and drive commercial performance.

These levers are often interconnected and require a holistic approach to manage effectively. Companies that are able to effectively leverage these levers are more likely to achieve sustained commercial success and outperform their competitors.

⁷¹ ANDERSON (P), BOWER (J) & MITROFF (I), “The Future of Commercial Performance Management”, Journal of Business Strategy, 2018, P.35-43. doi:10.1108/jbs-11-2017-0154

⁷² ANDERSON (P), BOWER (J) & MITROFF (I), “The Future of Commercial Performance Management”. Journal of Business Strategy, 2018, P.44-60, doi:10.1108/jbs-11-2017-0154

2.4. The importance of commercial performance measurements:

Commercial performance measures play a crucial role in evaluating the financial health, growth, and success of a company, identifying areas for improvement, and making data-driven decisions to optimize its commercial performance

Commercial performance measures, such as revenue, profit margin, return on investment (ROI), and cash flow, provide insights into the financial health of a company. These measures help stakeholders, including investors, lenders, and shareholders, assess the company's ability to generate profits, manage expenses, and meet financial obligations.

Decision Making and Strategy Development: Commercial performance measures serve as key decision-making tools for managers and executives. By analyzing these measures, companies can identify areas of strength and weakness, make informed strategic decisions, and allocate resources effectively.

Commercial performance measures enable companies to benchmark their performance against industry peers and competitors. Understanding how a company's financial metrics stack up against industry standards helps identify areas for improvement, highlight competitive advantages, and set realistic performance targets.

According to a study by KPMG (2019), effective commercial performance measurements are essential for ensuring that a company's commercial strategy is aligned with its business goals and objectives. The study notes that companies that are able to effectively measure and manage their commercial performance are more likely to achieve sustained commercial success and outperform their competitors. Effective commercial performance measurements require a comprehensive approach that incorporates both financial and non-financial metrics, such as customer satisfaction, market share, and brand reputation.⁷³

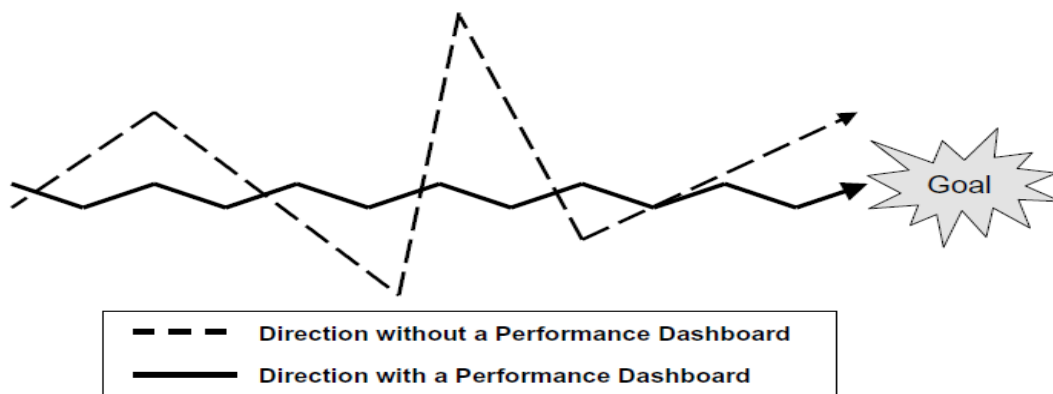
⁷³ KPMG, “Commercial Performance Management”, 2019, Retrieved from <https://home.kpmg/xx/en/home/insights/2019/01/commercial-performance-management.html>

2.5. Measurement tools of commercial performance:

Certainly! Here are some tools for measuring commercial performance:

- Financial statements - Financial statements such as income statements, balance sheets, and cash flow statements provide a comprehensive view of a company's financial performance.
- Key performance indicators (KPIs) - KPIs are specific metrics used to measure progress towards a specific business objective.
- Customer satisfaction surveys - Surveys can be used to measure customer satisfaction and identify areas for improvement in a company's products or services.
- Market share analysis - Market share is the percentage of total sales in an industry that a company controls. This metric can be used to measure a company's competitive position and its ability to capture market share from competitors⁷⁴
- Sales data analysis - Sales data can be analyzed to identify trends and patterns in customer behavior.

Figure 10: performance dashboard



Source: WAYNE (E), “*Performance dashboards: Measuring, Monitoring, and Managing Your Business*”, 2nd Edition, (2010), p.7

⁷⁴ Investopedia - Market Share

- Customer Lifetime Value (CLV) - CLV is the total amount of money a customer is expected to spend on a company's products or services over the course of their relationship.

2.6. Commercial Performance indicators:

Commercial performance indicators are specific metrics that are used to measure the effectiveness and success of a company's commercial activities. These indicators help companies assess their performance in key areas such as sales, marketing, customer satisfaction, and financial performance.

2.6.1. Quantitative indicators:

Commercial performance indicators are tools or criteria used to assess the performance of a business's commercial activities at a specific point in time. These indicators are typically quantitative in nature, allowing businesses to track specific parameters throughout their management processes. They provide measurable data that helps businesses monitor and evaluate their commercial performance, identify areas of improvement, and make informed decisions based on the results.

- **Commercial profitability:**

Commercial profitability refers to the financial profitability of a business entity or commercial venture. It is a measure of the ability of a company to generate profits and achieve sustainable financial success in its operations⁷⁵.

Commercial profitability is typically assessed by analyzing various financial metrics, including gross profit margin, net profit margin, return on investment (ROI), return on assets (ROA), and return on equity (ROE). These metrics provide insights into a company's revenue generation, cost management, efficiency, and overall financial performance.

⁷⁵ BRIGHAM (E) & EHRHARDT (M), “*Financial management: Theory and practice*”, Cengage Learning, 2013

- **Flexibility:**

Flexibility is a critical factor in commercial performance, as it enables organizations to respond quickly and effectively to changing market conditions and customer needs. To measure flexibility, organizations can use a variety of indicators that reflect their ability to adapt and adjust their operations. Some of the commonly used quantitative indicators for measuring flexibility include production cycle time, lead time, and capacity utilization.

- **Cost:**

Is a critical indicator of commercial performance, as it directly impacts an organization's profitability and competitiveness. To measure cost, organizations can use a variety of indicators that reflect the efficiency and effectiveness of their operations. Some of the commonly used quantitative cost indicators include cost of goods sold (COGS), operating expenses, gross margin, and net profit margin.

- **Gross profit margin:**

Gross profit margin, also known as gross margin, is a financial ratio that indicates the profitability of a company's core operations. It represents the percentage of revenue that remains after deducting the cost of goods sold (COGS). Gross profit margin measures the efficiency of a company in generating profit from its production or acquisition of goods.

$$\text{Gross Profit Margin} = (\text{Net Sales Revenue} - \text{Cost of Goods Sold}) / \text{Net Sales Revenue} * 100$$

- **Market share:**

Market share is the percentage of total sales in a specific industry or market that a company controls over a particular period of time. It is a common metric used to measure a company's position in the market and its competitiveness relative to other players in the same industry.

$$\text{Market Share} = (\text{Company's Sales} / \text{Total Market Size}) \times 100\%$$

2.6.2. Qualitative indicators:

- **Brand reputation:**

Brand reputation is a qualitative indicator for commercial performance that measures the perception that customers, partners, and stakeholders have of a company's brand and its values. A strong brand reputation can help a company build trust, loyalty, and credibility with its target audience, while a negative brand reputation can lead to decreased sales, loss of market share, and damage to the company's overall reputation.

- **Customer satisfaction:**

Customer satisfaction is a qualitative indicator for commercial performance that measures the degree to which customers are satisfied with a company's products, services, and customer service. It reflects the overall experience that customers have with a company and can have a significant impact on their likelihood to make repeat purchases, recommend the company to others, and remain loyal over time.

To measure customer satisfaction, companies can use various methods, such as surveys, focus groups, and customer feedback. These methods allow companies to collect data on customer perceptions of their products, services, and overall experience, as well as identify areas for improvement.

- **Customer loyalty:**

Customer loyalty is a measure of the degree to which customers are committed to a company's brand, products, or services. It reflects the extent to which customers are willing to continue doing business with a company over time, and can have a significant impact on a company's long-term success and profitability.

To build customer loyalty, companies must focus on delivering a high-quality customer experience that meets or exceeds customer expectations. This can include factors such as product quality, customer support, pricing, and overall brand reputation.

Conclusion:

This chapter has highlighted the complexity surrounding the concept of performance, often leading to confusion with various related notions. However, despite its intricacy, performance can be effectively measured using a predetermined set of determinants and indicators as discussed earlier.

Effective performance management plays a crucial role in achieving a balanced and optimal level of performance within a company, leading to its long-term sustainability.

Commercial performance is evaluated based on two key aspects: quantitative and qualitative measures. The quantitative aspect involves numerical data and financial metrics such as revenue, profit margins, return on investment, and sales growth. These metrics provide objective insights into the financial success and efficiency of a business.

On the other hand, the qualitative aspect focuses on non-financial factors that contribute to commercial performance. This includes customer satisfaction, brand reputation, market share, innovation, and employee engagement. Qualitative measures provide subjective assessments of customer perception, market positioning, and the overall health of the business.

**Chapter Three: The impact of supply
chain integration on the commercial
performance**

Chapter Three: Impact of supply chain integration on commercial performance

The impact of supply chain integration (SCI) on commercial performance is a critical area of research in supply chain management. This chapter will examine the ways in which SCI can impact commercial performance, with a focus on the import process in a specific company. The chapter is divided into three sections to provide a comprehensive understanding of the topic.

The first section will present an overview of the company, including its size, structure, and products. This section will also discuss the company's supply chain management strategies and the role of SCI in its operations.

The second section will provide an analysis of the import process in the company, including the various stages involved, such as order placement, production, quality control, and transportation...

The third section will focus on the impact of SCI on commercial performance in the company, and the impact of supply chain integration elements (supplier integration, internal integration, customer integration) on the commercial performance indicators (flexibility, cost, quality) and analyse the relationship between the two variables.

Section 1: Company presentation

In 2020, according to a census conducted by the CAPC (Algerian Confederation of Citizen Employers) (formerly FCE) released in a statement, the packaging industry in Algeria consisted of 197 companies located in 26 provinces. These companies operate in various sectors: paper, corrugated cardboard, plastic, or metal⁷⁶. They operate in various sectors, including paper, corrugated cardboard, plastic, and even metal, as stated by the CAPC, referring to a study conducted by its Packaging Commission, which has led to the creation of a digital platform that serves professionals and provides a comprehensive map.

⁷⁶ <https://www.reporters.dz/industrie-de-lemballage-une-cartographie-au-service-des-professionnels/>

The CAPC specifies that the most imported material for the packaging industry is polyethylene, accounting for 30% of companies, followed by polypropylene, accounting for 19% of companies. Additionally, 9% of Algerian companies in the sector export their products, particularly to Tunisia, which is mentioned as "*the importing country for more than half of the clients*". The CAPC's Packaging Commission also announced that 34% of companies face difficulties in sourcing raw materials, and only 27% declare engaging in recycling. Furthermore, 58% of companies state a lack of availability of raw materials in Algeria.

The Packaging Commission of CAPC also noted that 34% of companies are facing difficulties in sourcing raw materials, and only 27% declare engaging in recycling. Furthermore, 58%, which is more than half of the companies, state a lack of availability of raw materials in Algeria.

Regarding post-factory marketing, 68% of companies (wholesalers, importers, retailers) state that they handle the delivery of their goods, while 59% of distributors prefer to market local products, as they prefer to promote Algerian products over imported ones, according to the same source. The source also emphasizes the decline in production over the past three years and the challenging situation of the sector, which has been heavily impacted by the global Covid-19 pandemic.

1. Presentation of the SARL IECO:

1.1. Presentation and history:

Sarl IECO is a company specialized in the design and production of corrugated cardboard packaging, ensuring continuous research on new materials and products, as well as the creation of all types of packaging.

The main objective of the company is to deliver to customers a final product that is highly resistant to various challenges and is quickly executed. This is accomplished by employing a team of highly skilled and experienced professionals who are proficient in operating modern equipment and utilizing materials that meet all specific requirements.

The I.E.C.O. packaging company - Corrugated Cardboard Packaging Industry - was created in 1996 and is the result of three decades of experience in the field of cardboard packaging. The S.I.F.E.C. packaging company, created in the 1970s, was initially intended for the manufacture of plain or printed corrugated cardboard packaging, using cardboard sheets purchased from corrugators. In the early 1980s, as the company and the city of Blida grew and thrived, the factory was relocated to a place called Berge de l'Oued Sidi El-Kebir, which allowed for an expansion of the unit and the acquisition of a corrugator, an equipment that ended the company's dependence on its suppliers of sheets; a new era then opened up for the company. Unable to consider a new expansion of the S.I.F.E.C. company due to a lack of space, the leaders decided to create a second company in 1996, still in the same field; this is the I.E.C.O. company, located in the industrial zone - site 2 - Ouled-Yaich / Blida. The company, which covers an area of 20,000 m² (including warehouses), has modern production equipment that allows it to develop a wide range of packaging with high-quality printing.

The company IECO has a qualified sales department that, in collaboration with a graphic design department, ensures to satisfy all your needs and expectations, including:

- The realization and design of models.
- The implementation of the communication function for your product.
- Ensuring the smooth progress of the business relationship between the company and its customers.

Finally, the company I.E.C.O actively participated in the profitable environmental management integration program (GEP). This program, carried out within the framework of Algerian-German cooperation, allowed our company to acquire new managerial methods based on efficient management of the company, which integrates economic efficiency and environmental preservation.

1.2. Company's engagements⁷⁷:

The company I.E.C.O. started its activity by targeting the local market and has grown steadily. The flexibility and adaptability of I.E.C.O.'s production tool allow it to easily meet orders with different technical and commercial specifications. It should be noted that this competitive technological advantage gives the company significant commercial maneuverability.

The wide range of sectors that use corrugated cardboard packaging opens up broad prospects for the company's medium and long-term development and represents an opportunity that I.E.C.O. has been able to seize in time.

The users of cardboard packaging are countless and belong to various sectors of activity, including, among others:

- ceramics
- biscuit manufacturing
- chocolate manufacturing
- Agri-food industry
- footwear & apparel
- chemicals & pharmaceuticals
- cosmetics & perfumery
- plastics
- furniture
- agriculture

1.3. Means acquired by the company:

- Processing machines, gluing machines, String tying machines
- Inverter trains: For the production of corrugated cardboard sheets.

⁷⁷ <https://ieco-dz.com/entreprise/presentation>

- Auto-turntables
- Cutting boards
- Printers, Printing slotters
- Case makers equipped with 5-color printing units
- and rotary die-cutting units
- Folder gluers
- Stitchers

The unit is equipped with a waste suction device, which shreds the waste and compacts it into bales before being sent to specialized companies for cardboard and paper recovery and recycling or exported.

On-site delivery of the finished product is the general rule. For this purpose, the company I.E.C.O, through its subsidiary "TRANSPORTS DES 5B," has a fleet of specially equipped utility vehicles, consisting of large and medium carriers, to meet any customer demand.

Employing 73 workers at the start of production, the workforce of the company I.E.C.O. has significantly evolved to reach a total of 427 employees (across all categories).

This increase in production rate is explained by the company's policy, which, in order to overcome technological obsolescence and the temporal wear of existing machinery and equipment, decided to launch an ambitious investment program in the years 2012, 2013, and 2014. This was done alongside the continuous pursuit of economic efficiency and competitiveness through cost reduction and improved organizational capacity.

1.4. Commercial aspect, Marketing:

The consumer's attraction is achieved through packaging. Consequently, quality is of paramount importance, hence the term "silent salesman" for packaging. The consumer's attraction is achieved through packaging. Consequently, quality is of paramount importance, hence the term "*silent salesman*" for packaging.

The main concern for marketing is cost and quality. Therefore, to enhance quality, the company I.E.C.O. deemed it essential to invest in a laboratory.

1.5. The workforce of the company and production capacity:

1.5.1. The workforce of the company:

The company currently has 330 employees, across all categories.

Below the **table N01** present ranking of employees of IECO company according to their job function:

Table 1: company employees

Job function	Number of employees
• Executive managers • Managers • Skilled workers • Operational workers	• 06 • 46 • 160 • 118
Total	330

Source: Service Ressources Humaines

1.5.2. Capacity production:

The factory has a production capacity of approximately 36,500,000 square meters of corrugated cardboard (paper sheets) per year. It produces around 140 square meters of cardboard sheets every minute. In terms of cardboard packaging and boxes, the production rate is estimated to be around 260 boxes per minute⁷⁸.

These numbers are conducive to growth in view of the expansion of the company's activity and the increase in the number of its clients.

⁷⁸ Service Commercial de la SARL IECO

1.6. Customers and Suppliers of the company:

1.6.1. Customers:

The end users of cardboard packaging are countless and belong to various sectors of activity, including among others:

- Ceramics;
- Biscuit making;
- Chocolate making;
- Agri-food industry;
- Footwear and clothing;
- Chemicals and pharmacy;
- Cosmetics and perfume;
- Plastics;
- Furniture;
- Household appliances;
- Agriculture.

1.6.2. The suppliers of the raw material:

The company supplies itself with raw materials from suppliers with whom it has built a lasting and trusted relationship. Among a large majority of its suppliers are European producers such as Norecom, Roxcell and Cartesar. The reason for choosing these European suppliers is not only the quality of their products and services they offer but also an established franchise under the free trade agreements between Algeria and the countries of the European Union which allows Algerian importers not to pay import duties when the country of origin and shipment is proven European ⁷⁹(European Union specifically).

1.7. Organigram of the company(Appendix N01)

⁷⁹ Service Commerce Extérieur de la SARL IECO

1.8. The economic, social, and environmental roles of the IECO company and its objectives⁸⁰:

1.7.1. The economic role:

The company constantly strives to meet the needs of its customers while taking into account the various requirements and specifications of the requested products. In addition, the company contributes to strengthening the national economy, increasing the trade balance, and promoting domestic production

1.7.2. The social role:

The social role of this company is to provide steady employment or contracts and reduce unemployment, thanks in particular to the constant development of the company which allows for the employment of a large number of people and increases their individual income, thus increasing their purchasing power.

1.7.3. The environmental role:

Paper and cardboard are considered two materials that are not harmful to the environment. They are made from cellulose, which is a completely natural base and decompose quickly. A large majority of paper or cardboard waste is also 100% recyclable. Additionally, a vast majority of imported paper comes from recycled sources.

1.8. The objectives of IECO Company⁸¹:

- Maximize turnover and profits
- Making a big name for oneself and achieving an excellent reputation in the domestic market.

⁸⁰ Service de Commerce Extérieur de la SARL IECO

⁸¹ <https://www.ieco-dz.com/entreprise/presentation>

- Offering quality finished and semi-finished products at lower costs in the domestic market.
- Earning the trust and loyalty of the maximum number of potential customers.

1.9. Why does the company resort to importing:

The company is obliged to import this material for reason of the absence of production of this raw material in Algerian territory.

The raw material used in production is paper of various types:

- For the covers:
Brown Kraftliner, White Kraftliner, Coated White Kraftliner, Brown Testliner, Brown Kraft Topliner, Uncoated White Testliner, Cloudy Testliner, Coated White Testliner
- For the grooves:
Semi-chemical fluting, Recycled fluting – medium, Recycled fluting – light
- Other paper and cardboard types:
Flat cardboard, Printing and writing paper, Kraft paper

In conclusion, Sarl IECO is well established in the Algerian market for corrugated cardboard packaging. It ensures its sustainability thanks to its many customers who trust it for its expertise and the quality of its products.

Section 02: Import process

The importation of raw materials is a crucial step in the supply chain and manufacturing process for many companies. To obtain raw materials from foreign suppliers, companies must navigate the complex process of international trade and import regulations. This involves identifying reliable suppliers, agreeing to purchasing terms, arranging proper shipping and logistics, obtaining necessary import licenses or permits, clearing customs efficiently, and ensuring timely delivery of materials to factories or production facilities.

I had the opportunity, during my internship, to follow the progress of an import operation within Sarl IECO. I will relate in this section the main steps of importing paper rolls which is the essential material imported by the company.

We are studying an import made by Sarl IECO, the imported product is 120 GSM White Testliner paper. This paper will be imported in rolls form. The supplier for this operation is GreenGlobal for Trading, which produces this goods in Egypt.

2.1. Purchasing process:

2.1.1. Selecting the supplier:

A comparison of supplier offers is made, and for a given order, only one supplier is selected - the one who offers acceptable prices and good product quality.

In the case we are studying, it is the supplier (GreenGlobal for Trading L.L.C)

The offer is sent by the supplier via email to the purchasing manager and the head of the foreign trade department. The following information is mentioned in the email:

- The type of paper and its characteristics (White TestLiner1, 120 GSM, Flute HP 2, 120GSM, Test Liner 2, 120 GSM)
- The weight of the reels in tons (79 MT);
- The proposed price with the desired Incoterm (3.375 USD, CFR Alger).

2.1.2. Price negotiation:

The negotiations for the price of the paper reels are done by email. However, in our case, there was no negotiation as the 'stock lot' is already sold at a reduced price compared to a normal order.

2.1.3. The order:

The supplier's proposal is studied, and if it meets the company's needs, a confirmation email is sent back with a request for a pro forma invoice. The supplier prepares the pro forma invoice, which contains the following information:

- Name and contact details of the supplier (GreenGlobal);
- Name and contact details of the buyer (Sarl IECO);
- The mention 'pro forma'
- The date of issue
- The specifications of the paper, quantity, unit price in USD;
- The total price in CFR Algiers
- The freight amount
- The country of origin and the country of supply(Egypt)
- The type of transport (maritime, in containers)
- The type of payment (documentary credit, sight)
- The name of the supplier's bank (ADCB)
- Signature and stamp of the supplier.

(Pro-forma invoice **Appendix N02**)

Subsequently, the pro forma invoice must be validated by the buyer with the signature and stamp of the company, and the order is then confirmed.

2.1.4. The chosen Incoterm:

The most commonly used Incoterm in the import operations carried out by Sarl IECO is CFR Port of Algiers, for reasons that we will see below:

2.1.4.1. CFR Port of Algiers:

For our case, this Incoterm provides the following provisions:

- The supplier GreenGlobal is responsible for loading the goods on board the ship it has designated , completing the export clearance, bearing the transport costs to the destination port (Port of Algiers), and paying the related duties and taxes.
- The buyer (Sarl IECO) is responsible for the risks of transportation once the goods are on board the ship.

2.1.4.2. Reasons for choosing CFR Incoterm:

The choice of the Incoterm is up to Sarl IECO in this transaction with GreenGlobal. The reason for this choice is mainly due to the following:

- Sarl IECO does not have the capacity to handle and negotiate the price of transporting its goods from the supplier's factory to the port of shipment;
- Sarl IECO cannot complete export clearance;
- Sarl IECO does not have expertise in international transport;
- Sarl IECO agrees to assume the risks of transportation and to contract an insurance policy;
- Sarl IECO can handle import clearance;
- Sarl IECO can handle the unloading costs and post-shipment transport to its own factory.

2.1.5. Insurance:

The supplier informs the head of the foreign trade department by email a few days before the goods are shipped, sending a copy of the commercial invoice as well as information regarding the shipment:

- Ship name
- Port of loading
- Date of loading

In our case, the insurance is obtained from Cash Assurance, which provides the concerned party with a document called “Avis d'aliment” (**Appendix N03**) that includes the following information that must be completed based on the copy of the commercial invoice received and the information provided by the supplier.

- Type of transport (maritime);
- Name and address of the insured (Sarl IECO)
- Type of guarantee (all risks)
- Method of loading
- Premium rate (0.1%);
- Exchange rate (1 USD = 138,96 DA)
- Name of the supplier (GreenGlobal)
- Weight of the goods (75 MT);
- Nature of the goods (paper on rolls)
- Type of packaging (containers);
- Name of the port of loading (Alexandria, Egypt)
- Destination (Port of Algiers, Algeria);
- Date of loading(14/12/2022)
- Name of the carrier (ARKAS Line);
- Name of the vessel (CMACGM LOUGA)
- Insured value in foreign currency;
- Insured value in Algerian dinars;

- Net premium;
- Date of establishment;
- Stamp and signature of the insured.

Once the Avis d'aliment is completed, it is scanned and sent back to Cash Assurance. This operation takes place before the goods are loaded onto the vessel.

2.1.6. Importance of insurance:

In our case, Paper is a relatively fragile material, and it is essential to take out an insurance policy to ensure that one is compensated in the event of an accident.

2.1.7. Bank Domiciliation

After the goods are loaded onto the vessel, the supplier sends an email to the head of the Foreign Trade department to notify them of the shipment. The supplier also prepares a domiciliation file to send to their bank, which includes the following documents:

The commercial invoice in three copies;

The Bill of Lading (**Appendix N04**) in three copies, which contains the following information:

- The mention of Bill of Lading;
- Identity and contact details of the carrier (ARKAS Line)
- Name and address of the supplier (GreenGlobal)
- Name of the buyer's bank (Housing Bank Algeria)
- Identity and contact details of the buyer (Sarl IECO)
- Port of loading (Alexandria, Egypt)
- Name of the vessel (CMACGM LOUGA)
- Voyage number;
- Port of destination (Port of Algiers);
- Container numbers

- Number of containers
- Total weight of the goods;
- Date of loading
- Carrier's stamp and signature;
- Container details (number of rolls, type of paper, weight);

The certificate of origin (**Appendix N05**), with the following mandatory information:

- Mention of certificate of origin, European Union;
- Identity of the exporter (GreenGlobal)
- Identity of the consignee (Sarl IECO)
- Country of origin (Egypt)
- Means of transport (by ship)
- Specifics of the goods (designation, nature, quantity, weight);

The packing list (Appendix N06), containing information about the order and mentioning the following information:

- Mention of Packing List;
- Identity of the exporter (GreenGlobal)
- Identity of the importer (Sarl IECO)
- Specifics of the goods (designation, nature, quantity, weight)
- Type of transport (sea , in containers)
- Packaging (rolls)

- Country of origin and provenance (Egypt)

Subsequently, the supplier's bank sends this file through interbank channels to the bank of Sarl IECO (Housing Bank Algeria).

2.1.8. The payment

When the goods arrive at the port of destination (Port of Algiers), the shipping company (CMA CGM LOUGA) sends an arrival notice (**Appendix N06**) to the head of the Foreign Trade department. The information included in the arrival notice is as follows:

- Identity and contact details of the carrier (ARKAS Line)
- Identity of the consignee (Sarl IECO)
- Place and date of delivery;
- Name of the vessel (CMACGM LOUGA)
- Port of loading (Alexandria, Egypt)
- Bill of Lading number;
- Details of the goods (Designation, number of rolls, weight);
- Amount in HT dinars (excluding VAT),
- Amount in dinars of VAT,
- Amount in TTC dinars (including VAT)
- Amounts of deposits and demurrage charges

2.1.9. Transport of the goods

2.1.9.1. Type of transport

In the case we are studying, the transportation of the goods is done by sea, for obvious reasons.

- Container ships are better suited for the transportation of paper reels in good conditions
- The distance between the port of embarkation (Alexandria, Egypt) and the port of destination (Port of Algiers, Algeria) is relatively short
- The transit time (transport time between loading port and unloading port) is attractive (5 to 8 days)
- The cost of freight is advantageous (40-foot container carrying 25 tonnes, between 30 and 40 euros per tonne, 1000 euros per container).

2.1.9.2. Freight forwarder :

In this case, the freight forwarder or shipping agent is responsible for organizing the handling and transportation of the goods from the warehouse to the Sarl IECO factory. They are also responsible for clearing the goods through customs and paying any warehousing fees. Once these tasks are completed, the freight forwarder or shipping agent sends an invoice to the relevant personnel at Sarl IECO that outlines the details of their services.

When the freight forwarder or shipping agent pays the customs fees, they receive a copy of the D10 declaration (**Appendix N07**) as proof of this action. Sarl IECO has been working exclusively with the same freight forwarder since 1992, and a high level of trust has been established between the two partners, with the quality of the services provided being largely satisfactory."

2.1.10. Customs Clearance

The company can only retrieve its goods after making payment to its bank. To proceed with the customs clearance of the goods, the following documents must be provided:

- The bank-issued domiciliation file provided to the Finance Manager after payment for the goods;
- A copy of the commercial register
- A copy of the Tax Identification Number (TIN)

- A commitment letter . This is a document confirming that the company commits to not resell the goods as they are, but rather to transform and use them for the production of their finished products.

This set of documents will be handed over to the freight forwarder who will take the necessary steps to obtain the goods and load them onto the transport trucks headed towards Sarl IECO's production plant.

In conclusion, the importation process takes a long time (30 to 45 days) due to the various protocols that we have discussed in this section. It involves several stages, including sourcing the goods, arranging for their transportation, completing customs and regulatory procedures, and ensuring that payment is made. Each of these stages involves several sub-steps, which can contribute to the overall time required for the importation process.

Section 03: Impact of supply chain integration on commercial performance

The ultimate goal of this research is to investigate the impact of supply chain integration on commercial performance on the Sarl IECO company.

In this section we will show the results and related analysis. In addition, we will focus on the significant outcomes with its statistical indications. First, the study variables will be analyzed and described from statistical point of view by using means, standard deviations, t-values, importance and ranking. Second, we will represent correlation among independent variables, then their correlation with dependent variables. Finally, study hypothesis will be tested.

3.1. Respondents' Demographic Description:

Table N02 shows the general characteristics of the respondents in terms of gender, age, academic qualification, position, department, and experience.

1. **Gender:** It seems that most respondents are male with 52(54.73%) while the female is 43 respondents (45.26%) which represents.
2. **Age:** It is clear that the most respondent ages are between 35 and 45 years old (30.52%), while the least respondent ages are between 55 years old and above (17.89%). This indicates that the Jordanian community is youth in nature.
3. **Academic qualification:** It seems that the most respondents hold Bachelor degree with 42 (44.21%) respondents, while the least academic qualification degree is doctorate with 2 respondents (2.1%). This entails the need for higher degree in academic qualification especially in higher level positions.
4. **Position:** Its obviously clear that the most respondent are from the middle management level with 52 respondents (52.73%), while the least respondents from the top management level with 19 (20%).
5. **Department:** It seems that the most respondent are working in the operation department with 24 respondents (25.26 %), while the least respondent are from accounting department with 10 respondents (10.52%)

6. **Years of experience:** It's clear that most respondent years of experience are between six and ten years with 39 respondents (41.04%), while the least years of experience are more than fifteen years with 14 respondents (14.73%).

Table 2: Demographic Analysis

Dimension		Frequency	Percent
Gender	Male	52	54,73%
	Female	43	45,26%
	Total	95	100
Age	Between 25-35	23	24,21%
	Between 35-45	29	30,52%
	Between 45-55	26	27,34%
	> 55	17	17,89%
	Total	95	100
Academic qualifications	Diploma	27	28,42%
	Bachelor	42	44,21%
	Master	24	25,26%
	Doctorat	2	2,1%
	Total	95	100
Position	High Management level	19	20%
	Medium management level	52	54,73%
	Low management level	24	25,26%
	Total	95	100
Department	Operation	24	25,26%
	Procurement	16	16,84%
	Accounting	10	10,52%
	Finance	13	13,68%

Years of experience	Other	32	33,68%
	Total	95	100
	Less than 5	24	25,26%
	Between 6-10	39	41,05%
	Between 10-15	18	18,94%
	>15	14	14,73%
	Total	95	100

3.2.Study variables analysis:

This part of analysis will describe both independent and dependent variables from statistical point of view through means, standard deviations, t-values, importance and ranking.

3.2.1. Independent Variables Analysis:

What is the importance of implementing supply chain integration elements in SARL IECO Emballage. To answer this question, we used the following: Mean, Standard Deviation, Importance and Ranking of Independent Variables

Table 3: Mean, Standard Deviation, Importance and Ranking of Independent Variables

Item	Mean	Std. Deviation	t-Value	Importance	Rank
Supplier integration	3.80	0.54	16.81	Hight	2
Internal integration	3.91	0.60	16.63	Hight	3
Customer integration	3.98	0.51	19.42	Hight	1
Company integration	3.89	0.55	20.42	Hight	

t-Tabluated = 1.86

Table N03 indicates that the mean values of the independent variables fall within the range of 3.80 to 3.98, with corresponding standard deviations ranging between 0.51 and 0.60. These results suggest that there is a high level of agreement among the company with regards to the implementation of these variables. Furthermore, the overall mean of the three variables is 3.89, with a standard deviation of 0.55, indicating that there is also a high level of agreement among the company regarding the implementation of the company's integration.

Also, all variables are important for the since ($t=20.42>1.86$). Above results indicate that there is an awareness of the company managers about the importance of supply chain integration. Above results indicate that the company is well organized since supply chain department are available at each organization and they are aware about the concept of supply chain integration.

It is evident from the results of the independent variables that the respondents consider integration with customers as the most important, followed by internal integration, and finally integration with suppliers. This indicates that there is a clear understanding of the ultimate and strategic goal that organization strive to achieve, which is customer satisfaction. The cycle starts with identifying the customer's needs and requirements, and ends with meeting and satisfying these needs and requirements.

Supplier integration:

The Table N04 shows the mean of supplier integration items is between 3.52 and 4.08 with the standard deviation between 0.73 and 1.10, which means that there is an agreement among the company on highly implementation of supplier integration items.

The overall mean of the supplier integration items is 3.87 with standard deviation 0.59, which mean there is an agreement among SARL IECO company on highly implementation of supplier variable. Also all supplier integration items are highly important for the company, since ($t=16.88>1.96$). This indicates that there is an agreement among the managers about the importance of supplier integration and its effect on the performance of the company.

Table 4: Mean, Standard Deviation, Importance and Ranking of Supplier Integration Items

	Item	Mean	Std	t-Value	Importance	Rank
1	The company share information with suppliers through the electronic network.	4.01	0.70	16.98	High	2
2	The company is working to build partnership with suppliers	3.70	0.92	9.01	High	7
3	The company is working with suppliers through clear contracts (regarding the quantities, specifications, costs, and delivery)	4.08	0.66	17.30	High	1
4	Suppliers are committed to the required specifications	3.98	0.75	15.01	High	3
5	The company and suppliers are connected with an electronic system to control the inventory	3.52	1.03	8.06	Medium	8
6	The company and suppliers are discussing the significant changes that affect the continuity of their relationship	3.92	0.65	14.30	High	4
7	The company is working with suppliers to improve payment terms and reduce transaction costs	3.80	0.77	14.66	High	5
8	The company is working with suppliers to improve the transparency and traceability of its supply chain.	3.76	0.70	9.69	High	6
	Supplier integration	3.87	0.59	16.88		

Internal Integration:

Table N05 shows that the mean of internal integration items is between 3.66 and 4.10 with standard deviation between 0.65 and 1.04, Which means that there is agreement among on highly implementation the internal integration items. The overall mean of the internal integration items is 3.91 with standard deviation 0.88, which mean there is an agreement among the company on highly implementation of internal integration variable.

Table 5: Mean, Standard Deviation, Importance and Ranking of Internal Integration Items

N	Item	Mean	Std	t-Value	Importance	Rank
9	The company is constantly striving to unify their culture with stakeholders (mission and vision)	3.90	0.82	19.45	Hight	2
10	The company involves different department during the preparation of strategic plan	3.72	0.95	19.43	Hight	4
11	There is an internal network for the exchange of information between the employees	4.01	0.88	17.30	Hight	5
12	The company is keen to hold regular meetings with departments managers to coordinate the work	3.66	0.69	16.28	Hight	3
13	The company holds extensive meetings to increase the homogeneity among employees.	4.10	0.90	16.88	Hight	7
14	The company allow the employees to participate in solving the problems and internal conflicts and settlement.	3.90	1.04	17.30	Hight	8
15	The company departments share in the development of production processes.	3.79	0.87	13.94	Hight	1

16	There are multiple teams working with each other interactively	3.92	0.90	12.87	Hight	6
	Internal integration	3.91	0.88	16.65		

Also all internal integration variable statements are highly important, since ($t = 16.65 > 1.96$). This indicate that there is an agreement among the managers about the importance of internal integration and its effect on the performance.

Customer integration:

Table N06 shows that the mean values for the various items related to customer integration range from 3.87 to 4.30, with corresponding standard deviations ranging from 0.66 to 0.90. These findings suggest that there is a high level of agreement among the company in terms of the implementation of these items related to customer integration.

Additionally, the overall mean for the customer integration variable is 4.01, with a standard deviation of 0.81, indicating that there is also a high level of agreement among the company regarding the implementation of customer integration as a whole.

Table 6: Mean, Standard Deviation, Importance and Ranking of Customer Integration Items

N	Item	Mean	Std	t-Value	Importance	Rank
17	Customer's satisfaction is central goal that the company pursued to achieve	4.46	0.88	28.90	High	1
18	The company seeks to build partnership with customers	3.88	0.78	13.71	High	4
19	There is specialized customer service department in the company	3.91	0.90	12.09	High	6
20	The company has a fast system to receive orders from the customers	4.30	0.72	13.52	High	7

21	The company deals with the complaints and observations of the customers properly	3.95	0.92	14.73	High	3
22	There is specialized customer service department in the company	4.20	0.81	17.34	High	2
23	Company customers are encouraged to provide feedback	4.01	0.66	15.99	High	5
24	The company engages its customers in the design of the company's products	3.87	0.83	13.03	High	8
	Customer integration	4.01	0.81	16.99		

Furthermore, the analysis reveals that all customer integration items are considered highly important, as indicated by the t-value of 16.99, which is greater than the critical value of 1.96. This suggests that there is a high level of agreement among the managers regarding the significance of customer integration and its positive impact on the operational performance of the company.

3.2.2. Dependent variables analysis:

What is the importance of implementing commercial performance dimensions at the Sarl IEKO ? To answer this question, we used the following: Mean, Standard Deviation, Importance and Ranking of dependent Variables.

Table 7: Mean, Standard Deviation, Importance and Ranking of Dependent Variables

Item	Mean	Std. Deviation	t-Value	Importance	Rank
Cost	4.22	0.54	21.02	High	2
Quality	4.13	0.86	28.54	High	1
Flexibility	4.64	0.28	19.63	High	3
Commercial performance	4.22	0.50	27.93		

Table N07 shows that the average mean of dependent dimensions is between 4.13 and 4.64, with standard deviation between 0.54 and 0.86, which indicate that there is an agreement among the company on highly implementation of the three dependent dimensions. The overall mean of the four dimensions is 4.22 with standard deviation 0.50, which mean there is an agreement among the company on highly implementation of the commercial performance variable. Also commercial performance variable is important for the company, since ($t=27.93>1.96$).

According to the respondents perception about the importance of dependent variable dimensions implementation and based on the mean of each dimension, the importance is ranked as the following: quality, cost, flexibility. This result shows the quality of the Sarl IECO products

Cost dimension is ranked on the second level because the decrease the overall cost will affect the organization position in the market against other competitors, so each organization must decrease their cost to the minimum without compromising the level of the quality.

Flexibility comes in the third level, which means that all the organization should have the ability to match the fluctuation in demand to match the customer's requirements and that can be applied through the availability of the new machines with the high capacity, and the optimal arrangement of departmental layouts in a way that facilitate the flow of materials and information and shorten the time and movement between the organizational departments

Flexibility:

Table N08 shows that the mean of flexibility dimension is between 4.06 and 4.22 with standard deviation between 0.76 and 0.85, which means that there is agreement among the company on highly implementation the flexibility items.

The overall mean of the flexibility items is 3.70 with standard deviation 0.73, which mean there is an agreement among company departments on highly implementation of the flexibility dimension. Also all flexibility items are highly important for the company, since ($t=19.43>1.96$). This indicates that there is an agreement among the managers about the importance of flexibility dimension and its effect on the commercial performance.

Table 8: Mean, Standard Deviation, Importance and Ranking of Flexibility

N	Item	Mean	Std	t- Value	Importance	Rank
25	The company is to amend the characteristics of the products according to customer's needs (without conflicting with the regulations and instructions)	4.10	0.65	19.45	High	1
26	The company has the ability to respond to changes in production volumes	4.83	0.28	17.65	High	4
27	The company chooses suppliers who are flexible in responding to requests of the company when needed	4.90	0.31	16.95	High	3
28	The company gives its customers pay facilities after checking their financial status	4.67	0.83	15.88	High	2
	Flexibility	3.70	0.73	19.43		

Quality:

Table N09 presents data on the quality dimension, where the mean values for the various items fall within the range of 4.19 to 4.86, with corresponding standard deviations ranging from 0.56 to 0.83. These results suggest a high level of agreement among the company with regards to the implementation of these quality items. Additionally, the overall mean for the quality dimension is 4.58, with a standard deviation of 0.53, indicating there is also a high level of agreement among the company regarding the implementation of quality as a whole.

Furthermore, the analysis reveals that all quality items are considered highly important by the company, as indicated by the t-value of 29.24, which is greater than the critical value of 1.96. This indicates a high level of agreement among the managers regarding the significance of quality and its positive impact on the operational performance of the company.

Table 9: Mean, Standard Deviation, Importance and Ranking of Quality

N	Item	Mean	Std	t- Value	Importance	Rank
29	The company produces various forms of the products to suits customers' needs	4.86	0.83	26.73	High	3
30	The company chosers their suppliers on the basis of high-quality	4.12	0.49	20.17	High	2
31	The company is committed to proper storage conditions according to the specifications	4.95	0.56	27.88	High	1
32	The company has control tracking system to keep the inventory valid	4.19	0.77	22.37	High	4
	Quality	4.58	0.53	24.41		

Cost:

Table N10 presents data on the cost dimension, where the mean values for the various items range from 4.12 to 4.95, with corresponding standard deviations ranging from 0.49 to 0.83. These results suggest a high level of agreement among the company regarding the implementation of these cost items.

Additionally, the overall mean for the cost dimension is 4.58, with a standard deviation of 0.53, indicating that there is also a high level of agreement among the company regarding the implementation of cost as a whole.

Furthermore, the analysis reveals that all cost items are considered highly important by the company, as indicated by the t-value of 24.41, which is greater than the critical value of 1.96. This result indicates a high level of agreement among the organization's managers regarding the significance of cost and its positive impact on the operational performance of the company.

Table 10: Mean, Standard Deviation, Importance and Ranking of Cost

N	Item	Mean	Std	t- Value	Importance	Rank
33	The company is seeking to reduce the wasteful use of resources (electricity, water, raw materials)	4.97	0.40	19.34	High	1
34	The company is working to reduce the inventory to minimum level to the extent that does not hinder the continuation of work	4.25	0.95	20.52	High	4
35	The company is working on economy of scale (large-scale production to reduce the cost per unit)	4.65	0.16	17.04	High	3
36	Suppliers are committed to the required specifications	4.09	0.48	18.55	High	2
	Cost	4.74	0.52	22.37		

3.3. Relationships between the Study Variables:

Is there a relationship between supply chain integration and commercial performance in Sarl IECO? To answer this question, we used Bivariate Pearson's Correlation (r) Among Independent Variables, Dependent variables, and between Independent and Dependent Variables.

Bivariate Pearson correlation (r) **table N11** shows that the relationships among supply chain integration variables are very strong, since r value ranges between 0.534 and 0.618. Therefore, results show that there are strong relationships among supply chain integration variables. The table also shows the relationships among commercial performance dimensions are strong to very strong since r value ranges between 0.524 and 0.653. These results indicate that there are strong relationships among commercial performance dimensions.

Table 11: Bivariate Pearson's Correlation (r) Among Independent Variables, Dependent variables, and between Independent and Dependent Variables

			1	2	3	4	5	6	7	8	9
1	Supplier integration	Correlation									
		Sig									
2	Internal integration	Correlation	0.354								
		Sig	.000								
3	Customer integration	Correlation	0.587**	0.618**							
		Sig	.000	.000							
4	Company integration	Correlation	0.830**	0.856**	0.859**						
		Sig	.000	.000	.000						
5	Flexibility	Correlation	0.590**	0.667**	0.696**	0.767**					
		Sig	.000	.000	.000	.000					
6	Quality	Correlation	0.439**	0.360**	0.382**	0.463**	0.539**	0.524**			
		Sig	.000	.000	.000	.000	.000				
7	Cost	Correlation	0.542**	0.568**	0.523**	0.643**	0.621**	0.573**	0.535**		
		Sig	.000	.000	.000	.000	.000	.000	.000		
8	Commercial performance	Correlation	0.649**	0.670**	0.668**	0.781**	0.861**	0.838**	0.777**	0.823**	
		Sig	.000	.000	.000	.000	.000	.000	.000	.000	

****.** Correlation is significant at the 0.01 level (2-tailed).

The table also shows the relationship between supplier integration and commercial performance is strong, since r value is 0.649. In addition the relationship between internal integration and operational performance is strong too, since r value is 0.670. Moreover, the relationship between customer integration and commercial performance is strong. Since r value is 0.686.

Finally, the table also shows the relationship between supply chain integration and operational performance is very strong since r value is 0.781.

3.4. Testing Study Hypothesis:

Is there an impact of supply chain integration elements on commercial performance of the Sarl IECO Emballage? To test the hypotheses multiple regressions analysis is used to analyze the effect of the supply chain integration variables on commercial performance variable.

To be able to use multiple regressions the following assumptions should be fulfilled: Normality, validity, reliability, multi-collinearity, independence of errors and correlation.

3.4.1. Normal Distribution (Histogram):

Figure 11: Normality histogram

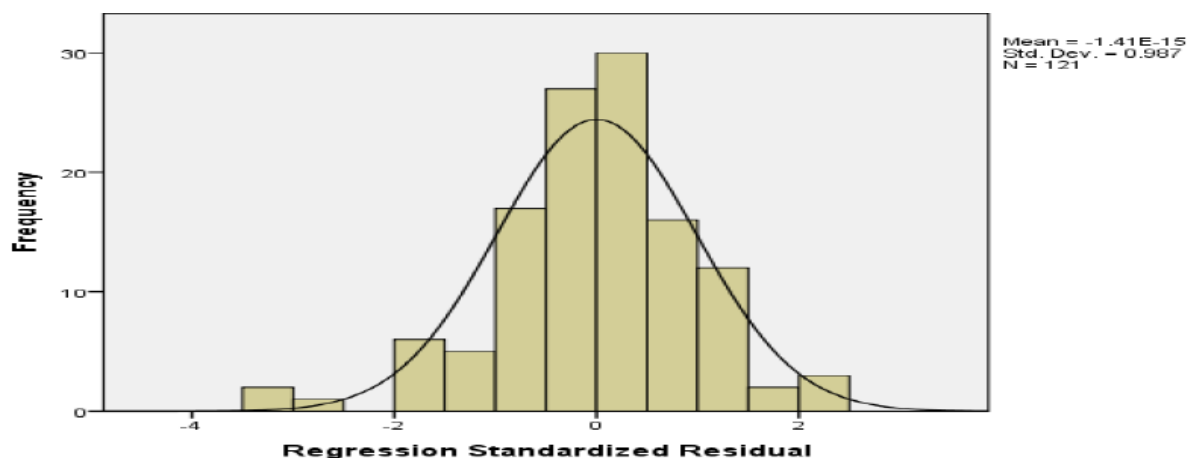


Figure N11 shows that the data were normally distributed.

3.4.2. Linearity:

Figure 12: Linearity test

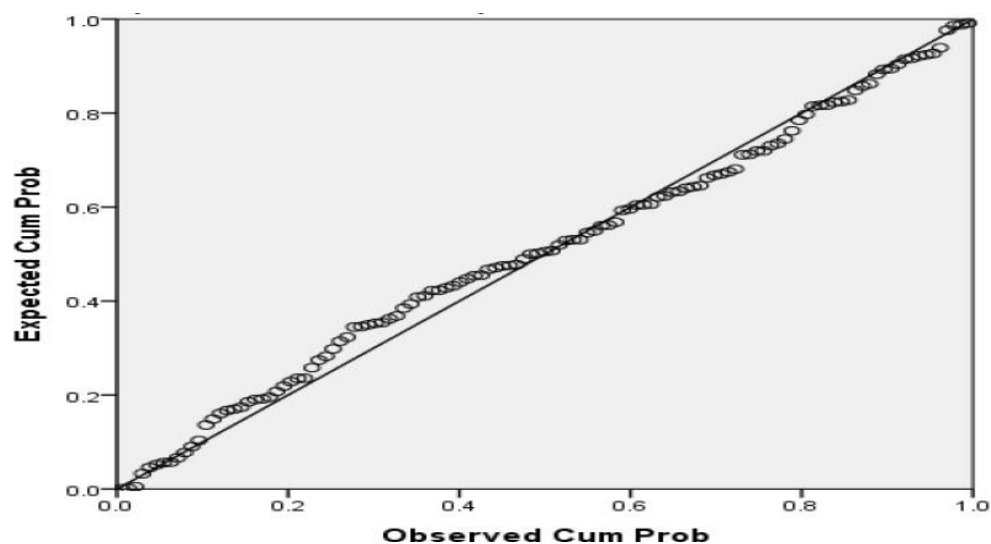


Figure N12 shows that the relationships between independent and dependent variables are linear.

3.4.3. Multiple regression:

Regression analysis can be applied to the case at hand, provided that the assumptions of normality, validity, and reliability are met. To ensure that the assumptions are met, the Durbin-Watson test can be performed to check for independence of errors. If the Durbin-Watson test value is approximately 2, the model satisfies this assumption. Additionally, the VIF (Variance Inflation Factor) and tolerance can be used to test for multicollinearity. If the VIF is less than 10 and the tolerance is greater than 0.2, the model does not violate the assumption of multicollinearity.

Table N12 reveals that the Durbin-Watson value is 1.469, indicating that the residuals are not significantly correlated with each other, since the value is close to two. Therefore, the assumption of independence of errors is not violated. Similarly, Table N12 demonstrates that the VIF values for the independent variables in the study are all less than 10, while the tolerance values are all greater than 0.2. These findings suggest that there is no multicollinearity among the independent variables of the study.

Table N12

Table 12: Multi-Collinearity and Durbin-Watson Tests for Main Hypothesis

Variables	Tolerance	VIF	Durbin-Watson
Supplier integration	0.608	1.645	1.469
Internal integration	0.573	1.744	
Customer integration	0.526	1.900	

3.5.Hypothesis:

H0: Supply chain integration elements do not have direct impact on commercial performance at the Sarl IECO at ($\alpha \leq 0.05$).

Table N13 shows that when regressing the three independent variables of supply chain integration together against dependent variable commercial performance. R2 shows the fitness of the model for multiple regressions and explains the variance of independent variable on dependent variable.

Table 13: Results of Multiple Regressions Analysis (ANOVAa): Regressing Supply Chain Integration Variables against Total Operational Performance

Model	R	R ²	Adjusted R ²	F	Sig.
1	0.781 _a	0.610	0.600	61.026	.000 _b

Since R2 is 61% then the independent variable can explain 61% of variance on dependent variable, since (R2=61, F=61.026, Sig.=0.000). Consequently, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that Supply chain integration elements have direct impact on the company, at ($\alpha \leq 0.05$).

Table 14: Results of Multiple Regressions Analysis (Coefficientsa): Regressing Supply Chain Integration Variables against Total Commercial Performance Dimensions

Model		Unstandardized Coefficients	Standardized Coefficients	Beta	t	Sig.
		B	Std.Error			
1	Constant	1.186	0.228		5.211	0.000
	Supplier integration	0.258	0.063	0.304	4.113	0.000
	Internal Integration	0.259	0.060	0.332	4.352	0.000
	Customer Integration	0.249	0.070	0.285	3.577	0.001

3.6.Sub-Hypothesis:

H0.1: Supplier integration does not have direct impact on commercial performance of the Sarl IECO, at ($\alpha \leq 0.05$).

According to **Table N14** there is a significant and positive direct effect of supplier integration on operational performance, as evidenced by the statistically significant beta coefficient (Beta=0.304), t-value ($t=4.113$), and p-value (sig. 0.000, $p < 0.05$). Consequently, the null hypothesis can be rejected, and the alternative hypothesis can be accepted. This implies that supplier integration has a significant impact on commercial performance at a significance level of $\alpha \leq 0.05$

H0.2: Internal integration does not have direct impact on commercial performance at the Sarl IECO, at ($\alpha \leq 0.05$).

Based on the results presented in **Table 14**, there is a strong and positive direct effect of internal integration on operational performance, as evidenced by the significant beta coefficient (Beta=0.332), t-value ($t=4.352$), and p-value (sig. 0.000, $p < 0.05$). Therefore, the null hypothesis can be rejected, and the alternative hypothesis can be accepted, indicating that internal integration has a significant impact on operational performance at a significance level of $\alpha \leq 0.05$.

H0.3: Customer integration does not have direct impact on commercial performance at Jordanian Pharmaceutical Manufacturing Organization, at ($\alpha \leq 0.05$).

Table N14 indicates that there is a significant and positive direct impact of customer integration on commercial performance, as evidenced by the beta coefficient (Beta=0.285), t-value ($t=3.557$), and p-value (sig. 0.000, $p < 0.05$). This leads to the rejection of the null hypothesis and acceptance of the alternative hypothesis, indicating that supplier integration has a significant impact on operational performance at a significance level of $\alpha \leq 0.05$.

Based on the results displayed in **Table N14**, the researcher concludes that all supply chain integration variables have a significant impact on commercial performance in the company. Internal integration was found to have the highest impact, as indicated by the highest beta coefficient (Beta=0.332), t-value ($t=4.352$), and significant p-value (sig. 0.000). Supplier

integration was found to have the second-highest impact, with a significant beta coefficient (Beta=0.304), t-value ($t=4.113$), and p-value (sig. 0.000). Customer integration had the least impact among the three variables, with a significant beta coefficient (Beta=0.285), t-value ($t=3.557$), and p-value (sig. 0.000).

Based on our study believes that the high importance of internal integration is due to managers' awareness of its positive impact on the other two integration variables (supplier and customer). In other words, the first step towards achieving integration with suppliers and customers is to establish internal integration. This would facilitate the integration process and enhance the overall supply chain performance.

Conclusion

The concept of supply chain integration (SCI) has a significant impact on commercial performance in organizations. This impact is evident in the improved efficiency, reduced costs, and increased customer satisfaction that result from effective SCI implementation and management.

Supply chain integration (SCI) is a fundamental concept in modern supply chain management that enables organizations to optimize their operations, enhance their efficiency, and improve their competitiveness in the global marketplace. By integrating the various stakeholders and processes in the supply chain, SCI can enable organizations to achieve greater visibility, transparency, and control over their supply chain operations.

The results suggest that there is significant importance placed on supply chain integration among the different departments of Sarl IECO. Furthermore, the findings indicate that the supply chain integration variables are highly valued within the company. This suggests that the company places a strong emphasis on the effective integration of its supply chain processes.

Additionally, the analysis reveals that the different departments within Sarl IECO are well-organized, as there are supply chain departments available at each organization and the staff are knowledgeable about the concept of supply chain integration. This suggests that the company has a strong understanding of the importance of supply chain integration and has taken measures to ensure that it is effectively integrated across all departments.

There is a high importance of the commercial performance variable at the Sarl IECO and the overall result indicates that there is a significant importance of the operational performance dimensions among the company.

This result indicate that the managers and supervisors at the organization have the knowledge about the criteria and dimensions of evaluating the performance, in addition they apply these criteria and dimensions regularly for the growth and development of their organizations.

Customer integration has highest impact on the comercial performance. Then followed by the internal integration, and finally followed with supplier integrations. The researcher believes

that customer integration variable has the highest impact refers to the managers awareness about the importance of customer integration and it's positively impact on the other two integration variables.

There is a strong positive relationship between supply chain integration and performance dimensions of the company. In addition, independent variables are correlated among themselves, and there are correlation between them and the operational performance dimensions. And they are positively related (Independent variables are positively related among each other, the dependent dimensions are also positively related among each other of them, and independent variables and dependent dimensions are also positively related together).

Finally, summarized the following conclusions:

- The findings of the current study indicate that supply chain integration is of significant importance within the company. Furthermore, all of the variables examined in the study were found to have a high level of existence within the organization. Among the variables evaluated, internal integration was found to be the most important, followed by supplier integration, and then customer integration, in that order.
- The results of the study indicate that supply chain integration has a significant impact on commercial performance. Furthermore, the study found that internal integration was the most important variable, followed by supplier integration, and customer integration, in that order.

Recommendations:

In the light of all the study results, the following recommendations can be proposed:

Recommendations for Packaging industry and other industries:

- It is recommended that Organizations should work more closely with suppliers in order to increase the level of integration which in turn increases the performance through linking both suppliers and organizations with advanced information system to facilitate the flow of materials, information, and experiences, in addition to control the inventory.
- It is advisable to pay more attention to the strategic relationship with suppliers through enhancing joint programs and activities to increase the coherence and harmony.

- It is recommended to pay greater attention to the internal integration through the involvement of various departments in formulating the strategic plans.
- It is recommended to engage the customers in designing the company's products which will positively affect the integration with customers.
- It is advised to focus on enhancing the flexibility of organization through openness to the new ideas at work.

Recommendations for academicians and future research:

- This study is dedicated to the packaging industry, so it is advisable to study the supply chain integration on other manufacturing organizations.
- Despite the accuracy of including all supply chain integration variables, however there may be scope to add other variables including the addition of a variable to an intermediary such as the impact of the external environment, also it is possible to add other paragraphs that can give clearer results.
- It is recommended that to restudying the same topic on the same companies over a period of time to evaluate the progress resulting from the application of supply chain integration.
- It is advised to conduct similar studies from the perspective of suppliers and customers.

Study Limitations:

Human limitation: The study will consider only managers and supervisors working at the Sarl IECO company.

Place limitation: The study will be carried out on Sarl IECO located in Blida.

Time limitation: The study will be carried out during the period first semester and second semester of academic year 2022/2023

Study delimitation:

Since this study was conducted exclusively on Sarl IECO, it is uncertain whether the results obtained from this study can be applied to other industries. It is important to note that

different industries may have distinct supply chain structures, processes, and requirements, which can impact the effectiveness of supply chain integration.

Finally, we want other research to enrich ours and discover other facet about the supply chain management while offering the following themes:

- The impact of logistics management on the performance on performance of exporting/importing companies.
- The role of blockchain technology on the supply chain management.

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Webgraphy:

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https://cscmp.org/CSCMP/Educate/SCM_Logistics_Optimizing_Performance_and_Value_Creation/CSCMP/Educate/SCM_Logistics_Optimizing_Performance_and_Value_Creation.aspx?hkey=4b9a0477-cfd0-47d9-9f96-5f7f2a3b7f8b

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<https://doi.org/10.1108/09574099610805321>

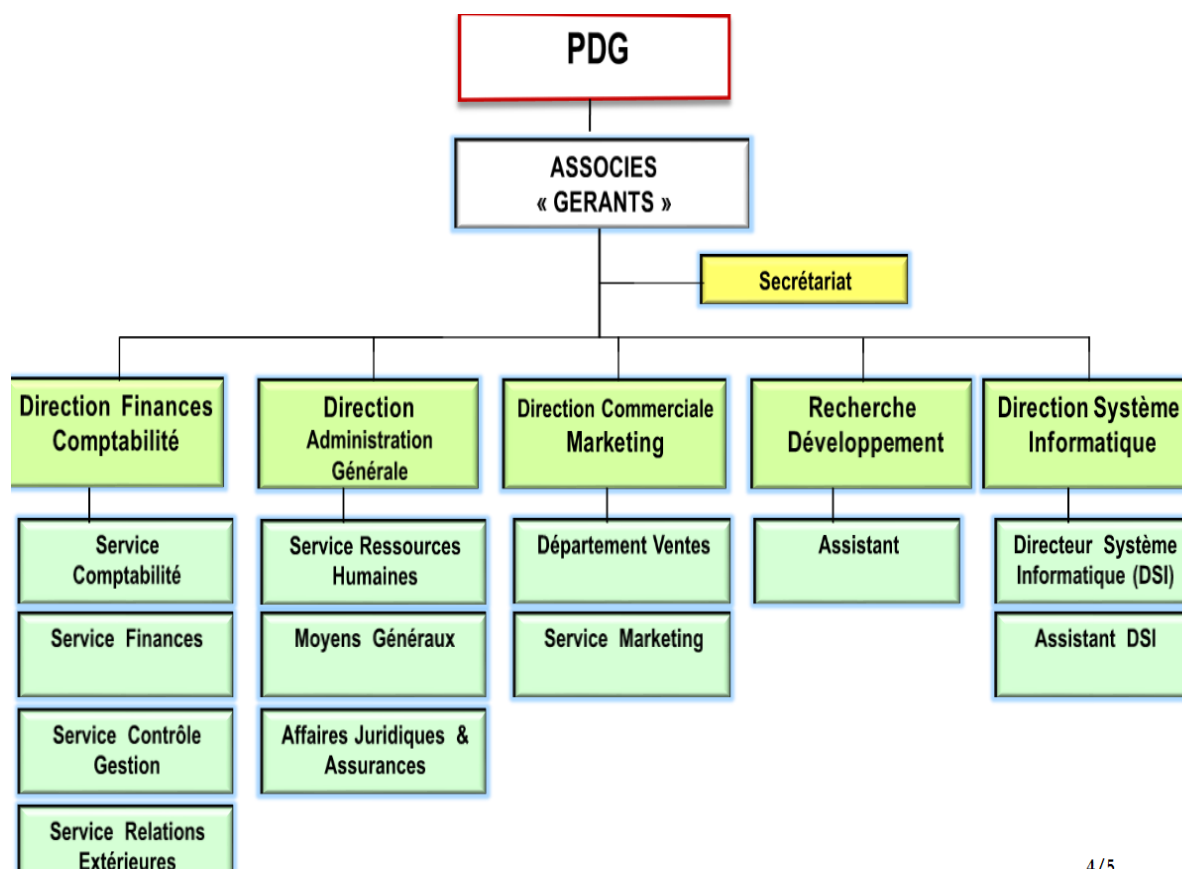
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Appendices

Appendix N01: Company organigram



Appendix N02: Pro-forma invoice

PROFORMA INVOICE

No: 052-2022
Date: 11/8/2022

Bill To: Sarl Ieco Emballage
Contact Person: Mr. Bouhamed Mohamed
Email: m.bouhamed@leco-dz.com
Cell: +213 554 50 80 30
Ship To: Sarl Ieco Emballage
Address: Zone Industrielle site 02, Ouled yaiche 09100 Blida Algeria
VIF N°: 9990 9080292735

GreenGlobal for Trading L.L.C
Building No.4, square No.1300
Ankara Street, Sheraton,
Cairo, Egypt.
Info@GreenGlobal.eg

Shipping by: 3*40" HC
Shipping Terms: CFR Alger Port, Algeria - Incoterms 2020
Port of Loading: Any Egyptian Port
Port of Delivery: Alger Port, Algeria
Manufacture: ETAP Co. For Paper And Board
HS Code: 48041100

Payment Conditions:
Cash Against Document
100% at sight
GreenGlobal Bank Acc. Data:
ADCB Bank
Acc. Name : GreenGlobal
USD Acc. No. 1129548610010201
Swift No. ADCBEGCX
IBAN: EG470027005101129548610010201

10% more or less in total Quantity and amount is acceptable

Description of Goods:

		Quantity (MT)	Unit CFR Price USD	Total CFR Price USD
1	Test Liner 2 (TL2) Subs 120gsm, RW 2500 mm	25	450.00	11,250.00
2	Flute 2 (FL2) Subs 120gsm, RW 2500 mm	25	440.00	11,000.00
2	White Top Test Liner 1 (WTTL) Subs 120gsm, RW 2500 mm	25	660.00	16,500.00
TOTAL (+/-10%)		75.00	Total FOB Price	USD 38,750.00
			Ocean Freight Cost	USD 5,625.00
			Grand Total CFR Price	USD 44,375.00

Forty Four Thousand Three Hundred Seventy Five US dollars only

Shipment Documents:
1/1 Commercial Invoice
1/1 Packing List
1/1 Certificate of Origin
1/1 Bill of lading

This order is subject to the General Trade Rules for Paper and Paperboard.

GreenGlobal for Trading
SIGNATURE / APPROVED BY

Sarl Ieco Emballage
SIGNATURE / APPROVED BY

09 NOV. 2022

Zone Ind. Site 2
OULED YAICH
- Blida -

Assurances
Compagnie d'Assurances des Hydrocarbures
Spa au capital de 10 000.000.000 DA

ASSURANCE

AVIS D'ALIMENT N° : 054/ 2022

En application à la Police N°D0906.2021.10.3431.00006
Assuré : SARL IECO EMBALLAGE
Adresse : Z.I 02 SITE OULED YAICH BLIDA

- Garanties : Tous Risques ☒ FAP Sauf ☐ Vol et Disparitions ☐ Risque de guerre ☐ Transbordement ☐
- Mode de chargement : Cale ☐ Pontée ☐
- Taux de prime : 0,10%

Taux de change : 1 USD= 138,96 DA

TOTAUX

Date d'établissement : 27/11/2022

Cachet et Signature de l'Assuré



Avis Aliment reçu le : _ _ / _ _ / _ _

Cachet et Signature de CASH SPA

ATE OF ISSUE CAIRO 06 DEC 2022 SIGNED FOR THE CARRIER CMA CGM S.A. BY C C for Maritime Shipping Agencies as agents for the carrier CMA CGM S.A.

Appendix N05: Certaficat of origin

١٩١٥٣ / ٤٢٢ / ٢٠٢٠
 جمهورية مصر العربية
 وزارة التجارة والصناعة
 الهيئة العامة للرقابة على الصادرات والواردات
 اسم الفرع: مصر
 شعار الجمهورية

٢٠٢٦٣٨٠

شهادة منشأ
 بموجب أحكام اتفاقية تيسير وتنمية التبادل التجاري بين الدول العربية

١ - المصدر وعنوانه كاملاً: جرين جلوبال للتجارة
 ميني رقم ٤ قطعة رقم ١٣٠٠ شارع انقرة الشيراتون - هليوبلس - مصر س.م. ١٠٠٠١٠٠٩٦
 ٢ - المنتج وعنوانه كاملاً: شركة النبات للصناعة الورقية (ش.م.م) - المنطقة الصناعية الثانية - بلو ٢٥٠ مدينة برج العرب - الاسكندرية - مصر س.م. ٤٦٣٣٢٠٠٠
 ٣ - المستودع وعنوانه كاملاً: صناعة أغلفة الورق الموج (ايكو اومبلاج) المنطقة الصناعية موقع ٢ ولاد يعيش البلدة ٠٩١٠٠ الجزائر
 ٤ - بلد المنشأ: ج.م.ع
 ٥ - تم تطبيق التراكم مع دول أخرى: ☒ نعم ☐ لا
 ٦ - تفاصيل الشحن: من ميناء: الدخيلة - مصر الي ميناء: الجزائر - الجزائر بوليصة: ٥٥٣٥٧٨
 ٧ - ملاحظات:
 ٨ - وصف السلع، العلامة التجارية (إن وجدت)، عدد ونوع وأرقام الطرود: ٣٣ رول رولات ورق تيسر لاينر و فلونينج البند الجمركي: ٤٨ ٠٥ ٢٤ / ٤٨ ٠٥ ١٩ صنع في مصر
 ٩ - الوزن القائم (كجم) أو مقاييس أخرى (لتر، متر، مكعب... إلخ): القائم: ٧٩٠٩٠ الصافي: ٧٩٠٩٠ كجم
 ١٠ - رقم وتاريخ الفاتورة (الفواتير): رقم: ١١٣ تاريخ: ٢/١١/٢٩
 ١١ - إقرار وتعهد المصدر: أقربان جميع البيانات المذكورة أعلاه صحيحة وأن السلع الوارد وصفها أعلاه مستوفاة للشروط والمعايير اللازمة لاكتساب صفة المنشأ.
 المكان: مصر التاريخ: ٢٠٢٠/١١/٢
 Green King For Trading Ltd
 ١٢ - توقيع وخاتم الجهة المصدرة للشهادة: التوقيع: [موقع] الخاتم: [موقع] التاريخ: ٢٠٢٠/١١/٢
 ١٣ - تصديق الجهة الحكومية المختصة: التوقيع: [موقع] الخاتم: [موقع] التاريخ: ٢٠٢٠/١١/٢

Appendix 06: Packing list

Packing List



GreenGlobal for Trading L.L.C
 Building No.4 , square No. 1300
 ankara street , Sheraton,Cairo
 Egypt
 Info@GreenGlobal.eg

No: 113 **Ref no.**

Date: 29/11/2022

Bill To : **Sarl Ieco Emballage**

Contact Person: Mr. Bouhamed Mohamed

Email : m.bouhamed@ieco-dz.com

Cell: +213 554 50 80 30

Ship To : **Sarl Ieco Emballage**

Address : Zone industrielle site 02 , Ouled yaiche
 09100 Bilda Algeria

NIF N : 9990 9080292735

Shipping by: 3x40"HC

Shipping Terms: CFR Alger , Algeria INCOTERMS® 2020

POL: Alexandria

POD: Alger

#	Container No.	Item	Quantity	
			(MT)	(Reels)
1	TCNU3341691	WT Test Liner 1 Subs 120gsm , R N 2500mm	28020	11
2	FBLU0206782	Flute HP2 Subs 120gsm , R N 2500mm	24980	11
3	TCLU6557162	Test Liner 2 Subs 120gsm , R N 2500mm	26090	11
Total			79,090.00	33

Total Reels
33

Gross Weight (Ton)
79,090.00

Net Weight (Ton)
79,090.00

Country of Origin: Egypt

GreenGlobal
 VAT no. 870-271-276



Appendix N07: Questionnaire

Questionnaire of the Impact of supply chain integration on Commercial Performance at

Demographic information

Gender: ☐ Male ☐ Female

Age (years): ☐ 25 – 35 ☐ Between 35 – 45 ☐ Between 45 - 55 ☐ above 55

Education: ☐ Diploma or less ☐ Bachelor ☐ Master ☐ Doctorat

Position: ☐ High level ☐ Middle level ☐ Supervisors

Division: ☐ Production ☐ R&D ☐ Finance ☐ Marketing ☐ Management ☐ Others

Years of experience: ☐ Less or equal 5 ☐ Between 5 – 10 ☐ Between 10 – 15 ☐ Above 15

The following 36 items tap into supply chain and its effect on commercial performance. Please, answer these questions based on actual and current situation and not on beliefs.

[1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree] based on how you feel about the statement.

Supply chain integration

Supplier integration

1	The company share information with suppliers through the electronic network.	1	2	3	4	5
2	The company is working to build partnership with suppliers	1	2	3	4	5
3	The company is working with suppliers through clear contracts (regarding the quantities, specifications, costs, and delivery)	1	2	3	4	5
4	Suppliers are committed to the required specifications	1	2	3	4	5
5	The company and suppliers are connected with an electronic system to control the inventory	1	2	3	4	5
6	The company and suppliers are discussing the significant changes that affect the continuity of their relationship	1	2	3	4	5
7	The company is working with suppliers to improve payment terms and reduce transaction costs	1	2	3	4	5
8	The company is working with suppliers to improve the transparency and traceability of its supply chain.	1	2	3	4	5

Internal integration

9	The company is constantly striving to unify their culture with stakeholders (mission and vision)	1	2	3	4	5
10	The company involves different department during the preparation of strategic plan	1	2	3	4	5
11	There is an internal network for the exchange of information between the employees	1	2	3	4	5
12	The company is keen to hold regular meetings with departments managers to coordinate the work	1	2	3	4	5
13	The company holds extensive meetings to increase the homogeneity among employees.	1	2	3	4	5
14	The company allow the employees to participate in solving the problems and internal conflicts and settlement.	1	2		4	5
15	The company departments share in the development of production processes.	1	2	3	4	5
16	There are multiple teams working with each other interactively	1	2	3	4	5

Customer integration

17	Customer's satisfaction is central goal that the company pursued to achieve	1	2	3	4	5
18	The company seeks to build partnership with customers	1	2	3	4	5
19	There is specialized customer service department in the company	1	2	3	4	5
20	The company has a fast system to receive orders from the customers	1	2	3	4	5
21	The company deals with the complaints and observations of the customers properly	1	2	3	4	5
22	There is specialized customer service department in the company	1	2	3	4	5
23	The company reserves the full databases about their customers	1	2	3	4	5
24	The company engages its customers in the design of the company's products	1	2	3	4	5

Commercial performance

Flexibility:

25	The company has the ability to respond to changes in production volumes	1	2	3	4	5
26	The company is to amend the characteristics of the products according to customer's needs (without conflicting with the regulations and instructions)	1	2	3	4	5
27	The company gives its customers pay facilities after checking their financial status	1	2	3	4	5
28	Suppliers are committed to the required specifications	1	2	3	4	5

Quality

29	The company produces various forms of the products to suits customers' needs (provide several forms of the medication)	1	2	3	4	5
30	The company choses their suppliers on the basis of high-quality	1	2	3	4	5
31	The company is committed to proper storage conditions according to the specifications	1	2	3	4	5
32	Suppliers are committed to the required specifications	1	2	3	4	5

Cost:

33	The company is seeking to reduce the wasteful use or resources (electricity, water, raw materials)	1	2	3	4	5
34	The company is working to reduce the inventory to minimum level to the extent that does not hinder the continuation of work	1	2	3	4	5
35	The company is working on economy of scale (large-scale production to reduce the cost per unit)	1	2	3	4	5
36	Suppliers are committed to the required specifications	1	2	3	4	5

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