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The Relationship between E-commerce and supply chain performance in Palestinian electrical supply wholesaler sector

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This thesis was submitted in partial fulfillment of the requirements for the Master's degree in Strategic Planning and Fundraising

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Thesis Approval

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This thesis was defended successfully on 7/2/2024 and approved by:

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Declaration

This thesis was submitted to fulfill the requirements for the Master's degree at the College of Strategic Planning and Fundraising, Arab American University -AAUP, 2024. I declare that this research is my own work without assistance. It has not previously been taken for any other degree, part of a degree or examination at this or any other university.

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Date: 26/01/2025

Dedication

To You, O our Creator, we extend our thanks for the blessing of organs and knowledge that You have bestowed upon us.

To expand her little mercy and make me happy with her main company... my dear mother

To my childhood teacher and the joy of my heart and my life... my dear father

To the latter who was a help and support...

To my children, brother and sister...

To the smiley gaps in my life..

To my esteemed teacher who was expected to be the teacher mother..... Dr. Salwa Barghouti

To all my family, relatives, colleagues, and everyone who helped me get through this message.

Acknowledgement

God Almighty said in His Holy Book: “And whoever is grateful, he is grateful only for himself.”

At the beginning of my speech, I must first express my gratitude to God Almighty, who has enabled me to reach this high academic stage, and who has paved the way for me to be among you today to discuss my master’s thesis.

I also extend my thanks and gratitude to:

My dear father, my honorable mother, and my beloved wife, who were my first support in reaching what I have achieved.

Abstract

The aim of the study is mainly to find out what is the relationship between e-commerce and supply chain indicators that supply chain managers of electrical supplies (electrical accessories) wholesalers in Palestine can benefit from, and what are the effects of e-commerce on supply chain management and performance in Palestine. The study identified the relationship between e-commerce and the supply chain for wholesalers in the field of electrical supplies in Palestine, as well as its future scope. It is not known how e-commerce affects the supply chain for these merchants. Even though it's unclear exactly how e-commerce will affect wholesaler supply chains, this study aims to look into the potential benefits and drawbacks of incorporating e-commerce into their business operations. Data were collected by a questionnaire, which was developed for this research through the use of literature review. 97 wholesalers participated in the research out of 108 in the electrical supplies market, representing 89.8% of the total. The descriptive analytical method was used. This approach was considered appropriate for the purpose of the study, analysis, and prediction of the current state of the study problem as it exists through description, interpretation, and prediction, in addition to linear regression models. According to the results of the research, the relationship between e-commerce and the supply chain is positively affected by various factors and was positively affected by all aspects of the research, which were supported by the previous literature, including the cash-to-cash cycle, the conservative system of delivery time, the distinguished sales days, and filling rate. Despite this, several recommendations were concluded such as: the necessity to improve the use of e-commerce by the Palestinian wholesalers toward increasing revenues, profitability, and prevent losses or even exit from the market. The

most important of these recommendations is maintaining the flexibility, integrity, Inventory management and adoption of modern technology of the supply chain.

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According to the results of the research, the relationship between e-commerce and the supply chain is positively affected by various factors and was positively affected by all aspects of the research, which were supported by the previous literature, including the cash-to-cash cycle, the conservative system of delivery time, the distinguished sales days, and filling rate. Despite this, several recommendations were concluded such as: the necessity to improve the use of e-commerce by the Palestinian wholesalers toward

increasing revenues, profitability, and prevent losses or even exit from the market. The most important of these recommendations is maintaining the flexibility, integrity, Inventory management and adoption of modern technology of the supply chain.

Keywords: e-commerce, supply chain, electronic supplies, Inventory management, moder technology, Palestine economy, electronic market.

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List of Definitions

E-commerce	Electronic commerce is a process of exchanging ownership of goods and services through electronic devices within electronic networks.
Supply Chain	A supply chain is the whole network of organizations, processes, tools, and technology used in the production and delivery of products or services, starting with the procurement of raw materials and ending with the delivery of the finished good to the customer. Among others, this network usually consists of manufacturers, suppliers, distributors, retailers, and logistics companies. In order to meet consumer needs while minimizing costs and maximizing value, a supply chain's main objective is to efficiently and effectively manage the movement of resources, information, and funds across the entire process, from sourcing to manufacturing to distribution (Hugos, 2024).
Supply Chain management	Supply chain management is the systematic, strategic coordination of traditional business functions within a given company and across companies within a supply chain, with the goal of improving the long-term performance of each company and the supply chain as a whole (Min, 2019).
Cash to cash cycle time	The cash to cash cycle is simply defined as the time required to sell inventory and collect receivables minus the time required to pay what the business owes. This cycle includes the time required to produce, sell, collect receivables. (Wang, 2019)

Perfect order	The concept can be simplified as follows: delivery should be on time for sales to customers without delay, and also that the product should be free from damage and accurate documentation of information so that there is control over packaging, packing and shipping. (Heydari, 2020)
On-time delivery	delivery time is only required the time it takes for a product to arrive, considered one of the key performance indicators that companies are constantly striving to improve. (Forslun & Jonsson, 2010)
Day's sales outstanding	Days Sales Outstanding (DSO) measures the average number of days it takes a business to collect payment for a sale. DSOs are typically determined on a monthly, quarterly or annual basis (Kroes, 2014).
Fill Rate	fill rate of orders, the number and type of orders, and the time required to prepare and process them, divided by the expected demand per session, and generally examine these types of metrics, which show that demand is fixed and determined by the fixed number of and independent, and the request is sequential, these assumptions help to study and measure this indicator, but in fact there are many factors that can affect this ratio (Baloch & Gzara, 2024).
B2B	Business-to-business (B2B) transactions, which include exchanges between factory dealers, wholesalers, distributors, and retailers, constitute a crucial sector of the commercial market.

	The exchange of goods and services between organizations participating in the supply chain ecosystem is the subject of these transactions. (Hutt, 2021).
Wholesaling	Wholesaling involves the procurement of a significant quantity of goods directly from manufacturers, followed by their distribution to retailers. Wholesalers typically acquire products in bulk at discounted rates and subsequently sell them to retailers at a markup, thereby generating profit.

Chapter One

Introduction

1.1 Background

The history of e-commerce can be traced back to the early days of the internet, where it emerged alongside electronic data interchange (EDI) in the 1960s and 1970s. EDI revolutionized the exchange of business documents electronically, setting the stage for modern e-commerce transactions (Turban et al., 2020). However, it wasn't until the 1990s that e-commerce truly took off with the introduction of the World Wide Web.

The launch of platforms like Amazon and eBay in the mid-1990s marked a significant milestone in the history of e-commerce, ushering in a new era of online shopping and empowering consumers (Chaffey et al., 2019). These platforms provide consumers with unprecedented access to a wide range of products and services, while also offering sellers a global marketplace to connect with customers.

The dot-com boom of the late 1990s further fueled the growth of e-commerce, as numerous startups competed for a share of the expanding online market. Although many of these early ventures ultimately failed, they laid the groundwork for the digital economy we see today (Columbus, 2021).

In the early 2000s, e-commerce continued to evolve with the rise of mobile commerce (m-commerce) and the proliferation of smartphones and other connected devices. This shift towards mobile shopping democratized access to e-commerce, allowing consumers to make purchases on the go (Molla & Licker, 2020).

Today, e-commerce has become an integral part of our daily lives, with online sales contributing significantly to total retail revenue in many markets (Smith & Anderson,

2021). The COVID-19 pandemic further accelerated the adoption of e-commerce, as lockdowns and social distancing measures prompted consumers to rely on online channels for their shopping needs (McKinsey & Company, 2020).

This research will explore the evolution of e-commerce in the global economy. And also examine the impact of e-commerce on traditional retail paradigms, as well as its implications for the future.

The advent of e-commerce has brought about a significant transformation in the functioning of businesses, presenting unparalleled prospects for worldwide expansion and ease of access. Simultaneously, the significance of supply chain management (SCM) has grown exponentially in guaranteeing prompt delivery and customer contentment. This research delves into the complex interconnection between e-commerce and SCM, elucidating their mutually beneficial association and the consequences for contemporary enterprises. E-commerce has revolutionized the way businesses operate, providing unprecedented opportunities for reach and accessibility to the world. At the same time, supply chain management (SCM) has become increasingly vital in ensuring efficient delivery and customer satisfaction. This thesis explores the complex relationship between e-commerce and supply chain management, highlighting its symbiotic nature and implications for modern businesses. E-commerce platforms have presented new challenges and opportunities for supply chain management. With the advent of online shopping, customer expectations regarding speed of delivery and reliability have risen. This requires flexible and responsive supply chains capable of meeting these requirements (Wang & Hajli, 2023). In addition, the direct-to-consumer model enabled by e-commerce has led to shorter product life cycles and increased demand volatility, requiring supply chain management strategies that prioritize flexibility and adaptability

(Sarkis and Cohen, 2022). Therefore, technology integration is the cornerstone of the relationship between e-commerce and supply chain management. Technologies such as blockchain, artificial intelligence, and the Internet of Things (IoT) are being leveraged to enhance supply chain visibility, improve inventory management, and streamline logistics operations (Li & Chen, 2024). These technological advances enable companies to better track and manage their supply chains, ultimately improving efficiency and reducing costs. Therefore, effective collaboration between e-commerce companies and their supply chain partners is crucial to success. Close partnerships enable seamless coordination across the different stages of the supply chain, from raw material sourcing to final delivery. By sharing information and resources, organizations can mitigate risks, enhance transparency, and improve operations (Chen et al., 2023). Furthermore, collaborative relationships foster innovation and agility, allowing companies to respond quickly to changing market dynamics.

1.2 Research Problem

After the emergence of electronic commerce as a new phenomenon in the business world, it greatly affected the form, management, and outputs of the supply chain. This change resulted from the increase in information and new market structures after the emergence of electronic commerce, and due to the enormous information, that became available in the era of electronic commerce. This amount of information, however, has increased uncertainty in making appropriate decisions. Therefore, it is necessary to consider what are the effects of electronic commerce on supply chain management (Golicic, 2002).

Traditional business relationships proved inadequate in enhancing the value chain, prompting organizations to seek new approaches. One such approach involved adopting

integrated systems that connect various supply chain components to improve overall performance. Electronic commerce platforms facilitated this integration, enabling seamless information exchange, manufacturing, financial transactions, and transportation. This interconnectedness among independent entities within the supply chain has led to greater interdependence and coordination, ultimately enhancing supply chain effectiveness (Nagurney A. C., Supply chain networks, electronic commerce, and supply side and demand side risk, 2005).

This study aims to delve into the relationship between e-commerce and supply chain performance within the Palestinian electrical supply wholesaler sector. By examining how e-commerce adoption influences supply chain dynamics and performance metrics, we seek to provide insights into strategies for optimizing supply chain operations and enhancing competitiveness in the sector.

1.3 Research Question

The main question here is:

What is the relationship between E-commerce and supply chain performance in the Palestinian electrical supply wholesaler sector?

And the following questions arise from it :

1. What is the E-commerce?
2. What is the supply chain?
3. What is meant by the supply chain management?
4. What are the dimensions of the supply chain (Cash to Cash Cycle Time, Perfect Order, delivery Time, Fill Rate, Days Sales Outstanding)?

5. What is meant by the dimensions of the supply chain (Cash to Cash Cycle Time, Perfect Order, delivery Time, Fill Rate, Days Sales Outstanding) in the electrical supply wholesaler's sector?
6. What is the impact and the relationship between e-commerce and the performance of the dimensions of the supply chain: (Cash to Cash Cycle Time, Perfect Order, delivery Time, Fill Rate, Days Sales Outstanding) in the electrical supply wholesaler's sector?

1.4 Research Objectives

The study mainly seeks to find out what is the relationship between electronic commerce and supply chain dimensions that can benefit supply chain managers of wholesalers of electrical supplies in Palestine, and what are the effects of electronic commerce on the management and performance of the supply chain to help reach the strategic goals. for these establishments:

1. Learning about the E-commerce.
2. Studying the supply chain.
3. Understanding the concepts of the supply chain management.
4. Determining the supply chain's dimensions (Cash to Cash Cycle Time, Perfect Order, delivery Time, Fill Rate, Days Sales Outstanding).
5. Determining the meaning of the dimensions of the supply chain (Cash to Cash Cycle Time, Perfect Order, delivery Time, Fill Rate, Days Sales Outstanding) in the electrical supply wholesaler's sector.
6. To investigate the impact and the relationship between e-commerce and the performance of the dimensions of the supply chain: (Cash to Cash Cycle Time,

Perfect Order, delivery Time, Fill Rate, Days Sales Outstanding) in the electrical supply wholesaler's sector in Palestine.

1.5 Significancy of the Research

The Significancy of the research is the examination of the impact of electronic commerce on the performance of the supply chain in the wholesale trade sector for electrical supplies in Palestine lies in the fact that there are rare studies that dealt with this subject in general, and this research reports the following:

Scientific Importance:

1. Addressing a Gap in Research: This study contributes to the academic literature by filling a gap in research regarding the impact of electronic commerce on supply chain performance within the wholesale trade sector for electrical supplies in Palestine. The scarcity of studies on this subject highlights the significance of this research in expanding scholarly knowledge and understanding in this field.
2. Advancing Research in E-commerce and Supply Chain Management: By examining the impact of electronic commerce on supply chain performance indicators, this study provides valuable insights into the intersection of e-commerce and supply chain management. It contributes to advancing theoretical frameworks and practical applications in both domains, fostering further research and scholarly discourse in related areas.
3. Enhancing Understanding of E-commerce and Supply Chain Dynamics: This study offers an opportunity to deepen understanding of electronic commerce, its components, and dimensions, as well as supply chain management principles. By elucidating the relationship between e-commerce and supply chain performance

indicators, it contributes to the development of theoretical models and frameworks that can guide future research in this field.

Applied Importance:

1. Practical Implications for Businesses: The findings of this study can provide practical guidance for businesses operating in the wholesale trade sector for electrical supplies in Palestine. By understanding the impact of e-commerce on supply chain performance, businesses can make informed decisions regarding the adoption and implementation of e-commerce strategies to enhance their operational efficiency and effectiveness.
2. Support for Researchers and Practitioners: This research offers valuable insights and knowledge for researchers and practitioners interested in studying similar dimensions within the field of e-commerce and supply chain management. It serves as a foundation for future research endeavors and practical applications aimed at improving supply chain performance in the context of wholesale trade in electrical supplies.
3. Informing Strategic Decision-Making: By identifying the impact of e-commerce on supply chain performance indicators, this study provides valuable information for supply chain managers and decision-makers in the wholesale trade sector. It enables them to better understand the implications of e-commerce adoption and strategically plan for its integration into their operations to achieve their organizational goals.

1.6 Research Hypothesis

After reviewing the previous literature in the literature section, it was found that there is a clear relationship between electronic commerce and the supply chain and its performance, as the independent variable is electronic commerce and the dependent variable is performance indicators in the supply chain for the wholesale sector in electrical supplies in the Palestinian market.

Hypotheses will be developed to address the problem of the study and achieve the objectives of the study, as the hypotheses include the dependent and independent variables, as they will be formulated using the zero-sum method to test the relationship between the variables, and then analyze and interpret the results on the hypotheses, objectives and methodology of the study.

H0: There is no relationship between e-commerce and Cash to Cash Cycle Time in the electrical supply wholesaler's sector.

H1: There is no relationship between e-commerce and Perfect Order in the electrical supply wholesaler's sector.

H2: There is no relationship between e-commerce and on time delivery in the electrical supply wholesaler's sector.

H3: There is no relationship between e-commerce and Fill Rate in the electrical supply wholesaler's sector.

H4: There is no relationship between e-commerce and Days Sales Outstanding in the electrical supply wholesaler's sector.

1.7 Research Gap

The existing literature on the impact of electronic commerce (e-commerce) on supply chain performance in the wholesale trade sector for electrical supplies lacks a comprehensive

understanding of the consequences and implications for businesses in Palestine. While previous studies have highlighted the transformative potential of e-commerce in various industries, including financial services, there is a noticeable gap in knowledge regarding its specific effects on supply chain dynamics within the Palestinian context. Despite the significant role of e-commerce in enhancing financial systems and contributing to the growth and profitability of institutions, there is limited discourse on its applicability and success within Palestine's wholesale trade sector for electrical supplies. Consequently, there is a pressing need to investigate the ramifications of e-commerce adoption on supply chain indicators in this sector, particularly in the context of Palestine's economic landscape and developmental goals (Abu Daqar et al., 2021).

Chapter Two

Literature Review

2.1. Conceptual Framework

2.1.1 Introduction

This chapter talks specifically about the arrangement of ideas about the method of presenting the components of the main title of the research. The topic is by defining, refuting and arranging the titles, and what is the relationship between them from the perspective of previous researchers. When analyzing the title of the research, there are three main components of the title, the first of which is electronic commerce, its definition, components, history, and how it affects business and is affected by it, and the second is the supply chain, which is a key factor for the success or failure of business, and the performance indicators through which Evaluation of the effectiveness and efficiency of the supply chain, and here we will talk about performance indicators related to wholesale trade, because the subject of our research talks about wholesale trade for the electrical supplies sector in Palestine.

Supply chain management (SCM) is a critical aspect of modern business operations, encompassing the planning, sourcing, manufacturing, logistics, and inventory management processes. With the rise of e-commerce, the landscape of supply chain management has undergone significant transformations, presenting both challenges and opportunities for businesses. In this literature review, we will explore the evolution of supply chain management from a general perspective to specific considerations in the context of e-commerce, highlighting key concepts, types, and the impact of e-commerce on supply chain dynamics.

General Overview of Supply Chain Management: Supply chain management involves the coordination and integration of various activities to ensure the seamless flow of goods, services, information, and finances from suppliers to consumers. According to Chopra and Meindl (2019), the key components of supply chain management include planning, sourcing, manufacturing, logistics, and inventory management. Effective supply chain management enables businesses to optimize processes, reduce costs, and enhance customer satisfaction.

Types of Supply Chains: Supply chains can be categorized into different types based on several factors such as geographical scope, operational strategies, and production methods. Global supply chains involve sourcing materials and components from different countries, whereas local supply chains focus on domestic sourcing and production (Christopher, 2016). Lean supply chains prioritize efficiency and waste reduction, while agile supply chains emphasize flexibility and responsiveness to changes in demand (Fernie & Sparks, 2014). Additionally, supply chains can be classified as make-to-order or make-to-stock, depending on production strategies and inventory management approaches (Chopra & Meindl, 2019).

The Impact of E-commerce on Supply Chain Management: E-commerce has revolutionized the way businesses operate, offering new opportunities for growth and expansion while presenting unique challenges for supply chain management. One of the significant impacts of e-commerce is the increased complexity of supply chains, with businesses managing multiple channels and distribution points (Linden, Kraemer, & Dedrick, 2011). The rise of online retail platforms has also led to demand volatility, requiring supply chains to be more agile and responsive to fluctuations in consumer preferences and market trends (Swink, Melnyk, Cooper, & Hartley, 2011).

Furthermore, e-commerce has shortened lead times and heightened customer expectations for fast delivery, necessitating improvements in transportation and logistics networks (Gattorna & Walters, 1996). Inventory management poses another challenge for e-commerce businesses, as they must balance the need to meet customer demand with the risk of overstocking or stockouts (Mentzer et al., 2001). Advanced technologies such as artificial intelligence and data analytics play a crucial role in optimizing inventory levels and enhancing supply chain visibility in the e-commerce era (Kamble, Gunasekaran, & Gawankar, 2018).

In conclusion, e-commerce has significantly influenced the evolution of supply chain management,reshaped traditional practices and introducing new complexities. Businesses must adapt to the dynamic nature of e-commerce by implementing agile strategies, leveraging technology, and optimizing supply chain processes. By understanding the impact of e-commerce on supply chain dynamics, organizations can navigate the challenges and capitalize on the opportunities presented by the digital marketplace.

2.1.2 E-Commerce

Electronic commerce is a process of exchanging ownership of goods and services through electronic devices within electronic networks. The definition stipulated the transfer of ownership and rights in order to be classified as electronic commerce. For example, linking stores belonging to each other with their stores to an electronic system and the Internet does not mean that there has become an electronic commerce process because there has not been a transfer of ownership via the Internet and the network, and this topic falls under Electronic business and not electronic commerce, as electronic business includes all work that is accomplished through networks or the Internet and is

computerized, such as information that is within the network that helps in decision-making and the implementation of marketing and production functions and other internal executive works or external (VanHoose, 2011).

Here, the researcher defined electronic commerce, which is the trade of goods and services in various forms through an electronic medium, and it is divided into business-to-business trade, business-to-customer, and customer-to-customer opportunities for merchants and consumers are considered equal and similar within the consumer market, and this similar opportunity can significantly change the nature of competition on the Internet, and it has changed electronic commerce. Here that, electronic commerce is a wide range of commercial activities for products and services where the parties deal electronically and not through physical exchanges and direct physical contacts, that is, the first condition is that the transaction is an electronic transaction for goods and services traded within the network. The researcher agreed with the previous that electronic commerce is the process of buying and selling via the Internet, and the transfer of ownership and rights to use goods and services through a computer-mediated network (Gupta A. , 2014).

The writer has defined electronic commerce from two perspectives, the first is a narrow perspective, so that electronic commerce is a financial transaction takes place through communication networks and the Internet, through which the buying and selling of goods and services takes place, also includes the process of transferring money through networks and Internet As for the other broad perspective, electronic commerce is a form of commercial relations in which interaction takes place through the use of Internet technologies. (Babenko, 2019)

E-commerce has been divided into several models that have been identified on the basis of the parties to economic relations and the interaction between them. B2B trade is a complete chain based on an exchange between companies and institutions, whether they provide services or goods, and they are organizations with continuous interaction in the market, and this chain can be summarized as a relationship between sellers and buyers who are not consumers but rather investors, the chain is usually from raw material extractors and sellers to factories to wholesalers to retailers.

The second model, is simply that it refers to a commercial exchange between business and individuals B 2 C, and the relationship for this model is between the business and the final customer directly. The third model of electronic commerce, is the sale of individuals to individuals or customer to customer C2C via the Internet, and this model was found when there were platforms that allow individuals to sell their things or service on it, and this platform is called the mediator, which helps the individual to offer his services or goods and sell them to another individual, The fourth model, which is electronic commerce between businesses and the government, where some companies and institutions sell goods or services via the Internet to governments, and is called B2G, And the fifth model, which is electronic commerce between the customer and the government, and this is applied in the tax systems in the United States of America, for example, and it is called C2G, The last model, it is mobile commerce, which is commercial operations of computerized goods and services that are provided through smart devices, and it is software that provides services without the presence of a person. (Babenko, 2019).

E-commerce is simply the trading of goods and services over the Internet, and it is divided into four types, which are business-to-business trade, business-to-customer trade, customer to the business, and finally, customer-to-customer trade directly, using the same

structure, the infrastructure that works to provide products and commodities via the Internet and financial facilities that are made via the Internet. The business-to-business model is the most common in electronic commerce, and it is the exchange of goods, services, or information between two companies. As for electronic commerce between the business and the customer, this trade takes place when the company works to sell goods and services directly to the customer. Examples of that are online bookstores, tourism services, banking and health services, and others. As for selling customers services or products to companies, it means that a person has a specific product or service offered and a company purchases it via the Internet. As for selling customers to customers via the Internet, it is that goods and services are sold between consumers who practice commerce via the Internet, or what is called reselling, and the eBay platform is an example of that. (Qadri, 2013)

Components of electronic commerce are the exchange of information and transactions, and they are through internal and external networks connected to the computer, and its components are the electronic exchange of information, the use of phones, the use of ATMs, wireless networks, smart cards and digital cash, so electronic commerce devices and programs through which activities, transactions, commercial exchanges and information exchange are conducted through networks such as the Internet. Many companies are now adopting electronic commerce, because electronic commerce allows more customers than physical stores, and secondly, it saves time, effort and money for customers and suppliers, as it reduces periodic expenses for suppliers and also saves customers time and effort to reach his product or commodity. (Ahmed, 2014).

Electronic commerce is the exchange of goods, services, information and money via the Internet, through which many means such as e-mail, computers, faxes and others are used

to complete transactions, and trading takes place either locally or globally, which facilitates exchange and increases its volume. (Buckman, 2019).

2.1.3 Supply Chain

The concept of the supply chain started with a simple and clear idea and used to follow the traditional approach in the sequencing of production processes and subsequent business operations, whether goods or services. For example, in the manufacturing supply chain, the focus was usually on value-added activities. Value addition in manufacturing primarily aims to develop products, which include various processes starting from product design and raw material sourcing, then moving on to the manufacturing phase itself, which involves several other chains such as product packaging, manufacturing methods, customer delivery, and ending with after-sales services.

This traditional meaning of supply chains has largely disappeared in this era of technological advancement across all levels and fields. The presence of technology has increased the complexity of supply chains, with the possibility of sourcing from multiple entities simultaneously and receiving supplies from multiple sources. Consequently, the term "supply chain" has completely changed, with the internet, the World Wide Web, becoming the organizer of this supply chain. Moreover, the presence of software facilitates the easy storage and retrieval of all information during the transfer of goods or services through supply chains.

To further clarify the concept, let's review some of the most tangible aspects that have become prevalent in recent supply chain issues. Among these points, the most important ones include improving efficiency, agility, and accuracy. These points are not only for prosperity but have become an urgent necessity.

Approximating the concept of modern supply chains requires a clear definition of Enterprise Resource Planning (ERP) systems. These are intelligent systems that operate with modern technology and are primarily focused on integrating external and internal operations within a system that cuts across technology in all internal operations of the enterprise, connecting the enterprise with the external world. This is currently the best system in use.

Enterprise Resource Planning (ERP) systems have been expanded to integrate external business relationships and electronic business techniques with internal business operations so that information and business operations can be open to business partners, achieving efficiency and agility in customer service.

In cooperative motors in supply chain management and managing the company's relationship with customers and the product or service life cycle, the use of technology through these modern systems has become a pivotal point in the subject of supply chains. It will become documented, stored, and subject to modern technological oversight, making it easier for administrators themselves to manage their companies and operations and understand the steps of the production, distribution, or even after-sales service processes.

To sum up, in a modernized supply chain, several essential steps include selecting products directly from supplier inventories, moving on to retailer departments, followed by sales orders received through internet pages, then entering this data into inventory management systems or electronic systems specific to the company itself. However, before that, the customer order reception data points must have been verified, and the availability of what has been requested through them in our inventory confirmed. The final stage, which is the most important, is the unified database containing the unified

data record of the customers serve, where each customer stands within the company, where their order stands, and at what stage. Additionally, there are call centres that facilitate customers' access to their inquiries and information related to their orders, as well as after-sales services, which are crucial in this system. Maintaining communication with customers not only retains them but also facilitates building trust and a competitive advantage in the market in which we operate. This, in brief, summarizes the modern concept of supply chains (ERP) (Press, 2005).

2.1.3 Supply Chain Management

Supply Chain Management (SCM) is the process of planning, coordinating, and optimizing all activities related to the sourcing, procurement, production, and distribution of goods and services. It encompasses a network of organizations and processes that work together to create and deliver products to end customers.

The importance of Supply Chain Management (SCM) can be observed in various aspects. Firstly, effective SCM contributes to cost efficiency by optimizing processes, minimizing waste, and managing inventory levels, ultimately improving the financial performance of organizations. Secondly, SCM enhances customer service by ensuring timely delivery, increasing product availability, and responding promptly to customer demands, leading to higher satisfaction and loyalty. Thirdly, well-managed supply chains provide a competitive advantage by enabling faster delivery, greater flexibility, and higher product quality compared to competitors. Additionally, SCM plays a crucial role in risk mitigation by identifying and managing potential disruptions such as supplier shortages or natural disasters, ensuring continuity in operations. Furthermore, SCM fosters collaboration and integration among supply chain partners, leading to better communication, coordination, and overall efficiency. Lastly, effective SCM practices promote sustainability by reducing environmental impact, minimizing waste, and ensuring ethical sourcing

and production. Overall, Supply Chain Management is essential for optimizing operations, enhancing customer service, gaining a competitive edge, managing risks, fostering collaboration, and promoting sustainability in today's dynamic business environment. (Chopra & Meindl, 2016). Supply Chain Management (SCM) encompasses several critical dimensions essential for effective operations in today's business landscape. Firstly, planning and forecasting are vital components, involving activities such as demand forecasting, production planning, inventory management, and capacity planning. These ensure that organizations can align their supply with customer demand efficiently. Secondly, sourcing and procurement play a crucial role in supplier selection, negotiation, and relationship management to secure high-quality materials and components at competitive prices, ensuring a reliable supply chain. Thirdly, production and operations focus on optimizing manufacturing processes, quality control, and production scheduling to enhance efficiency, reduce lead times, and improve product quality, thus enhancing customer satisfaction. Additionally, logistics and distribution activities, including transportation, warehousing, and order fulfillment, are essential for ensuring timely delivery to customers while minimizing costs. Moreover, information technology plays a significant role, leveraging tools such as Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) software, and data analytics to facilitate communication, collaboration, and decision-making across the supply chain. Lastly, performance measurement and continuous improvement are critical dimensions, involving monitoring key performance indicators (KPIs), benchmarking performance, and implementing initiatives to enhance supply chain efficiency over time. In conclusion, effective Supply Chain Management is indispensable for achieving operational excellence, enhancing customer satisfaction, and maintaining competitiveness in today's dynamic business environment. (Simchi & Simchi-Levi ,2014).

Supply chain management is the systematic, strategic coordination of traditional business functions within a given company and across companies within a supply chain, with the goal of improving the long-term performance of each company and the supply chain as a whole. Supply chain management is still considered an important source of competitive advantage. A key goal of SCM has always been to build new capabilities for participating companies, enabling them to gain an advantage over their competitors, supply chains can range from a simple direct supply chain that consists of a focal company and its immediate supplier and customer, to one that is as complex as an ultimate supply chain that includes all the parties involved in customer value delivery from raw material source to consumption (Min, 2019).

Supply chain management in a simplified way is an integrated process of activities that starts from the supplier to the final customer, and it consists of four components: planning, source, implementation and delivery, and with these four activities it is possible to measure the efficiency of the supply chain and measure its performance, and if it is Collecting information and resources, planning in an excellent manner, setting goals and the necessary tactics, proper implementation, and delivery on time and in a proper manner. The supply chain has an important role in the success of business. It is also possible to know weaknesses, improve the capabilities of the supply chain, and satisfy customers, and this is by setting standards to perform (Ka, 2019).

People use different names for these activity chains and organizations. When they emphasize operations, they mean process; when they emphasize marketing, they call it the logistics channel; when you look at value creation, they call it the value chain, and when you look at how customer needs are met, they call it is the demand chain. Here we emphasize the flow of materials, using the most general term supply chain. Institutions

have become aware of the importance of linking suppliers and customers because they do not work in isolation from others, and logistics is considered one of the parts of the supply chain in order to maintain customer satisfaction. Managing the supply chain well is doing operations in a timely manner, effective response to customers, planning for enterprise resources and Responding to globalization and electronic commerce and increasing customer service, and all these requirements led to taking into account many important issues such as increasing the strategic importance of logistics services, global trade and increasing international competition, and the integration of organizations and activities related to the supply chain, the emergence of new operations After the advent of globalization, the development of the communication process, the requirements of electronic commerce, and an increased focus on quality, customer satisfaction, and environmental concerns (Waters, 2021).

The researcher has shown that supply chain management has become more difficult after the entry of globalization and digitization due to the abundance of fierce competition and easy entry of companies to markets outside their country, and the importance of supply chain measurement systems is very great at this stage to obtain an accurate analysis that makes management and responsible committees able to Make the right decisions, The researcher explained the importance of digitization and the use of technology in order to measure the performance of the supply chain, because digitization and technology will give accurate information that will help stakeholders in making appropriate decisions and also help them improve their competitiveness, reduce errors and improve the control system (Khan, 2020).

2.1.4. Supply Chain Kpis

The success of supply chain management depends on a closed loop of implementation and planning. Planning is always different from implementation because planning is based on future expectations. Therefore, measuring and monitoring the performance of the supply chain leads to reducing the gap between what is planning and implementation. There are also indicators for evaluating financial performance. There are also performance indicators in order to evaluate the performance of the supply chain and measure outputs.

There are many important performance indicators in evaluating the performance of the supply chain in terms of efficiency and effectiveness, and we will take the most important of them in this research and they are: perfect order, cash to cash cycle time, customer order cycle time, fill rate, inventory days of supply, fright bill accuracy, day sales of outstanding, inventory turnover, gross margin of investment, inventory velocity, Supply chain KPIs can help you assess the financial health of your business. They can also provide useful insights into your warehouse operations, allowing you to make smarter decisions, faster (Buckman, 2019).

Performance is the deliverables and results in the process of providing products and services that can be measured and compared to what the organization aims to achieve. Performance measurement is used in supply chains to measure the success or failure of activities implemented against objectives. Identifying and measuring performance in the supply chain is important to the organization and needs to be done on an ongoing basis so that it can be monitored, corrected, and changed (Rizkya, 2019)

The cash-to-cash cycle is simply defined by the researchers as the time required to sell inventory and collect receivables minus the time required to pay what the business owes.

This cycle includes the time required to produce, sell, collect, and collect. pay. In these businesses there is what is known as the company's working capital cash flow, which is used by trading companies to measure the effectiveness of a company's management and to indicate how sources of funding are needed for the company's continued achievement of its objectives and is used in particular in supply chains. , because it is one of the indicators to measure the effectiveness of the supply chain, used in supply chain management to understand its degree of efficiency. (Wang, 2019)

The cash-to-cash cycle is the time period from when cash is issued at the time of purchase to when cash is received at the time of sale. It is an important indicator to measure the effectiveness and efficiency of enterprise management, and it is also an important indicator to understand whether the enterprise needs external financing. industry, as it largely depends on the expectations of forecasters and planners. (Wang, 2019)

The cash conversion cycle is a common metric for understanding the efficiency of an organization's working capital management. The cash conversion cycle is calculated by subtracting days of credit outstanding from days of inventory outstanding and days of sales outstanding and shows the average time between spending on merchandise purchases. Whereas cash back from accounts receivable minus payment of accounts payable, the longer the cycle, the more working capital we need to invest, so the shorter the cycle the better as it shows the efficiency and effectiveness of the management of the company or institution layer (Nobanee, 2011).

The perfect order rate is one of the basic indicators to measure the quality of the logistics process, the researchers said, because it is one of the most important basic indicators in supply chain management, which is considered difficult to measure and define precisely, and the reason why you find them difficult to measure is that, the measurement of the

ideal demand rate depends on many technical, economic, qualitative and comprehensive aspects of the entire logistics process, and its importance lies in the fact that it is a basic indicator of whether the organization is effective. correct his goals and his measures, the concept can be simplified as follows: delivery should be on time for sales to customers without delay, and also that the product should be free from damage and accurate documentation of information so that there is control over packaging, packing and shipping. (Heydari, 2020)

The main objective of an organization in measuring perfect order is to satisfy the customer's requirements by delivering the right product at the right time, in the right place and in the right product condition at the lowest possible cost, in this case the performance chain of delivery provides A certain level of effectiveness and efficiency is achieved while maintaining customer satisfaction, all of which lead to the achievement of the organization's intended goals, giving it an edge over those around it. (Mishra, 2014)

Delivery time is one of the most important factors for customer satisfaction, so companies and institutions always strive to provide services or products as soon as possible, many companies consider time factor as a competitive advantage, such as B. Domino's Pizza and FedEx delivery time is only required the time it takes for a product to arrive, considered one of the key performance indicators that companies are constantly striving to improve. (So, 2000)

Manufacturers and distributors have large and varied stocks of goods, but the customer's order is composed of several different elements present in different places in the store in different quantities, so the customer cannot feel satisfied unless his order is quickly prepared within a rather short period of time. If the fill rate is the rate of time required for the supplier or factory to meet the customer’s order with the entire shelf, this metric is

very important because it gives a good indication of the effectiveness and efficiency of the supply chain (Song, 1998).

Researchers define the fill rate of orders, the number and type of orders, and the time required to prepare and process them, divided by the expected demand per session, and generally examine these types of metrics, which show that demand is fixed and determined by the fixed The number of and independent, and the request is sequential, these assumptions help to study and measure this indicator, but in fact there are many factors that can affect this ratio (Thomas, 2005).

Days sales outstanding is the ratio of accounts receivable to the average daily sales for the period to determine the period required to convert the average daily sales into cash. Days Sales Outstanding (DSO) measures the average number of days it takes a business to collect payment for a sale. DSOs are typically determined on a monthly, quarterly or annual basis. DSO equals Accounts Receivable divided by Total Sales Receivables multiplied by Days to Collection. (Charitou, 2010), Days Sales Outstanding (DSO): This metric represents the average time elapsed from a sale to collection of revenue. It is calculated as ending accounts receivable divided by sales times the number of days in the period (Kroes, 2014).

2.1.5. b2b Business

Commercial market customers can be broadly divided into three categories: (1) trading companies - that is, companies; (2) institutions - such as universities; (3) governments. The company serves the business (B2B) and consumer (B2C) markets. However, it is important that more than 80% of sales come from B2B customers. Business to business can be defined as the most important segment of the merchant market, which includes

factory dealers, wholesalers or wholesalers, another wholesaler, wholesalers and retailers, making commercial transaction between them (Hutt, 2021).

The researcher (Pfoertsch, 2007) has found some differences between the commercial process between business and business and business and the final consume.

B2B		B2C
Aimed at intermediate value provider	⟷	Aimed at the end-user
Two way Relationship	⟷	Transaction or one directional 'relationship'
Small focused target market, small number of customers	⟷	Mass market, large number of consumers
Buyers can most effectively be reached through specialized media	⟷	Buyers are reached through mass media
Multi-step buying cycles	⟷	Short sales cycle
Relatively complex product offering	⟷	Relatively simple product offering
Never on impulse	⟷	Purchase can be an impulse
Marketing is about educating	⟷	Marketing is about convincing
Brand is about the first impression; it opens the door but does not sell	⟷	Brand can be the reason to buy

Figure (2.1): Difference between B2B and B2C

2.1.6 Wholesale

Wholesalers are intermediaries in the supply chain who buy products in large numbers from manufacturers or suppliers and resell them to retailers or other businesses in smaller quantities. They frequently operate on a bigger scale than retailers and have a focus on particular product categories or business sectors. By combining goods from different manufacturers and supplying them to retailers, wholesalers play a critical part in the supply chain. This streamlines the distribution process and gives retailers access to a large selection of goods without requiring them to negotiate with numerous manufacturers directly. Moreover, wholesalers may provide their clients with services

like inventory control, logistics, and warehousing to help with the distribution process (CHEN, 2024).

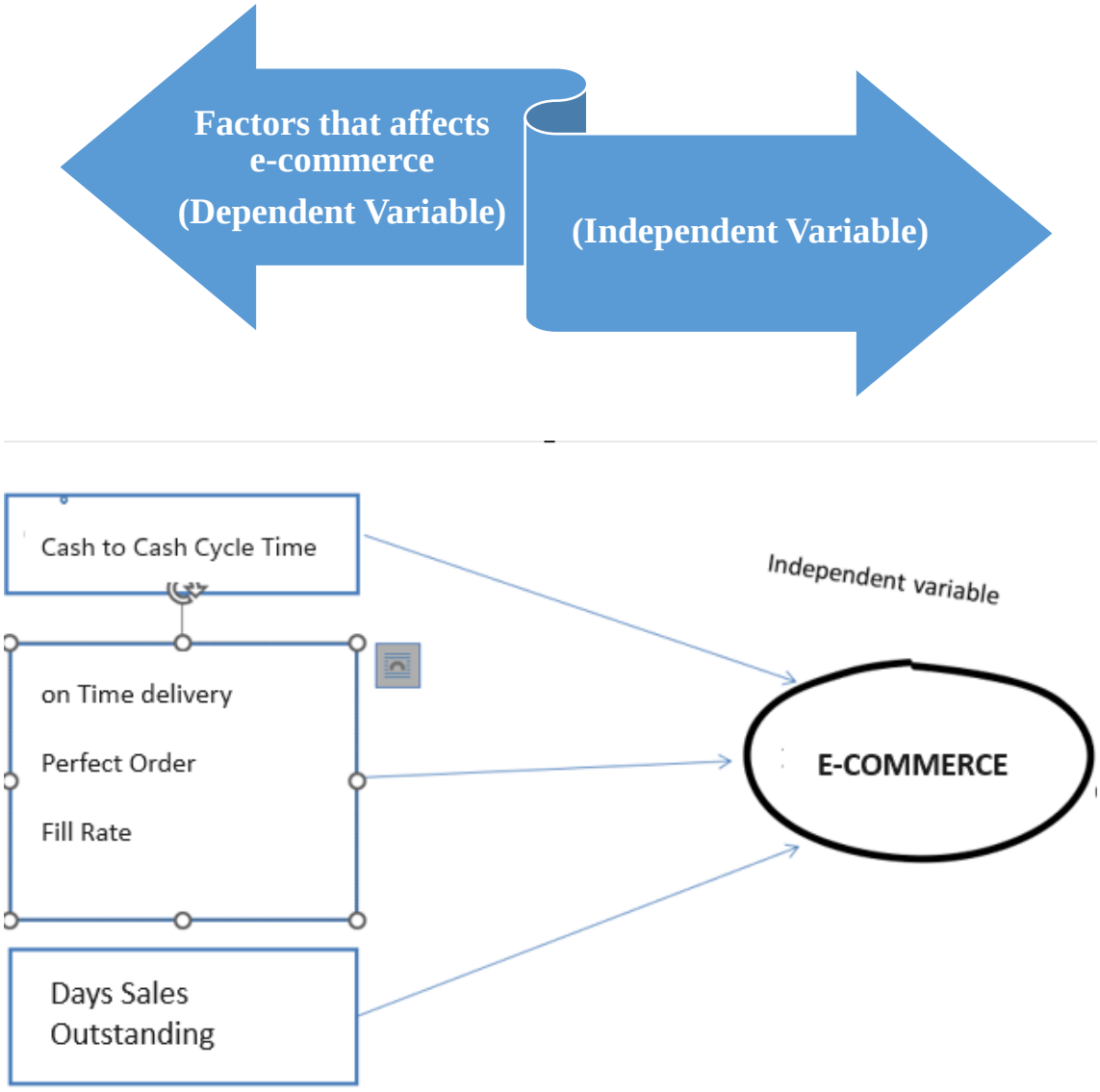

Figure (2.2): Relationship between Dependent and Independent Variable

2.2. Previous Studies

E-commerce has gained a tremendous impact on institutions and stores of both wholesale and retail types in the current era. Various studies have been conducted on the impact of e-commerce on various trades and supply chains. Researchers began in this field and the impact of this trade at the beginning of the nineties of the last century, where trade began to have no limits when it took its place through the World Wide Web, although there were

studies before the nineties, but it was not as influential and powerful until the World Wide Web invaded all areas of life, especially trade. e. E-commerce has also left its shadow on merchants in Palestine. Through this research, the researcher attempts to review the most important effects that have occurred on trade in general and on its supply chains. The researcher determines its impact on the supply chain of wholesalers in Palestine regarding electrical supplies (Lee & Whang, 2001).

In his seminal work, "The History of Electronic Commerce," Tian (2006) defines electronic commerce (e-commerce) as the exchange of goods and services facilitated through electronic communication channels. Notably, by 2006, the world had already been engaging in electronic commerce for three decades. Tian distinguishes two primary types of e-commerce: business-to-consumer (B2C) and business-to-business (B2B). He underscores the interconnectedness of e-commerce with concepts like the Internet economy and the digital economy, where the latter encompasses all technology-related aspects of economic transactions. While electronic commerce falls under the digital economy umbrella, Tian emphasizes that activities like purchasing a computer from a retail store do not qualify as e-commerce. Instead, e-commerce specifically refers to selling goods and services via the Internet, regardless of the parties involved—whether between businesses, from a business to consumers, or among individuals.

Expounding on the components and definition of e-commerce, Gupta (2014) discusses its importance in equalizing market opportunities and fostering the creation of new markets for consumers, producers, and sellers. Gupta delineates e-commerce into three categories: inter-company trade, trade between companies and consumers, and trade among individuals. He underscores how e-commerce has democratized trade by eliminating barriers such as the need for significant capital and storage spaces. Additionally, Gupta

highlights the accessibility of goods and services sources and the ease of obtaining necessary tools for e-commerce, which have broadened horizons and reshaped global market structures.

Further elucidating the essence of electronic commerce, Zheng (2009) in “Introduction to Electronic Commerce” delineates it as commercial activities conducted over the Internet, encompassing the electronic exchange of goods among companies, factories, institutions, and consumers. This definition aligns with the International Organization for Standardization's characterization of e-commerce as the economic activity of using communication to purchase and sell products.

In synthesis, e-commerce, as elucidated by Tian, Gupta, and Zheng, represents the process of selling goods and services via the Internet or technological means, encompassing various forms of trade between businesses and individuals.

2.3. Supply Chain Management

Supply chain management is the systematic and strategic coordination of business functions and strategies within a given company or across a business chain to improve the long-term performance of the company and the supply chain and to achieve desired goals in the organization (Mentzer, 2001).

Supply chain management is the management of the main business operations between the networks of the business organization, which consists of several elements such as manufacturers, suppliers, retailers and the customer, and that managing the chain properly, efficiently and effectively will lead to reaching the organization's short goals and Medium and long term (Croxton, 2001).

Supply chain management is defined as coordination between the entity, activity, and information, meaning that all information and activities practiced by the institution or company must be subject to a clear entity so that the product or service is transferred from the source to its end user in a sequential manner that limits access barriers or the occurrence of problems during the process. Transferring it from the supplier to the customer. This entire process aims to achieve a basic goal, which is to reduce costs and improve performance. This is for the supplier on the one hand, and for the customer on the other hand. It achieves satisfaction and creates a competitive advantage for companies and institutions. Therefore, most leading companies and institutions focus on the field of business. Some companies resort to employing an intermediary. He carries out the supply process. This gives the company an opportunity to get rid of this burden on the one hand, and on the other hand, it facilitates the reduction of costs, so that the middleman becomes responsible for the transportation process, and since more than one item and more than one product is transported through this agent, he benefits from that and does not lose The company is in a position to bring the necessary tools for the transportation process.

The qualitative leap that we will not talk about here is the use of the Internet in the transportation process, or supervision of the transportation process, so to speak, where all information about the transportation process is automated so that it is visible to the supplier and the end user at the same time, which creates confidence on the one hand and also creates better and more control on the part. For the company that supplies or manufactures the product or service.

How can the process of integration between institutions be achieved if this model is used... First, when the transportation process is integrated, the issue of purchasing,

inventory management, and sales becomes less expensive than if each company, institution, or supplier carried it out separately... Second, the system is mixed. Cooperative between institutions so that an environment can be created that contributes to strengthening the cooperative relationship more than the competitive relationship, which contributes to greater prosperity between companies..... Third, if the relationship becomes cooperative, the inventory may tend to zero, meaning that companies will not need to provide stores and expenses. It is large enough to store goods and also better decisions are made in a timely manner, which reduces the risk of losses and ultimately leads to production in the right place and reducing the cost of distribution (Aloqool, 2022).

2.4. E-Commerce and Supply Chain Management Performance

The researcher (Yu Y. W., 2016) said that electronic commerce worked to flourish new business models and take on new characteristics in the new time, and logistics services were affected by this development, so he studied companies after entering new electronic services and what are the opportunities and perspectives and the impact of electronic commerce on logistics companies and management logistics in general, In a study he conducted of electronics companies in different parts of the world, he found that technology plays a key role in improving supply chain efficiency and effectiveness. Huge data, Internet and computers will help to improve the level of e-commerce logistics at the control level, system and operation level.

According to the researchers (Nagurney A. C., 2005) , there are three levels of decision makers in the supply chain, namely manufacturers, distributors and retailers, and these three levels of decision-making are all aimed at maximizing profits and reducing risks.

Computerization and accounts reduce risk for decision makers because the more information available to decision makers, the better decisions can be made, while e-commerce and data processing help to increase qualitative and quantitative analysis and useful working mathematical results convenient. And by studying the literature and applying equations and algorithms for calculating risks and maximizing profits, he concluded that electronic networks and computing greatly help the three layers of decision-makers in reducing risks mainly, which he considered more important than increasing profits, but he noted that computing and E-commerce and networking have greatly benefited in the supply chain management.

In a study conducted by researchers (Yu Y. W., 2017), who looked at the impact of applied e-commerce on the supply chains of furniture companies in the United States, Asia, and Europe that adopted e-commerce as their approach, they concluded that they rely on future technologies, Such as the Internet, data analysis and computing are working to improve logistics e-commerce, improve the company's operational performance and improve decision-making.

The researchers (Li, 2018) talked about the entry of commerce into the business world and the development and prosperity of technology as electronic commerce became a model for business life, and how electronic commerce affected the continuous change of customer needs, so cooperation between production and marketing became very important, and they also said that management The traditional supply chain has not been able to control the changes in customers' continuous demands, so one of the primary goals of supply chain management is to maintain customer satisfaction. The researchers concluded, after studying three real estate brokerage companies for ten days in People's China, that electronic commerce was based on positively affecting supply chain

management, as it helped to share information widely between suppliers and retail trade quickly, and helped to anticipate orders and Developing an effective response to market fluctuations through coordination between marketing and production, and it also helped to anticipate customers and potential customers and solve unclear medical problems.

So, the researchers unanimously agreed that electronic commerce has a positive impact on the supply chain and its management, in terms of time, effort, decisions, efficiency and effectiveness.

Supply Chain Key Performance:

Supply chain performance measures or performance indicators are tools used by companies to know the efficiency and productivity of the various supply chains, and these tools usually measure sales, inventory, purchase quantities, demand quantities, time required for each process, customers, suppliers, cash flow and other information that It helps managers and stakeholders to make the right decisions in order to reach the goals of the organization (Calzon, 2023).

Cash-to-cash cycle time. This indicator measures the main performance of the supply chain, as it measures the time it takes between paying special dues to suppliers and obtaining the funds for sales “collection”, and this indicator is very important because it is a combination of numbers and information that any department needs in order to make the necessary decisions for incoming and outgoing logistics. This indicator consists of three main indicators, the first of which is the (DIO) number of days of pending inventory, (DSO) the number of days of sales pending sales, and (DPO) the days of outstanding payments “Cash-to-cash cycle = DIO + DSO – DPO” (Champion,2023).

The Perfect Order Rate is an indicator of supply chain performance and is the percentage of order quantities that are delivered to the correct location with product meeting the

required specification at the correct time, in the correct condition and in the correct quantity corresponding to the correct documentation required by the customer and in In case of defects. One of these conditions is lower delivery rates to customers, resulting in supply chain inefficiencies, (Percent of orders delivered on time) x (Percent of orders complete) x (Percent of orders damage free) x (Percent of orders with accurate documentation) x 100. (Reid,2023).

Delivery on time is one of the most important measures in the performance of the supply chain because it is very important for customer satisfaction, and in this measure it also gives important indicators such as the speed of processing in the warehouses, as well as the speed of the carrier and the accuracy of the delivery process. All of this leads to an increase in customer satisfaction, which leads to an increase Sales and thus the direction of the organization to its goals well (Dalin-Kaptzan, 2022). There are several reasons for failure to deliver on time, the most important of which are inventory management problems. Sometimes inventory is offered for sale while it is not available in your warehouses. This will lead to a delay in delivery until it is requested by the supplier, which increases the possibility of customers canceling orders. The second problem is poor organization. Processing the order, packaging and preparing the order, which leads to delays in delivering orders on time. The third reason is problems in delivery, when drivers or delivery companies delay to deliver the order to the customer at the specified time due to poor organization, mismanagement, or increased pressure on drivers, you can calculate OTD by this equation On-time delivery = (Orders shipped on time / total orders) * 100% (Shannon, 2023).

Days sales outstanding measure the speed at which funds are collected from customers in exchange for purchasing a company's products and services. The higher the indicator, the

worse the cash flow, leading to problems with the company's liquidity. The lower the percentage, the more promising the indicator, which indicates the institution's supply chain performance and capital flow efficiency DSO=(Accounts Receivable /Total credit sales) ×Number of Days (Kenton, 2022).

Filling rate is an indicator that measures the percentage of customer orders that the company can fulfill without running out of stock, and this indicator is very important for measuring the performance of the supply chain. And the effectiveness of the supply chain, and this reduces late orders or lost sales (Indeed Editorial Team, 2022).

Chapter Three

Methodology

3.1 Introduction

The idea of research methods relates to reflecting the tools and techniques to answer the research question on how the study has been formulated and to make the study findings valid and reliable. The idea of research methodology aims to refer to the procedure where the researcher aims to choose the specific tool to analyze and select the information related to the topic.

3.2 Research Design

The most effective strategy for conducting the research was chosen after considering the researcher's prior knowledge, the answers that study participants were expected to provide, and the availability of relevant data. In addition to the qualitative study design and quantitative methodology, the recommended research uses quantitative research methods such as questionnaires and other publicly available data in order to measure the impact of e-commerce on merchants. The results of this quantitative study give a clear impression of the degree of influence and the most important factors that actually affect the current situation of these traders. It may be possible to achieve the research purpose in a shorter period of time if qualitative data collection is used, but in order for the researcher to achieve consistency and more accurate results, through the use of questionnaire to collect primary data from a sample of responses of the study population. In addition, it is useful to collect information by conducting surveys, reviewing documents and conducting inspections. Although the implications are difficult to measure and lack clarity, they can be analyzed, classified and evaluated. Another advantage of

profile research is that it provides a more comprehensive explanation of the data by drawing attention to recurring themes, sections, and patterns.

3.4 Research Method

Based on the nature and objectives of the study, the current study employed the descriptive-analytical approach. This approach was deemed suitable for the research's purpose as it involves observing, analyzing, and predicting the current state of the research's problem as it exists in reality through description, interpretation, and anticipation. It's considered, in the researcher's opinion, the most appropriate method for such studies. The research referred to previous literature to clarify the theoretical background. It designed a questionnaire divided into two sections, each containing dimensions aimed at gathering data regarding the relationship between e-commerce and the performance of supply chains in the wholesale sector of electrical supplies in the Palestinian market. The first section of the questionnaire also addressed some personal data of the respondents, such as gender, age, educational level, province, and company type.

3.4 Research Population and Sample

Research population: The research population comprises all companies and wholesale traders working in the field of electrical supply in the West Bank market, totaling 108 companies or traders based on records issued by the Palestinian Ministry of National Economy for the year 2022.

Research Sample: The research targeted all companies and wholesale traders working in the field of electrical supplies. Therefore, the research considered a census that includes

the entire study community. Considering a non-response rate of 10.2%, the total number of completed questionnaires reached 97 out of 108, accounting for 89.8% of the total.

3.4.1 Research Tool

Questionnaire

The researcher prepared a questionnaire consisting of two sections. The first section addressed e-commerce and supply chain indicators through a set of five axes, as follows:

Cash to Cash Cycle

E-commerce and Perfect Order

Timely Delivery (Perfect Order)

Days Sales Outstanding

Fill Rate.

3.4.2 Likert Scale

The second section covered three axes, depicting the reality of e-commerce in the wholesale sector of electrical supplies in the Palestinian market:

Wholesale Sector for Electrical Supplies and E-commerce

Wholesale Sector for Electrical Supplies and E-commerce Infrastructure

Human Resource Readiness for E-commerce Use

The questions were prepared based on a Likert Scale, allowing for five possible answers. This scale facilitated the researcher in determining the respondents' opinions on each of the questionnaire's items. The Likert Scale is illustrated in the table below:

Table (3.1): Likert Scale
The Classification is as follows:

Classification	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Degree	5	4	3	2	1

This section discusses the Validity of the survey and the internal consistency of the measurement.

Credibility, or apparent validity, involves consulting specialized experts in the field. The researcher presented the survey to five specialized referees and accommodated their feedback by making necessary deletions, modifications, and additions, thus finalizing the survey.

Internal consistency, a measure of the extent to which each question in the survey corresponds to the dimension to which it belongs, was assessed by calculating the correlation coefficient between each question and the total score of its respective dimension.

Chapter Four

Data Analysis and Results

4.1 E-Commerce and Supply Chain Indicators

The results were as follows:

1. First dimension: Cash to Cash Cycle Table (1) reveals statistically significant correlation values of the first-dimension statements regarding the Cash-to-Cash Cycle with the total score of this dimension. This indicates internal consistency among these dimension statements, collectively elucidating the relationship between e-commerce and supply chain performance in the wholesale sector of electrical supplies in the Palestinian market. Therefore, this dimension is considered reliable and measures what it is intended to measure.

Table (4.1): Pearson Correlation Coefficients between each Statement of the Cash-to-Cash Cycle Dimension and the total Score of the Dimension.

Significance	Pearson's correlation coefficient	Statement	number
0.00	0.805**	E-commerce reduces the days of unsold inventory.	1
0.00	0.716**	E-commerce helps increase the days of outstanding payments for the company	2
0.00	0.676**	E-commerce increases the percentage of cash sales.	3
0.00	0.701**	E-commerce helps increase revenues from selling goods.	4

0.00	0.862**	E-commerce reduces the cost of storing goods.	5
0.00	0.784**	E-commerce helps in finding suppliers with better payment terms for the company.	6
0.00	0.835**	E-commerce helps in finding customers who have better payment terms for the company.	7

Table 4.1 Correlation is significant at the 0.01 level (2-tailed).*

The Second Dimension: E-commerce and the Perfect Order

It appears from Table (4.2) that the correlation values of the items within the second dimension concerning e-commerce and the Perfect Order, with the total score of the dimension, were statistically significant. Consequently, the dimension is considered reliable and valid in measuring what it was designed for.

Table (4.2): Results of the Pearson Correlation Coefficient between each Item within the e-Commerce Dimension and The Perfect Order, Along with The Total Score of the Dimension.

Significance	**Pearson's correlation coefficient**	**STATEMENT**	**Number**
0.00	0.704**	E-commerce helps the product reach the ideal location.	1
0.00	0.668**	E-commerce assists in delivering the product to the customer on time.	2
0.00	0.793**	E-commerce helps in improving the quality of product packaging.	3
0.00	0.633**	E-commerce aids in reducing the error rate in the quality and quantity of the ordered product.	4

0.00	0.662**	E-commerce assists in improving the required documentation for each order.	5
0.00	0.771**	E-commerce helps in improving the maintenance of essential customer information.	6
0.02	0.724**	E-commerce aids in obtaining the necessary invoices for the order more efficiently.	7

Table 4.2 Correlation is significant at the 0.01 level (2-tailed).

"The Third Dimension: On-Time Delivery -

It is evident from Table (4) that the correlation matrix values of the items within the On-Time Delivery dimension, on time delivery, with the total score of the dimension were statistically significant. This indicates internal consistency among the dimension items, suggesting their collective role in clarifying the relationship between e-commerce and the performance of supply chains in the wholesale trade sector for electrical supplies in the Palestinian market. Hence, the dimension is considered valid and measures what it was designed for.

Table (4.3): Results of the Pearson Correlation Coefficient between each Item of the Challenges Facing Public Relations in Promoting the Strategic Partnership between the Two Institutions and the Total Score of the Dimension."

This seems to discuss the statistical significance of the correlation between different elements within the On-Time Delivery dimension and its overall score, suggesting its validity in measuring the relationship between e-commerce and supply chain performance in the wholesale trade of electrical supplies in the Palestinian market.

Significance	**Pearson's correlation coefficient**	**STATEMENT**	**Number**
0.00	0.704**	E-commerce helps in improving inventory management quality.	1
0.00	0.668**	E-commerce aids in enhancing the quality of the order fulfillment system.	2
0.00	0.793**	E-commerce contributes to enhancing delivery performance.	3
0.00	0.633**	E-commerce assists in reducing errors in the required time for delivering orders to customers.	4
0.00	0.662**	E-commerce helps in arranging distribution lines for customers.	5
0.00	0.771**	E-commerce assists in estimating the required time for order delivery, ensuring customer satisfaction with the service.	6

Table 4.3 Results of the Pearson Correlation coefficient between each item of the challenges facing public

"The Fourth Dimension: Days Sales Outstanding

It is evident from Table (5) that the correlation matrix values of the items within the Days Sales Outstanding dimension, with the total score of the dimension, were statistically significant. Therefore, the dimension is considered valid and measures what it was designed for.

Table (4.4): Results of the Pearson Correlation coefficient between each item within the Days Sales Outstanding Dimension and the Total Score of the Dimension."
This seems to discuss the statistical significance of the correlation between different elements within the Days Sales Outstanding dimension and its overall score, suggesting its validity in measurement.

Significance	**Pearson's correlation coefficient**	**Statement**	**Number**
0.00	0.761**	E-commerce reduces the time period for settling sales dues.	1
0.00	0.840**	E-commerce increases the total cash flow for the company from sales.	2
0.00	0.699**	E-commerce decreases long-term credit sales.	3
0.00	0.730**	E-commerce helps facilitate payment methods for customers.	4
0.00	0.679**	E-commerce enhances access to customers' financial status, thereby reducing bad debt risks.	5
0.00	0.796**	E-commerce improves payment security and safeguards both company and customer rights.	6

Table 4.4 Results of the Pearson Correlation coefficient between each item within the Days Sales Outstanding dimension

"

The Fifth Dimension: Fill Rate

It is evident from Table (6) that the correlation matrix values of the items within the Fill Rate dimension, with the total score of the dimension, were statistically significant. Therefore, the dimension is considered valid and measures what it was designed for.

Table (4.5): Results of the Pearson Correlation Coefficient between each Item within the Fill Rate Dimension and the Total Score of the Dimension."
This indicates that the correlation between different elements within the Fill Rate dimension and its overall score was statistically significant, confirming the dimension's validity in measurement.

(Sig).	Pearson's correlation coefficient	Statement	Number
0.00	0.716**	E-commerce helps in fulfilling the orders that have been ordered	1
0.00	0.814**	E-commerce increases the accuracy of executing ordered orders	2
0.00	0.726**	E-commerce increases warehouse management capacity, increasing the efficiency and speed of packaging	3
0.00	0.758**	E-commerce helps in building a packaging system	4
0.00	0.763**	E-commerce increases the turnover rate of goods in the warehouse	5
0.00	0.764**	E-commerce helps increase the amount of control over the order filling process	6

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

Section two: The Reality of E-commerce in the Wholesale Sector of Electrical Supplies in the Palestinian Market First Dimension: The Wholesale Sector of Electrical Supplies and E-commerce

It is evident from Table (4.5) that the values of the correlation matrix of the second dimension related to the wholesale sector of electrical supplies and e-commerce with the total score of the dimension were statistically significant. Therefore, the dimension is considered valid and measures what it was designed to assess.

Table (4.6): Pearson Correlation Coefficient Results between each Item of the Dimension Related to the Wholesale Sector of Electrical Supplies and e-Commerce and the Total Score of the Dimension.

(Sig).	**Pearson's correlation coefficient**	**Statement**	**Number**
0.00	0.862**	A trade sector that contains the necessary expertise to use e-commerce	1
0.00	0.712**	The wholesale trade sector contains the necessary equipment in order to use electronic commerce	2
0.00	0.773**	The wholesale trade sector contains the necessary programs for use in electronic commerce	3
0.00	0.871**	The wholesale trade sector for electrical supplies is able to meet all market requirements through electronic commerce	4

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

Second Dimension: The Wholesale Sector of Electrical Supplies and E-commerce Infrastructure

It is evident from Table (4.6) that the values of the correlation matrix of the second dimension related to the wholesale sector of electrical supplies and e-commerce infrastructure with the total score of the dimension were statistically significant. Therefore, the dimension is considered valid and measures what it was designed to assess.

Table (4.7): Pearson Correlation Coefficient Results between each Item of the Dimension Related to the Wholesale Sector of Electrical Supplies and e-Commerce Infrastructure and the Total Score of the Dimension.

Sig	Pearson's correlation coefficient	Statement	Number
0.00	0.737**	The Internet reaches companies and wholesale stores in an excellent way	1
0.00	0.817**	Companies providing Internet and networks serve the wholesale sector in particular	2
0.00	0.890**	The wholesale trade sector for electrical supplies in the Palestinian market receives technical support on Internet services on an ongoing basis	3

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

Third Dimension: Readiness of the Human Resources for E-commerce Utilization

It is evident from Table (4.8) that the values of the correlation matrix of the third dimension related to the readiness of human resources for e-commerce utilization with the total score of the dimension were statistically significant. Therefore, the dimension is considered valid and measures what it was designed to assess.

Table (4.8): Pearson Correlation Coefficient Results between each Item of the Dimension Related to the Readiness of Human Resources for e-Commerce Utilization and the Total Score of the Dimension.

Sig	Pearson's correlation coefficient	Statement	Number
0.00	0.698**	The wholesale trade sector for electrical supplies has a human resource capable of practicing electronic commerce	1
0.00	0.745**	The wholesale trade sector for electrical supplies has special qualification courses in electronic commerce	2
0.00	0.877**	Those working in the electrical supplies wholesale sector have sufficient awareness of the importance of e-commerce	3
0.00	0.690**	E-commerce workers have the time and desire to learn e-commerce to apply it to their business	4
0.00	0.636**	Those working in the wholesale trade of electrical supplies believe that e-commerce is very important in order to achieve the goals of their companies	5

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

3.6 Study Tool Reliability

The researcher assessed the reliability of the tool by calculating the Cronbach's Alpha coefficient, which resulted in a value of 0.900. Hence, the questionnaire exhibits a high level of reliability. This indicates that the study tool, with its various dimensions, possesses a high degree of reliability.

Table (4.9): Results of Cronbach's Alpha Reliability Coefficient for the Study Tool."
This section discusses the assessment of the study tool's reliability through Cronbach's Alpha coefficient, where the obtained value of 0.900 indicates a high level of reliability for the questionnaire across its different dimensions. The table mentioned likely contains the detailed results of Cronbach's Alpha coefficients for different dimensions or items within the study tool.

Factor	Cronbach's alpha values	Number of Questions
E-commerce and supply chain indicators	0.911	32
The reality of e-commerce in the wholesale trade sector in electrical supplies in the Palestinian market	0.861	12
Whole questionnaire	0.900	44

Table 4.9 Cronbach's Alpha Values for Factors

4.2 Statistical Processing

To ensure the reliability and validity of the study tool, the researcher developed the study instruments using Google Forms, an electronic application used for rapidly and reliably collecting data. After data collection and review, it was transferred to a database developed in the Statistical Package for the Social Sciences (SPSS) program. Responses were given on a five-point scale: very high (5), high (4), moderate (3), low (2), very low (1). The researcher processed the statistical analysis by extracting numerical values, percentages, means, and standard deviations for the study items.

The study hypotheses were tested at a statistical significance level ($\alpha \leq 0.05$) using the following tests:

a. Percentages, frequencies, and means: This was primarily used to identify the frequency of categories of a variable, aiding the researcher in describing the study sample.
b. Cronbach's Alpha test: To assess the reliability of the questionnaire items.

c. independent samples T-test: To determine statistically significant differences between two independent data groups.

d. One-way ANOVA (Analysis of Variance): To identify statistically significant differences among three or more groups of data. The researcher used it for differences attributed to a variable containing three or more groups."

4.2.1 Describe the Demographic Characteristics of the Study Sample.

This section presents demographic data for the sample members, and the results are as follows:

Table (4.10): Percentage Distribution of Sample Members According to the Independent Variables used in the Study.
Description and analysis of data in terms of proportions are all in English.

Percentage	Repetition	Variable levels	variable
89.7%	87	MALE	GENDER
10.3%	10	FEMALE	
%100.0	97	TOTAL	
15.5%	15	FROM 20-30	AGE
55.7%	54	FROM 31-40	
19.6%	19	FROM 41-50	
9.3%	9	ABOVE 50	
%100.0	97	TOTAL	
2.1%	2	TAWJHI	EDUCTATION
70.1%	68	Bachelor's	
27.8%	27	Master	
%100.0	97	TOTAL	

16.5%	16	Jenin	City
4.1%	4	Tulkarm	
4.1%	4	Tubas	
5.2%	5	Nablus	
3.1%	3	Qalqilya	
58.8%	57	Ramallah	
2.1%	2	Jerusalem	
6.2%	6	Hebron	
%100.0	97	TOTAL	
13.4%	13	Sole	Business type
56.7%	55	Partnership	
16.5%	16	Private joint stock company	
13.4%	13	CORP	
%100.0	97	TOTAL	

4.3 Results and Discussing

4.3.1 Overview

Introduction This section includes an overview of the study's results and hypothesis testing by answering the study questions. It reviews the main questionnaire outcomes obtained through analyzing its sections and studying the study's variables. The researcher moves on to analyze the study sample's responses regarding study sections. The first section addresses e-commerce and supply chain indicators expressed through five axes: Cash to Cash cycle, Perfect order in e-commerce, Timely delivery, Days Sales Outstanding, and Fill Rate.

Meanwhile, the second section addresses the reality of e-commerce in the wholesale sector of electrical supplies in the Palestinian market. It comprises three axes: The wholesale sector of electrical supplies and e-commerce, the wholesale sector of electrical supplies and e-commerce infrastructure, and the readiness of human resources for e-commerce utilization.

The researcher then proceeds to test the study hypotheses. Additionally, the researcher reviews the congruence of these results with previous studies in the same field to ascertain the validity of the study's findings. The researcher presents their perspective and interpretation of these partial results within the theoretical framework of the study. Furthermore, the researcher has determined the mean response scores of the study sample, using the following ratings.

4.3.2 Discussing the Results

The analysis results indicated that the male percentage reached 89.7%, while the female percentage was 10.3%. Regarding the age variable, the results showed that 55.7% of the study sample had ages ranging from 31 to 40 years, while 19.6% of the sample fell in the age range of 41 to 50 years. As for the educational level variable, the analysis results revealed that 70.1% of the individuals in the sample held a bachelor's degree, while 27.8% had a master's degree. On the governorate level, it was observed that 58.8% of the sample was from the Ramallah and Al-Bireh governorate, while 16.5% were from Jenin, and 6.2% were from Hebron. The analysis results also showed that 56.7% of the sample belonged to private joint-stock companies, with 13.4% being private limited companies and another 13.4% being individual companies, as indicated in the table above.

Table (4.11): Key to Mean Scores

Grade	Low	Medium	High
Mean Range	≤ 2.33	2.34-3.67	≥ 3.68

4.2 Study Dimension Results:

4.2.1 First Section: e-Commerce and Supply Chain Indicators

First Dimension: Cash to Cash Cycle

This section seems to detail the results related to the first dimension of the study, specifically focusing on the Cash-to-Cash Cycle, presenting a table (Table 2) that likely contains mean values, standard deviations, and percentages for different indicators related to this dimension, sorted by their significance or importance in the study.

Table (4.12): Mean, Standard Deviation, and Percentage for Indicators of the Cash-to-Cash Cycle Dimension, Ranked by Importance."

Paragraph	Mean	Standard Deviation	Relative Weight	Ranking	Grade
Increases cash sales through e-commerce	4.32	0.700	86.4%	1	High
Helps increase revenue from goods sales via e-commerce	4.22	0.819	84.3%	2	High
Assists in finding customers with better payment terms	3.95	0.737	79.0%	3	High
Reduces merchandise storage costs	3.86	0.873	77.1%	4	High
Reduces days of unsold inventory	3.84	0.976	76.7%	5	High
Helps increase days payable outstanding for the company	3.48	0.618	69.7%	6	Moderate

Paragraph	Mean	Standard Deviation	Relative Weight	Ranking	Grade
All Dimension Paragraphs Together	High	3.94	-	-	-

The study's results overall indicated that the overall mean average for the cash-to-cash cycle dimension among the targeted sample individuals reached 3.94. This suggests that the responses of individuals working in the wholesale sector of electrical supplies in Palestine regarding this dimension were rated as high according to the criterion of the key mean scale.

From the researcher's perspective, this is attributed to the view that the cash-to-cash cycle is among the fundamental pillars of e-commerce and supply chain indicators.

Dimension 2: e-commerce and Perfect Order

Table (4.13): Mean, Standard Deviation, and Percentage for Indicators of the e-commerce and Perfect Order Dimension, Ranked by Importance.

Paragraph	Mean	Standard Deviation	Relative Weight	Ranking	Grade
E-commerce aids in improving necessary customer information upkeep	4.04	0.934	80.8%	1	High
E-commerce helps in achieving ideal product placement	3.78	0.949	75.7%	2	High
E-commerce assists in improving required documentation per order	3.76	0.955	75.3%	3	High

Paragraph	Mean	Standard Deviation	Relative Weight	Ranking	Grade
E-commerce aids in obtaining necessary invoices for orders better	3.75	0.941	75.1%	4	High
E-commerce helps in timely product delivery to the customer	3.23	0.753	64.5%	5	Medium
E-commerce aids in reducing error rates in ordered product quality and quantity	3.10	0.881	62.1%	6	Medium
E-commerce assists in improving product packaging quality	3.05	0.821	61.0%	7	Medium
All Dimension Paragraphs Together	Medium	3.53	-	-	-

The table above illustrates the level of responses from individuals working in the wholesale sector of electrical supplies in Palestine regarding the dimension of e-commerce and perfect order. The study's results revealed that the mean average for all dimension paragraphs reached 3.53. This suggests that the responses of individuals in this sector regarding this dimension were of a moderate level according to the key mean scale used in this study.

Therefore, it can be inferred that e-commerce in the electrical supply sector still requires further growth and appropriate infrastructure to aid in advancing electronic commerce within this industry.

Dimension 3: Timely Delivery

Table (4.14): Mean, Standard Deviation, and Percentage for Indicators of the Timely Delivery Dimension, Ranked by Importance.

Order	Average Score	Standard Deviation	Relative Weight	Ranking	Level
E-commerce helps in arranging distribution lines for customers	4.09	0.737	81.9%	1	High
E-commerce helps in improving the quality of the order fulfillment system	4.00	0.866	80.0%	2	High
E-commerce aids in estimating the time required for order delivery, ensuring customer satisfaction	3.97	0.822	79.4%	3	High
E-commerce helps in enhancing delivery performance	3.92	0.975	78.4%	4	High
E-commerce aids in improving inventory management quality	3.72	0.933	74.4%	5	High
E-commerce helps in reducing delays in customer orders	3.58	0.688	71.5%	6	Medium
E-commerce aids in reducing errors in the time required to deliver the order to the customer	3.57	0.967	71.3%	7	Medium
All dimension paragraphs combined	High	3.84			

The table above illustrates the level of responses from employees in the wholesale sector of electrical supplies trade in Palestine regarding the "Perfect Order" dimension. The

study's results indicated that the average for all dimension paragraphs reached 3.84, indicating that the employees' responses in this dimension were at a high level according to the arithmetic mean scale of this study. This suggests a positive role of e-commerce in the electrical supplies sector in improving the product delivery service system, starting from product ordering until its delivery to customers.

The Fourth Dimension: Days Sales Outstanding (DSO)

Table (4.15): The Mean, Standard Deviation, and Percentage of the Indicators of the Days Sales Outstanding (DSO) Dimension, Ranked by Importance.

Paragraph	Average Score	Standard Deviation	Relative Weight	Ranking	Level
E-commerce increases payment security and protects company and customer rights	4.14	0.901	82.9%	1	High
E-commerce increases the company's overall cash flow from sales	4.13	0.885	82.7%	2	High
E-commerce reduces long-term credit sales	4.06	0.944	81.2%	3	High
E-commerce reduces the time for sales receivables collection	4.00	0.935	80.0%	4	High
E-commerce enhances access to customers' financial status, thus reducing bad debt risks	3.88	0.853	77.5%	5	High

E-commerce helps facilitate payment methods for customers	3.60	0.931	72.0%	6	Medium
All dimension paragraphs combined	High	3.96			

In general, the study results indicated that the overall arithmetic mean for the Days Sales Outstanding (DSO) dimension among the targeted sample individuals in the wholesale sector of electrical supplies trade in Palestine was 3.96. This suggests that the employees' responses in this sector were at a high level according to the arithmetic mean scale. From the researcher's perspective, this is attributed to the role of e-commerce in the electrical supplies sector, contributing to increased sales by enhancing trust between companies and customers and preserving the rights of both parties at all levels, including payment methods and provided customer facilities.

The Fifth Dimension: Fill Rate

Table (4.16): The Mean, Standard Deviation, and Percentage of Indicators of the Fill Rate Dimension, Ranked by Importance.

Paragraph	Average Score	Standard Deviation	Relative Weight	Ranking	Level
E-commerce helps increase control over the order fulfillment process	3.99	0.860	79.8%	1	High
E-commerce helps fulfill placed orders	3.96	0.957	79.2%	2	High
E-commerce enhances accuracy in executing requested orders	3.82	0.902	76.5%	3	High

Paragraph	Average Score	Standard Deviation	Relative Weight	Ranking	Level
E-commerce increases merchandise turnover rate in the warehouse	3.78	0.892	75.7%	4	High
E-commerce increases warehouse management capabilities, enhancing packaging efficiency and speed	3.73	0.946	74.6%	5	High
E-commerce assists in building a packaging system	3.67	0.910	73.4%	6	High
All dimension paragraphs combined	High	3.83			

The previous table illustrates the level of responses from employees in the wholesale sector of electrical supplies trade in Palestine regarding the Fill Rate. The analysis indicates that the arithmetic mean for all dimension paragraphs reached 3.83, signifying that the employees' responses in this sector were at a high level according to the arithmetic mean scale of this study. This points out a significant role for e-commerce in the electrical supplies sector, particularly in terms of customer demand for products and, on the other hand, inventory management by companies and the overall packaging system.

Section 4.2.2: The Reality of E-Commerce in the Wholesale Sector of Electrical Supplies in the Palestinian Market

First Dimension: Wholesale Sector of Electrical Supplies and E-Commerce

Table (4.17): Average, Standard Deviation, and Percentage of Indicators for the Dimension of the Wholesale Sector of Electrical Supplies and e-Commerce, Ranked by Importance.

Order	Paragraph	Mean	Standard Deviation	Weight Percentage	Grade
1	The wholesale trade sector contains the necessary devices for e-commerce usage.	3.21	0.91	64.1%	Medium
2	The wholesale trade sector contains the necessary expertise for e-commerce usage.	3.19	0.94	63.7%	Medium
3	The wholesale trade sector for electrical supplies can meet all market requirements through e-commerce.	3.05	0.94	61.0%	Medium
4	The wholesale trade sector contains the necessary programs for e-commerce usage.	2.94	0.97	58.8%	Medium
All dimension paragraphs together	Medium	3.10	N/A	N/A	N/A

The table above illustrates the level of responses by workers in the wholesale trade sector for electrical supplies in Palestine regarding the reality of e-commerce in the wholesale trade sector for electrical supplies in the Palestinian market. This is done through

addressing the dimension of the wholesale trade sector for electrical supplies and e-commerce. The study's results indicate that the arithmetic mean of all dimension paragraphs reached 3.10, suggesting that the responses of workers in this sector on this dimension were of a moderate degree according to the key average scale of this study.

From the researcher's perspective, this could be attributed to the fact that the electronic infrastructure, including specialized systems and requirements within the electrical supplies sector, remains weak. Its sales methods rely on systems followed by other sectors such as the clothing sector and others. Therefore, there is a necessity to work on developing specialized electronic applications and systems tailored for the electrical supplies sector to advance e-commerce within this domain.

The second dimension: Wholesale Sector for Electrical Supplies and E-commerce Infrastructure

Table (4.18): Arithmetic Mean, Standard Deviation, and Percentage for Indicators of the Dimension Related to the Wholesale Sector for Electrical Supplies and E-commerce Infrastructure, Ordered by Importance.

Order	Paragraph	Mean	Standard Deviation	Weight Percentage	Grade
1	The internet reaches wholesale companies and stores excellently.	3.95	0.808	79.0%	High
2	Internet service providers and networks serve the wholesale sector specifically.	3.29	0.959	65.8%	Medium
3	The wholesale trade sector for electrical supplies in the Palestinian market continuously	3.29	0.896	65.8%	Medium

Order	Paragraph	Mean	Standard Deviation	Weight Percentage	Grade
	receives technical support over internet services.				
All dimension paragraphs together	Medium	3.51	N/A	N/A	N/A

The previous table illustrates the level of responses from employees in the wholesale sector for electrical supplies in Palestine regarding the e-commerce infrastructure within this specific domain. The analysis indicates that the arithmetic mean of all dimension paragraphs reached 3.51, suggesting that the respondents' answers within this dimension were of a moderate degree according to the key average scale of this study. This suggests that, overall, the electronic infrastructure within this sector is still at a moderate level, emphasizing that there's room for improvement in the e-commerce infrastructure specifically tailored for this sector in Palestine.

The Third Dimension: Readiness of Human Resources for e-commerce Usage

Table (4.19): Arithmetic Mean, Standard Deviation, and Percentage for Indicators of the Readiness of Human Resources for e-commerce Usage dimension Ordered by Importance.

Order	Paragraph	Mean	Standard Deviation	Weight Percentage	Grade
1	Employees in the wholesale sector for electrical supplies believe that	3.53	0.910	70.5%	Medium

Order	Paragraph	Mean	Standard Deviation	Weight Percentage	Grade
	e-commerce is very important for achieving their companies' goals.				
2	The wholesale sector for electrical supplies has human resources capable of engaging in e-commerce.	3.26	0.854	65.2%	Medium
3	Employees in the wholesale sector for electrical supplies have the time and willingness to learn e-commerce to implement it in their work.	3.20	0.871	63.9%	Medium
4	Employees in the wholesale sector for electrical supplies have sufficient awareness of the importance of e-commerce.	3.14	0.770	62.9%	Medium
5	The wholesale sector for electrical supplies has specialized training courses in e-commerce.	2.96	0.793	59.2%	Medium
All dimension paragraphs together	Medium	3.22	N/A	N/A	N/A

In general, the study's results indicated that the overall arithmetic mean for the dimension of readiness of human resources for e-commerce usage among the targeted sample reached 3.22. This suggests that the responses of employees in the wholesale sector for electrical supplies in Palestine on this dimension were of a moderate degree according to the key average scale. From the researcher's perspective, this is attributed to the need for enhancing human resources across all levels in the wholesale sector for electrical supplies in Palestine to foster e-commerce within this sector.

4.3 Study Hypotheses Results

Relationship and correlation analysis: The nature of the study requires the researcher to explore the connection or relationship between two or more variables. Correlation analysis helps in understanding the direction and strength of the relationship between variables. It measures the extent to which changes in one variable are related to changes in another variable. Researchers may use correlation when they have continuous variables and want to evaluate the linear relationship between them, as here in the study so in this section addresses the results related to testing the study hypotheses and their analysis, as outlined below:

- Results of Testing the First Hypothesis "Is there a relationship between e-commerce and the Cash to Cash cycle?"

To answer the aforementioned question, it was formulated into the following hypothesis: Hypothesis Results: "There is no statistically significant relationship at a significance level of (0.05) between e-commerce and the Cash to Cash cycle."

To test this hypothesis, the researcher utilized Pearson's correlation coefficient between the independent variable (Cash to Cash cycle) and the dependent variable (e-commerce). The results are presented in Table (21) as follows:

Table (4.20): The Results are Presented

E-commerce		
.702**0	Pearson Correlation Coefficient	Cash to cash cycle
0.000	Significance Level	

Based on the table above and the results of the Pearson correlation coefficient test showing a statistical significance value of (0.000), which is less than the significance level ($\alpha \leq 0.05$), it indicates a statistically significant relationship between e-commerce and the Cash to Cash cycle. Furthermore, this relationship is negative, given that the Pearson correlation coefficient was (0.702). As a result, the hypothesis was rejected. This suggests that the Cash to Cash cycle contributes to the growth and development of e-commerce and performance indicators in the supply chains of the wholesale sector for electrical supplies in Palestine.

The results of testing the second hypothesis, "Is there a relationship between e-commerce and Perfect Order?" were formulated as follows:

Hypothesis Results

"There is no statistically significant relationship at the 0.05 significance level ($\alpha \leq 0.05$) between e-commerce and Perfect Order."

To test this hypothesis, the researcher used Pearson's correlation test between the independent variable (Perfect Order) and the dependent variable (e-commerce). The results of this test are presented in Table 22.

Table (4.21): The Results of this Test are Presented

E-commerce		
.713**0	Pearson Correlation Coefficient	Perfect order
0.000	Significance Level	

Your interpretation of the results from Table 9 is accurate and clear. If the statistical significance value is lower than the specified significance level ($\alpha \leq 0.05$) and it is 0.000, it indicates a statistically significant relationship between e-commerce and Perfect Order. As this relationship is negative, with a Pearson correlation coefficient of 0.713, it confirms that an increase in the adoption of e-commerce in the wholesale sector for electrical supplies in Palestine will lead to an increase in the Perfect Order demanded by customers in this sector.

The results of testing the third hypothesis, "Is there a relationship between e-commerce and On-Time Delivery, Perfect Order?" were formulated as follows:

Hypothesis Results

"There is no statistically significant relationship at the 0.05 significance level ($\alpha \leq 0.05$) between e-commerce and On-Time Delivery, Perfect Order."

To test this hypothesis, the researcher used Pearson's correlation test between the independent variable (On-Time Delivery, Perfect Order) and the dependent variable (e-commerce). The results of this test are presented in Table 23

Table (4.22): The Results of this Test are Presented

E-commerce		
0.865**	Pearson Correlation	Perfect order
0.000	Coefficient	

Based on the table you provided and the results of the Pearson correlation coefficient test, it appears that the statistical significance value was 0.000, which is lower than the significance level ($\alpha \leq 0.05$). This indicates a statistically significant relationship between e-commerce and On-Time Delivery, Perfect Order. The correlation is negative, with a Pearson correlation coefficient of 0.865. As a result, the hypothesis has been rejected. This implies that the adoption of e-commerce in the wholesale sector for electrical supplies in Palestine significantly contributes to enhancing the efficiency of On-Time Delivery.

The results of testing the fourth hypothesis, "Is there a relationship between e-commerce and Days Sales Outstanding?" were formulated as follows:

Hypothesis Results

"There is no statistically significant relationship at the 0.05 significance level ($\alpha \leq 0.05$) between e-commerce and Days Sales Outstanding."

To test this hypothesis, the researcher used Pearson's correlation test between the independent variable (Days Sales Outstanding) and the dependent variable (e-commerce). The results of this test are presented in Table 24.

Table (4.23): The Results of this Test are Presented

e-commerce		
0.770**	Pearson Correlation	Days Sales Outstanding
0.000	Coefficient	

The data in the previous table indicates that the statistical significance value was (0.000), which is lower than the specified significance level ($\alpha \leq 0.05$). This means there is a statistically significant relationship between e-commerce and Days Sales Outstanding. The correlation is negative, with a Pearson correlation coefficient of (0.770). Thus, the hypothesis has been rejected. This implies that Days Sales Outstanding positively impacts e-commerce in the wholesale sector for electrical supplies in Palestine.

"Hypothesis Five Test Results: 'Is there a relationship between e-commerce and Fill Rate?'

To answer the above question, it was converted into the following hypothesis:

Hypothesis Results:

'There is no statistically significant relationship at a significance level of (0.05) ($\alpha \leq$) between e-commerce and Fill Rate.'

To test this hypothesis, the researcher used Pearson's correlation coefficient between the independent variable (Fill Rate) and the dependent variable (e-commerce). The results were as shown in Table 4.24."

Table (4.24): The Results Pearson's Correlation Coefficient between the Independent Variable (Fill Rate) and the Dependent Variable (e-Commerce).

E-commerce		
0.785	Pearson Correlation	Fill Rate
0.000	Coefficient	

Study Hypotheses Results

Multiple Linear Regression

It is used to explain the relationship between one continuous dependent variable and two or more independent variables.

$$\boldsymbol{Y = \beta\_(0) + \beta\_(1)\, X\_1 + \beta\_(2)\, X\_(2) + \beta\_3\, X\_(3) + \beta\_4\, X\_(4) + \beta\_5\, X\_5 + \epsilon}$$

Where y is the predicted value of the dependent variable, B0 is the y-intercept and βs are the regression coefficients which measure the effect that increasing the value of the independent variable has on the predicted y value and e is the model error.

Multiple Regression Equation

$$\mathbf{E-commerce} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1 Cash\ to\ Cash\ cycle} + \boldsymbol{\beta_2\ Perfect\ order} + \boldsymbol{\beta_3 Timely\ Delivery} + \boldsymbol{\beta_4 Days\ Sales\ Outstanding} + \boldsymbol{\beta_5 Fill\ Rate} + \boldsymbol{\epsilon}$$

Multiple regression equation after estimating the coefficients

$$\mathbf{E-commerce} = \mathbf{2.762} - \mathbf{0.273}\boldsymbol{Cash\ to\ Cash\ cycle} - \mathbf{0.188}\ \boldsymbol{Perfect\ order} + \mathbf{0.339}\ \boldsymbol{Timely\ Delivery} + \mathbf{0.191}\ \boldsymbol{Days\ Sales\ Outstanding} + \mathbf{0.044}\ \boldsymbol{Fill\ Rate}$$

To test the overall significance of the model an F-test is used as a general indicator of the probability that any of the predictor variables contribute to the variance in the dependent variable. The null hypothesis indicates that the coefficients of independent variables are zeros and don't affect the dependent variable, so it should be rejected.

The following table shows that the null hypothesis is rejected since the p-value is less than 0.05, which means that regression analysis is suitable and affect the dependent variable

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.657	5	1.331	12.190	.001[b]
	Residual	37.975	91	.417		
	Total	44.632	96			
a. Dependent Variable: The Reality of E-Commerce in the Wholesale Sector of Electrical Supplies in the Palestinian Market						
b. Predictors: (Constant), Fill Rate, Perfect order, Cash to Cash cycle, Days Sales Outstanding, Timely Delivery						

To measure the goodness of fit in Multiple Linear Regression the most common way is to use R-squared which measures the variation in the dependent variable that is accounted by the linear equation.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.786[a]	.649	.632	.64600
a. Predictors: (Constant), Fill Rate , Perfect order, Cash to Cash cycle, Days Sales Outstanding, Timely Delivery b. Dependent Variable: The Reality of E-Commerce in the Wholesale Sector of Electrical Supplies in the Palestinian Market				

The R Square is 0.649 which is very good where the closest the value is to 1 the better performance is the model.

The following table shows the coefficients of the multiple linear equation model

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.762	.528		5.235	.000
	Cash to Cash cycle	-.273	.138	-.237	-1.986	.030
	Perfect order	-.188	.136	-.178	-1.386	.169
	Timely Delivery	.339	.156	.329	2.169	.033
	Days Sales Outstanding	.191	.156	.179	1.228	.001
	Fill Rate	.044	.129	.048	.344	.032
a. Dependent Variable: The Reality of E-Commerce in the Wholesale Sector of Electrical Supplies in the Palestinian Market						

As noticed from the table not all coefficients are significant which means these factors have no significant effect on the dependent variable. The following are the factors that have significant effect on the dependent variable and are interpreted as follows:

- The Cash-to-Cash cycle factor coefficient is significant where at each one unit increase the Reality of E-Commerce decreases by 0.273
- The Timely Delivery factor coefficient is significant where at each one unit increase the Reality of E-Commerce increases by 0.339

- The Days Sales Outstanding factor coefficient is significant where at each one unit increase the Reality of E-Commerce increases by 0.191
- The Fill Rate factor coefficient is significant where at each one unit increase the Reality of E-Commerce increases by 0.04

Chapter Five

Conclusions and Recommendations

5.1 Overview

The first section in this chapter draws the conclusions of the research findings, following a set of recommendations which are developed based on the discussed conclusions.

5.2 Conclusion

The relationship between e-commerce and supply chain KPIs (key performance indicators) is symbiotic and transformative. E-commerce has revolutionized the way businesses operate and has a significant impact on supply chain KPIs. Due to the demands of online commerce, efficiency, speed, accuracy and adaptability have become key factors in measuring supply chain success. Through e-commerce, businesses face increased demand variability and higher customer expectations for faster delivery. This dynamic landscape has led to a re-evaluation and improvement of supply chain KPIs. When evaluating supply chain performance in the digital age, metrics such as order fulfillment time, inventory turns, on-time delivery and perfect order rates become important.

Additionally, e-commerce requires the integration of technology and data analytics into supply chain management. Real-time visibility, predictive analytics, and automation are critical to meeting customer needs while optimizing operations. These advancements directly impact supply chain KPIs, increase efficiency, reduce costs and improve overall performance.

In essence, the relationship between e-commerce and supply chain KPIs is inseparable. The growth of e-commerce continues to shape the metrics and strategies used to measure and improve supply chain performance. E-commerce success relies heavily on an agile, responsive and efficient supply chain, highlighting the central role of supply chain KPIs in adapting to the demands of the digital marketplace.

The Main Result is:

1. The study showed that there is a clear Positive relationship between electronic commerce and cash-to-cash cycle, and based on the hypothesis, the hypothesis was correct at the beginning of the study.
2. Based on the study, the results showed that there is Positive relationship between e-commerce and Prefect order,
3. Based on the study, there is a Positive relationship between electronic commerce and appropriate delivery time.
4. Based on the results in the study, it shows that there is a positive relationship between electronic commerce and the days sales outstanding.
5. The study proved the hypothesis that we imposed, which is that there is Positive relationship between e-commerce and fill rate.

5.3 Recommendation

1. Real-time data integration: Create seamless integration between e-commerce platforms and supply chain systems. This integration allows for real-time data sharing, facilitating better visibility into inventory levels, order fluctuations, and order fulfillment statuses.
2. Align performance indicators: Ensure that performance indicators for supply chains and e-commerce operations are aligned with overall business objectives. For example, metrics such as order fulfillment time, inventory conversion cycle, and on-time delivery must be consistent and complementary to each other to achieve optimal results.
3. Demand forecasting and inventory management: Leverage e-commerce data to improve the accuracy of demand forecasts. Analyze customer behaviour, purchasing patterns and market trends to anticipate fluctuations in demand. This information can help better manage inventory, reducing merchandise shortages and overstocks.
4. Supply Chain Resilience: Focus on creating a flexible and responsive supply chain. This includes having multiple suppliers, efficient logistics, and adaptable manufacturing processes. This flexibility allows rapid response to changes in e-commerce demand, reducing lead times and enhancing customer satisfaction.
5. Complementarity of customer-centric delivery: aligning supply chain performance indicators with customer satisfaction metrics. Measure indicators such as order accuracy, delivery speed, and return processing time to ensure a positive customer experience. Satisfied customers often lead to repeat purchases and brand loyality.
6. Collaboration and Communication: Grow the power of collaboration between your e-commerce and supply chain teams. Regular communication and shared insights can

help both sides understand challenges and opportunities, allowing strategies and key performance indicators to be better aligned.

7. Technology Adoption: Adopt innovative technologies such as Internet of Things (IoT), Artificial Intelligence (AI), and Blockchain to improve supply chain operations. These technologies can enhance visibility, provide automation of tasks, improve decision-making, and thus positively impact key indicators of performance.
8. Continuous Improvement and Benchmarking: Encourage a culture of continuous improvement by regularly reviewing performance indicators, identifying areas for improvement, and implementing best practices. Compare with industry benchmarks and competitors to set ambitious yet achievable goals.
9. Risk Management: Identify and mitigate potential risks in the supply chain that could impact e-commerce operations. This includes having proactive outage plans in place, diversifying sourcing of materials, and ensuring compliance with legislation.
10. Feedback Cycle: Create a feedback cycle where insights from supply chain performance indicators influence e-commerce strategies and vice versa. This iterative work allows for continuous improvement and adaptation to changes in the market.
11. By focusing on these guidelines, companies can create a complementary relationship between e-commerce and supply chain performance indicators, driving efficiency, flexibility, and ultimately, customer satisfaction.

5.4 Limitations

There are many limitations to this study that the researcher faced, the first of which is that this study is very broad and has many variables, whether forward or backward in the supply chain, so the most commonly used performance indicators were chosen, and the lack of references linking e-commerce to the indicators was faced. That are related to the

supply chain. There are many studies that talk about each of them separately, so I was sometimes forced to find definitions of supply chain indicators on economic sites. What is most important is that business owners and entrepreneurs in the electricity sector are from the elderly category and those who prefer To remain in traditional methods of trade despite their belief in the importance and positives of using electronic commerce.

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Appendices

Appendix (1) Questionnaire Development

The questionnaire was developed based on a questionnaire found in previous studies, such as: (المواليس، 2020), and (بوشـــــامي، 2016 ,)Awso(2019 ، (Novack, 2004) , (Theodore Farris, 2002) , We have tried to make the questionnaire based on several previous studies and from different places and different researchers in order to choose the best necessary questions and reach the best results. The questionnaire will be made in Arabic due to the society we study, whose mother tongue is Arabic.

The questionnaire uses a 5-point Likert Scale to measure the responses and specify the level of agreement as follows: (5) Strongly agree, (4) agree, (3) Neither agree nor disagree, (2) Disagree, (1) Strongly disagree, and using the following scoring range of the 5-point

Questionnaire Form

The Relationship between E-commerce and supply chain performance in Palestinian electrical supply wholesaler sector

College of Graduate Studies

Master's degree Strategic Planning and Fundraising

Dears,

After Greetings,

The researcher is conducting a study entitled The Relationship between E-commerce and supply chain performance in Palestinian electrical supply wholesaler sector with the aim of obtaining a master's degree at the Arab American University.

You are kindly requested to fill out the questionnaire, bearing in mind that this questionnaire will be used for scientific research purposes only.

Thank you for your kind cooperation

Kindly accept the highest regards and appreciation

The name..... .....

E-mail.....

Researcher

Mohammad Yasin Jaber

1- Gender

☐ Male ☐ Female

2- Age group

☐ 20 to 30 ☐ 30 to 40

☐ 40 to 50 ☐ 50 or more than

3- Educational level

☐ Doctor ☐ master ☐ Bachelors ☐ Tawjehee

☐ Other

4- City

☐ Ramallah

☐ Hebron

☐ Nablus

☐ Jenin

☐ Tulkarm

☐ Bethlehem

☐ Salfit

☐ Qalqilya

☐ Jericho

5- Business type:

☐ Sole Proprietorship ☐ Private company ☐ Private partnership

☐ Corporation

6-Use the E-commerce:

☐ Yes ☐ No

Please put an X in front of your estimate of the paragraph, and the closer the answer is to (5), this indicates that you fully agree to the paragraph (1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree)						
#	Paragraph	Response from 1-5				
	First: E-commerce and Cash to Cash cycle	1	2	3	4	5
1-	E-commerce reduces the days of outstanding inventory					
2-	E-commerce reduces outstanding collection days					
3-	E-commerce helps increase the payment days due on the company					
4-	E-commerce increases the percentage of cash sales					

5-	E-commerce helps increase revenues from the sale of goods					
6-	E-commerce reduces cost of goods sold					
7-	E-commerce helps find suppliers with better payment terms for the company					
8-	E-commerce helps to find customers with better payment terms for the company					

#	Paragraph	Response from 1-5				
	Second: E-commerce and Perfect order	1	2	3	4	5
1-	E-commerce helps the product reach the right place					
2-	E-commerce helps to deliver the product at the right time to the customer					
3-	E-commerce helps improve the quality of product packaging					
4-	E-commerce helps reduce the error rate in the product that was ordered from the customer					

5-	E-commerce helps improve the documentation required for each order					
6-	E-commerce helps to improve the preservation of the necessary customer information					
7-	E-commerce helps to get the invoices needed for ordering in a better way					

#	Paragraph	Response from 1-5				
	Third: On time Delivery	1	2	3	4	5
1-	E-commerce helps improve the quality of inventory management					
2-	E-commerce helps improve the quality of the order filling system					
3-	E-commerce helps improve delivery performance					
4-	E-commerce helps to reduce errors in the time required to deliver the order to the customer					
5-	E-commerce helps to arrange distribution lines for customers					

6-	E-commerce helps to estimate the time required to deliver orders, which makes the customer satisfied with the service					
7-	E-commerce helps reduce delays for customer orders					

#	Paragraph	Response from 1-5				
	Fourth: Days Sales Outstanding	1	2	3	4	5
1-	E-commerce reduces the time period for paying sales dues					
2-	E-commerce increases the company's total cash flow from sales					
3-	E-commerce reduces long-term credit sales					
4-	E-commerce helps reach more customers, which increases the cash flow rate					
5-	E-commerce helps facilitate payment methods for customers					
6-	E-commerce reduces access to the financial situation of customers, thus reducing the risk of bad debts					

7-	E-commerce increases the safety of payments and the preservation of the rights of the company and the customer					
#	Paragraph	Response from 1-5				
	Fifth : Fill Rate	1	2	3	4	5
1-	E-commerce helps fill orders that have been requested					
2-	E-commerce increases the accuracy of filling required orders					
3-	E-commerce increases the capacity of warehouse management, which increases packing efficiency and speed					
4-	E-commerce helps build a filling system					
5-	E-commerce helps increase the amount of control over the application filling process					

الملخص

الهدف من الدراسة بشكل رئيسي هو معرفة ما هي العلاقة بين التجارة الإلكترونية ومؤشرات سلسلة التوريد التي يمكن أن يستفيد منها مديرو سلسلة التوريد لتجار الجملة للمستلزمات الكهربائية في فلسطين، وما هي آثار التجارة الإلكترونية على إدارة وأداء سلسلة التوريد في فلسطين. وحددت الدراسة العلاقة بين التجارة الالكترونية وسلسلة التوريد لتجار الجملة في مجال المستلمزمات الكهربائية في فلسطين وكذلك نطاقها المستقبلي. من غير المعروف كيف تؤثر التجارة الالكترونية على سلسلة التوريد لهؤلاء التجار ولكن من خلال هذا البحث حاول الباحث ايجاد ماهية هذه العلاقة وكيف يمكن ان تؤثر سلبا او إيجابا عليها. لقد أجرينا دراسة جماعية ديناميكية في فلسطين، حيث قمنا بجمع البيانات من 97 من أصل 180 تاجرا من تجار الجملة في سوق توريدات المستلزمات الكهربائة وهو ما يمثل 89.8% من المجموع الكلي. تم استخدام المنهج الوصفي التحليلي. وقد اعتبر هذا المنهج مناسبا لغرض الدراسة لأنه يتضمن الملاحظة والتحليل والتنبؤ بالحالة الراهنة لمشكلة الدراسة كما هي موجودة في الواقع من خلال الوصف والتفسير والتوقع بالإضافة إلى نماذج الانحدار الخطي من قبل الباحث. ووفقا لنتائج الدراسة، تتأثر العلاقة بشكل ايجابي بين التجارة الالكترونية وسلسلة التوريد بعوامل متنوعة وتأثرت ايجابا بجميع محاور الدارسة التي تمد اعتمادها من الباحث بناء على ما خرج به من خلال الأدبيات السابقة ، بما في ذلك دورة النقد إلى النقد، النظام المحافظ وقت التسليم وأيام المبيعات المتميزة ومعدل التعبئة. على الرغم من ذلك، خلصت الدراسة الى عديد من التوصيات بشأن تحسين هذه العلاقة الاستفادة منها بشكل أفضل من جانب تجار الجملة في فلسطين بحيث تحقق تعاظم للإيرادات والربحية والحيلولة دون وقوع خسائر او حتى الخروج من السوق ومن أهم هذه التوصيات الحفاظ على مرونة سلسلة التوريد والتكاملية في ادارة المخزون واعتماد التكنولوجيا الحديثة.