

Midocean University

College of Management

Graduation Project



The Impact of E-Commerce on Consumer Behavior and Sales in Aramex Logistics in Saudi Arabia

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2023- 2024

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Abstract:

This study aimed to investigate the impact of e-commerce on consumer behavior and sales at Aramex Logistics in Saudi Arabia. To achieve the study's objectives, the researchers designed a questionnaire consisting of 28 items to collect primary data from a sample of 72 respondents. Data were collected, analyzed, and hypotheses tested using the Statistical Package for Social Sciences (SPSS), employing statistical methods such as simple regression analysis and T-tests. The analysis led to several key findings:

- There is a statistically significant positive relationship between e-commerce usage and sales at Aramex, with e-commerce explaining 71.9% of the variance in sales.
- Consumer behavior significantly improved during the e-commerce implementation period, with increased satisfaction and engagement.
- Consumer response to promotions was more positive and effective during the e-commerce period compared to the previous period.
- There was a notable improvement in customer service quality due to e-commerce, leading to increased customer satisfaction.

Recommendations:

1. Enhance and expand e-commerce strategies to accelerate sales growth and increase customer satisfaction. Invest in improving customer support tools to ensure prompt and effective responses.
2. Improve the effectiveness of online promotions to attract a larger number of customers and increase positive responses to promotions.

Chapter One

Introduction

In today's dynamic business environment, the integration of e-commerce has emerged as a fundamental strategy for enhancing operational efficiency and performance across various sectors, particularly within logistics. This evolution is driven by the increasing incorporation of digital technologies aimed at managing intricate global supply chains, optimizing expenditures, and elevating standards of customer service.

Logistics companies encounter substantial challenges in efficiently managing global supply chains. These challenges include the imperative to ensure punctual deliveries, minimize overhead expenses, and enhance customer satisfaction through continual innovation. E-commerce has proven instrumental in addressing these challenges by equipping logistics firms with advanced tools and platforms that streamline operations and seamlessly meet customer expectations (Kouhizadeh & Sohal, 2020).

The adoption of cutting-edge technologies such as artificial intelligence (AI), big data analytics, and IoT devices has become indispensable for logistics companies aiming to sustain their competitive edge. These technologies facilitate real-time tracking of shipments, predictive analytics for demand forecasting, and efficient route optimization, thereby significantly boosting overall operational efficiency and effectiveness (Huang, 2021).

Aramex, as a prominent logistics entity in Saudi Arabia, exemplifies the transformative impact of e-commerce on traditional logistics operations. By integrating e-commerce solutions into its operational framework, Aramex has not only streamlined processes but also heightened customer satisfaction through accelerated deliveries and enhanced transparency in service provision (Al-Dhaafri, 2022).

The shift towards e-commerce has profoundly influenced consumer behavior and purchasing patterns. Today's consumers expect expedited delivery times, flexible shipping options, and real-time tracking capabilities—all of which are facilitated by integrated e-commerce platforms within logistics operations (Zhao, Fan, & Qiao, 2021). Understanding these shifts is crucial for logistics firms like Aramex to tailor their strategies and services, accordingly, thereby driving sales and maintaining leadership in the competitive marketplace (Martín-Peña, Delgado-Verde, & Navarro-García, 2021).

In conclusion, the strategic adoption of e-commerce by logistics companies such as Aramex plays a pivotal role in navigating the complexities of today's business landscape. By harnessing advanced technologies and adapting to evolving consumer behaviors, these firms can achieve substantial operational efficiencies and secure a robust competitive advantage within the global logistics arena.

Study Problem

The study focuses on the hurdles encountered by logistics firms such as Aramex in Saudi Arabia as they strive to enhance operational efficiency and optimize supply chain performance amidst the backdrop of digital transformation and the burgeoning influence of e-commerce. These challenges encompass navigating the complexities inherent in global supply chain management, the imperative to achieve operational efficiency, integrating diverse technological systems, and addressing sustainability issues to harmonize operational effectiveness with environmental stewardship.

Research Importance

Theoretical Importance:

1. Enhance Digital Infrastructure:

- **Theoretical Basis:** Upgrading IT systems and improving website functionality allows efficient management of online orders, according to infrastructure management models in technology research.
- **Expected Impact:** Improves efficiency in managing electronic orders and enhances customer satisfaction by providing reliable and secure platforms.

2. Improve Customer Experience:

- **Theoretical Basis:** Using data analytics can enhance customer interaction and provide responsive support across digital channels, based on consumer behavior theories in consumer research.
- **Expected Impact:** Enhances customer satisfaction and loyalty by offering personalized services and improving communication effectiveness.

Practical Importance:

1. Optimize Logistics and Supply Chain:

- **Practical Basis:** Implementing advanced tracking systems and enhancing last-mile delivery capabilities can improve logistics operations' efficiency and achieve competitive advantages, according to applied logistics studies.
- **Expected Impact:** Reduces delivery times, enhances order fulfillment accuracy, and improves overall customer experience.

2. Promote Continuous Innovation:

- **Practical Basis:** Exploring and integrating emerging technologies like artificial intelligence, blockchain, and Internet of Things in logistics operations can enhance operational efficiency and achieve long-term strategic benefits.
- **Expected Impact:** Supports digital transformation, enhances operational performance, and achieves long-term strategic benefits.

Through this division, Aramex can achieve valuable theoretical and practical benefits that enhance its position in the digital logistics market, enabling it to meet customer expectations and adapt to modern technological transformations effectively.

Study Objectives

- Main Objective:

To study the impact of e-commerce on consumer behavior and sales in Aramex Logistics in Saudi Arabia.

- Sub-Objectives:

1. To analyze the logistical challenges confronting Aramex in Saudi Arabia.
2. To assess the impact of e-commerce on enhancing efficiency and performance within Aramex's logistics services.
3. To evaluate the role of e-commerce in advancing supply chain management and logistics operations at Aramex.
4. To formulate practical recommendations for Aramex in Saudi Arabia to leverage e-commerce for sustainable growth and competitive advantage.

Research Questions

1. In what ways does the adoption of e-commerce improve operational efficiency and performance within Aramex's logistics operations?
2. What are the main obstacles that Aramex faces when incorporating e-commerce into its operational structure?
3. How can Aramex strategically leverage e-commerce to optimize supply chain management effectiveness and efficiency?

Hypotheses

1. There is no statistical relationship between the use of e-commerce and the increase in sales at Aramex.
2. There are statistical differences in consumer behavior between the period in which e-commerce was implemented and the period in which it was not.
3. There were no statistical differences in consumer response to promotions between the period when e-commerce was implemented and when it was not.
4. There is a statistical relationship between the use of e-commerce and the improvement of customer service at Aramex.

Theoretical premises of the study

1. Consumer Behavior Theory:

This theory provides a foundational framework for understanding the motivations, attitudes, and decision-making processes that influence consumer actions in the context of online purchases. According to Kotler and Keller (2016), consumer behavior is shaped by various factors such as psychological, social, and cultural influences. In the realm of e-commerce, these factors play a crucial role in determining how consumers interact with online platforms, make purchase decisions, and form preferences. By applying this theory, the study aims to delve into the specific factors that drive consumer behavior within the e-commerce landscape of Aramex, identifying patterns that impact purchasing decisions and overall satisfaction.

2. Technology Diffusion Theory:

Rogers (2003) introduced the Technology Diffusion Theory, which focuses on how innovations spread and are adopted within a society or market. In the context of e-commerce, this theory is pertinent as it explores the adoption patterns of e-commerce technologies among consumers and businesses. It

categorizes adopters into innovators, early adopters, early majority, late majority, and laggards based on their willingness to embrace new technologies. For Aramex, understanding the adoption curve of e-commerce technologies can provide insights into how these technologies influence consumer behaviors and reshape logistics practices. This theory helps in examining the dynamics of technology adoption within Aramex's operational framework, highlighting implications for enhancing service delivery and operational efficiency.

3. Supply Chain Theory:

Christopher (2016) outlines Supply Chain Theory, which focuses on the integrated network of organizations, resources, activities, and technologies involved in the production and distribution of goods and services. In the context of e-commerce, this theory is crucial for analyzing how digital platforms and online transactions impact Aramex's logistics operations and supply chain management. E-commerce introduces new dynamics such as demand volatility, shorter lead times, and the need for agile logistics solutions. By applying Supply Chain Theory, the study aims to evaluate how Aramex adapts its supply chain strategies to accommodate the demands of e-commerce, ensuring efficient inventory management, optimized transportation routes, and responsive customer service.

Chapter Two

Previous studies

Introduction

Previous research plays a crucial role in scientific studies by providing the theoretical framework and background knowledge necessary for understanding the research topic. This chapter will review the literature concerning the impact of e-commerce on consumer behavior and sales, with a particular focus on Aramex logistics in Saudi Arabia.

The advent of e-commerce has significantly altered various sectors, including logistics, by changing how consumers interact with businesses and how products are delivered. Understanding how e-commerce affects consumer behavior and the logistical operations of companies like Aramex is therefore essential. In this chapter, we will analyze existing research on the impact of e-commerce on consumer behavior and sales, examining the methodologies and findings of these studies and their relevance to our research objectives.

Additionally, we will identify any research gaps found in the current literature and discuss how our study can contribute to addressing these gaps. Through this review, we aim to provide a thorough understanding based on scientific foundations, which will help clarify the effects of e-commerce on logistics operations at Aramex specifically and within the logistics sector more broadly.

Previous studies

Al-Gahtani, S. S. (2007). conducted a study entitled “**Empirical investigation of e-commerce adoption and small and medium enterprise (SMEs) in Saudi Arabia**”. Investigating e-commerce adoption among SMEs in Saudi Arabia was the objective of this study. It utilized a quantitative approach with surveys distributed to SME owners. The findings identified barriers such as inadequate technology infrastructure, low awareness, and high

implementation costs. Economic incentives and governmental initiatives were crucial in influencing adoption decisions.

Al-Somali, S. A., Gholami, R., & Clegg, B. (2009). conducted a study entitled “**An investigation into the acceptance of online banking in Saudi Arabia**”. This research aimed to understand the factors influencing the acceptance of online banking services in Saudi Arabia. Surveys were employed to collect data from customers and potential users. The study revealed that trust in security, ease of use, and banking credibility significantly impacted acceptance. It also underscored the need for improved infrastructure and increased customer awareness.

Al-Maghrabi, T., & Dennis, C. (2011). conducted a study entitled “**Examining the adoption of e-commerce in Saudi Arabia: Perceived strategic benefits and risks**”. This study aimed to explore the adoption of e-commerce in Saudi Arabia, focusing on perceived strategic benefits and risks. The methodology involved a literature review and interviews with business owners and IT experts. Findings highlighted significant benefits like increased efficiency and cost reduction, alongside challenges such as security concerns and data protection issues.

(Eyad Makki & Lin-Ching Chang, 2015) conducted a study entitled “**E-Commerce Acceptance and Implementation in Saudi Arabia: Previous, Current and Future Factors**”. In this study, the aim was to explore how advancements in e-commerce impact consumer behavior and sales in the logistics sector, highlighting their profound effects, challenges, and opportunities. The research discusses how e-commerce factors such as increased credit card usage, declining demand for Cash-on-Delivery (COD), and the growing importance of mobile commerce (M-Commerce) empower logistics professionals with advanced tools to enhance operational efficiency and decision-making accuracy. The study addresses the optimization of

resource allocation, predictive maintenance, and risk management in supply chain operations using e-commerce technologies. E-commerce has revolutionized decision-making in logistics by enhancing efficiency, accuracy, and agility. It optimizes resource allocation by analyzing transportation costs, inventory levels, and demand patterns, thereby improving cost-effectiveness and minimizing environmental impact. The study indicated that e-commerce enables predictive maintenance to reduce downtime and optimize asset utilization, while e-commerce-driven risk management systems identify and mitigate supply chain disruptions proactively. Despite these benefits, challenges such as privacy and security concerns, the need for user awareness, and supportive regulatory environments remain, necessitating regulatory frameworks and ethical guidelines for responsible e-commerce deployment in logistics.

(Alqahtani, 2016) conducted a study titled **"Factors Influencing the Adoption of E-commerce in Saudi Arabia: Study of Online Shopping"**. The objective of the study was to investigate the adoption factors of e-commerce in Saudi Arabia, examining challenges and influences from both consumer and supplier perspectives. It aims to develop a statistical model capturing the relationship between e-commerce adoption and relevant factors from a B2C viewpoint, classify different adopter types, and assess the impact of age, gender, and knowledge on adoption within Saudi cultural contexts. The study employed both qualitative methods (semi-structured interviews) and quantitative methods (online surveys using Likert scaling) to gather data for the study. The study revealed that e-commerce users in Saudi Arabia are divided into three groups based on shopping frequency: frequent, moderate, and rare. It also highlighted that Saudi women engage more in online shopping than men, influenced by cultural norms. Young adults, with greater ICT knowledge, showed higher participation in online shopping. Overall, factors such as payment methods,

delivery systems, product availability, trust, and prior experience significantly influence e-commerce adoption in Saudi Arabia.

Lin, X., & Liao, X. (2017). conducted a study titled “**Factors influencing the adoption of e-commerce by micro-enterprises in rural China**”. This study explored factors influencing e-commerce adoption among micro-enterprises in rural China. It employed a quantitative approach with surveys collected from small business owners in rural areas. Findings highlighted factors such as technological infrastructure availability, technology awareness, education level, and government support as critical. Economic incentives and partnerships with commercial entities were also identified as facilitating factors for adoption.

Alalwan, A. A. (2018). conducted a study titled “**Investigating the impact of social media advertising features on customer purchase intention**”. Examining the impact of social media advertising features on customer purchase intentions was the focus here. Using a quantitative approach with surveys, the study analyzed user behaviors on social media platforms. Results indicated that targeted advertising, social interaction, and visual content played critical roles in enhancing purchase intentions. Trust in the brand and personal experience were also identified as influential factors in purchase decision-making.

(Alanmi & Alharthi, 2023) conducted a study titled “**The Impact of Digital Marketing on Consumer Buying Behavior in Saudi Arabia: Brand Popularity as a Mediator**”. The aim of this study was to assess how digital marketing influences consumer behavior, purchasing decisions, and brand popularity. Conducted using a quantitative research approach, data were gathered from 200 respondents through an online survey questionnaire and analyzed using SPSS software. The results indicate a significant positive impact of digital marketing on brand popularity, consumer purchasing behavior, and

decision-making in Saudi Arabia. These findings underscore the practical implications for enhancing digital marketing strategies across organizations. Managers are encouraged to refine their digital marketing approaches, particularly through platforms like Snapchat, TikTok, and Twitter, to bolster brand visibility. The study focused solely on digital marketing via social media in Saudi Arabia and suggests future research that integrates diverse digital marketing variables.

Theoretical framework

1. E-commerce definition

Since the advent and commercialization of the Internet in 1994, a new commercial landscape known as e-commerce (EC) has developed. E-commerce is characterized by the utilization of the Internet and other networking technologies for the buying, selling, transferring, or exchanging of products and services (Turban, *et al.*, 2004, as cited in (Vaithianathan, 2010; Khoshnampour *et al.*, 2011; Turban *et al.*, 2008; Ahmed *et al.*, 2006).

The Organization for Economic Cooperation and Development (OECD) provides a broader definition: “An electronic transaction is the sale or purchase of goods or services, whether between businesses, households, individuals, governments, and other public or private organizations, conducted over computer-mediated networks. While the goods and services are ordered over these networks, the payment and the final delivery of the goods or services may occur either online or offline” (p. 89).

In essence, e-commerce amalgamates various technologies, infrastructures, processes, and products, integrating entire industries with specific applications, products, users, information exchange, and economic activities into a global marketplace facilitated by the Internet.

E-commerce, or electronic commerce, involves using electronic media and the internet for buying and selling goods and services. It includes a company leveraging online platforms and IT tools, such as electronic data interchange (EDI), to conduct transactions. E-commerce typically refers to a vendor's website where goods or services are offered directly to users through the internet. Payment is often facilitated via a wireless shopping cart or basket, allowing transactions through credit cards, debit cards, or electronic funds transfers (EFT). In essence, e-commerce involves the use of electronic communications and digital information processes in business transactions to create, modify, and redefine value generation relationships between organizations and individuals (Grandon and Pearson. 2004)

1.1. Online Shopping in Saudi Arabia



In 2014, e-commerce in Saudi Arabia experienced notable growth, with over 62 million visits to Souq.com, one of the country's largest online retailers, in the first half of the year. According to a study published by Saudi Gazette, the Saudi e-commerce market was projected to reach \$13.3 billion in 2015, accounting for 8% of the kingdom's total retail market. An e-commerce market is considered developed when online transactions make up at least 8.5% of a country's total retail transactions. The study indicates that profits would

primarily come from 25% of internet users who are actively engaged in e-commerce, even though 75% of consumers still preferred cash on delivery (COD) over credit card payments. Despite efforts to increase credit card usage, COD remains the dominant payment method. At that time, Souq.com held a 13% share of the regional e-commerce market, followed by Sukar with 8% and Namshi with 7%. Additionally, a report by Payfort.com revealed that 85% of online transactions in Saudi Arabia were made by males, compared to 15% by females (Pupic, T. 2014).

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1.2. E-Commerce Facilitators

E-commerce facilitators are entities or technologies that support and streamline online commercial transactions. They play a crucial role in ensuring smooth operations within the e-commerce ecosystem (JAIN, *et al.*, 2021). Key facilitators include:

1.2.1. Internet:

The widespread adoption of the internet has significantly boosted e-commerce. The internet and smartphones have become integral to daily life, facilitating faster customer connections and reducing environmental impact. The ICT revolution has introduced new markets and technological advancements. While internet users were relatively few in the 1980s, their numbers grew substantially with the expansion of the World Wide Web and multimedia content, reaching 3.2 billion users by 2015.

1.2.2. Payment Gateways:

Payment gateways are essential for processing online payments. They enable transactions through credit cards, debit cards, online banking, and electronic funds transfers (EFT). Secure and efficient payment processing is crucial as e-commerce transitions from cash to digital currencies.

1.2.3. Analytics:

Analytics transforms data into actionable insights to support decision-making. It helps organizations collect, organize, and analyze customer data. With the vast increase in data volume, businesses rely on analytics to understand customer behavior, assess returns on digital investments, and manage multi-channel strategies effectively.

1.2.4. Social media:

Social media platforms are used by businesses to advertise products and engage with customers. They play a critical role in product development, customer interaction, brand building, and providing feedback on products and services. Social media helps build customer trust and loyalty through recommendations and interactions.

1.2.5. Autonomous Vehicles:

Autonomous vehicles, which use artificial intelligence, sensors, and GPS systems to operate without human intervention, are set to transform consumer behavior. With more time available during travel, consumers can browse the internet, check emails, make purchases, and view advertisements, offering businesses opportunities to tailor their marketing strategies based on new digital trends.

1.2.6. 3D Printing:

3D printing is an advanced technology for creating digital 3D models through additive manufacturing. It has the potential to revolutionize manufacturing processes, allowing to produce prototypes and customizable products. Instead of selling physical products, businesses can sell printable licenses, and designers share their plans online, making 3D printing more accessible and innovative.

Additional e-commerce facilitators include:

- **Payment Processors:** Companies that manage the transaction process between the consumer's bank and the merchant's bank, handling authorization, settlement, and fund transfers.

- **Shopping Carts:** Software that enables customers to select and store items for purchase on e-commerce sites, including features for calculating totals and managing the checkout process.
- **Web Hosting Services:** Providers offering the infrastructure and technology required to host e-commerce websites, ensuring accessibility, security, and reliability.
- **Content Management Systems (CMS):** Platforms for creating, managing, and modifying digital content on e-commerce sites, including product listings and content updates.
- **Customer Relationship Management (CRM) Systems:** Tools for managing customer interactions, tracking sales, and providing personalized marketing.
- **Logistics and Shipping Services:** Companies that handle storage, packing, and delivery of goods sold online, ensuring timely and efficient product delivery.
- **Digital Marketing Tools:** Technologies for promoting e-commerce businesses, including search engine optimization (SEO), pay-per-click (PPC) advertising, email marketing, and social media marketing.
- **Analytics and Reporting Tools:** Software for tracking and analyzing e-commerce performance, providing insights into sales, customer behavior, and website traffic.
- **Security Solutions:** Technologies that protect e-commerce sites from fraud, hacking, and data breaches, including encryption, firewalls, and SSL certificates.

These facilitators collectively ensure the efficient functioning of e-commerce platforms, enhancing user experience and operational efficiency.

1.3. Types of E-Commerce

Type of E-commerce refers to the classification of e-commerce by the nature of the transactions or the relationship among participants (Laudon & Traver. 2021).

1.3.1. Business-to-Consumer (B2C): Transactions between businesses and individual consumers. B2C e-commerce involves selling goods or services directly to end-users through online platforms. Examples include online retailers like Amazon and clothing brands.

1.3.2. Business-to-Business (B2B): Transactions between businesses. B2B e-commerce involves wholesale transactions, where businesses sell products or services to other businesses rather than to individual consumers. Examples include Alibaba and office supply companies.

1.3.3. Consumer-to-Consumer (C2C): Transactions between individual consumers. C2C e-commerce platforms facilitate transactions where consumers sell goods or services to other consumers. Examples include eBay and Craigslist.

1.3.4. Consumer-to-Business (C2B): Transactions where individual consumers sell products or services to businesses. This model often involves freelancers or independent contractors offering services to companies. Examples include freelance platforms like Upwork and content creation sites like Shutterstock.

1.3.5. Business-to-Government (B2G): Transactions between businesses and government entities. B2G e-commerce involves businesses providing products or services to government agencies through online platforms. Examples include government procurement platforms and specialized contracting sites.

1.3.6. Government-to-Business (G2B): Transactions where government entities provide goods or services to businesses. G2B e-commerce includes

government services or information that businesses access or purchase. Examples include business licensing systems and tax filing services.

1.3.7. Government-to-Consumer (G2C): Transactions between government entities and individual consumers. G2C e-commerce involves citizens accessing government services, paying taxes, or obtaining information online. Examples include online tax filing systems and public service portals.

1.3.8. Mobile Commerce (M-Commerce): Transactions conducted via mobile devices such as smartphones and tablets. M-commerce includes mobile apps and responsive websites designed for shopping and financial transactions on the go.

1.3.9. Social Commerce: E-commerce facilitated through social media platforms. Social commerce integrates shopping experiences directly within social networks, allowing users to discover, share, and purchase products. Examples include Facebook Shops and Instagram Shopping.

1.3.10. Voice Commerce (V-Commerce): Transactions conducted using voice-activated devices such as smart speakers. V-commerce involves purchasing products or services through voice commands using devices like Amazon Echo or Google Home.

1.3.11. Subscription Commerce: A business model where consumers pay a recurring fee to access products or services. Subscription commerce includes subscription boxes, streaming services, and membership-based services. Examples include Netflix and meal kit services like Blue Apron.

1.3.12. Digital Goods Commerce: Transactions involving the sale of digital products, such as e-books, software, music, and online courses. This type of e-commerce involves delivering intangible goods electronically. Examples include iTunes and online course platforms like Udemy.

2. Consumer Buying Behavior

2.1. Consumer Behavior Definition

Consumer buying behavior can be defined as the process that consumers undergo before making purchasing decisions (Fattah & Al-Mizeed, 2021). This behavior manifests both online and offline and is influenced by several key factors:

2.1.1. Cultural Factors: These include nationality, environment, religious inclination, and locality, all which impact consumer behavior.

2.1.2. Psychological Factors: A person's state of mind when making a purchase plays a significant role. This includes their perceptions, motivations, and attitudes (Smith & Alan, 2009). **Personal Factors:** These factors encompass an individual's buying power, life stage, and economic conditions like inflation. For example, a married person with a limited income might avoid purchasing designer sneakers, whereas a single individual with fewer responsibilities might be more inclined to make such a purchase.

2.1.3. Social Factors: These factors include social circles, lifestyle, and overall perceptions of life and products, which affect how consumers make purchasing decisions.

Understanding the thought processes and actions involved in purchasing and consumption is crucial (Genoveva & Stivenes, 2017). It is important to explore why consumers buy certain products and what influences their decisions, including current social trends that are transforming buying behavior. The term “consumer buying behavior” describes the actions of end-users. Businesses need to study consumer preferences because the responses to marketing strategies significantly impact their success. By understanding consumer buying behavior, companies can tailor their marketing campaigns to

better meet customer demands, leading to improved sales and revenues (Anna *et al.*, 2020; Krishnaprabha & Tarunika, 2020). This knowledge allows businesses to develop future product offerings and marketing strategies that align with customer needs and expectations (Gkikas & Theodoridis, 2019; Jamal & Anwar, 2021; Saura & Palos-Sánchez, 2017).

Digital marketing plays a crucial role in influencing consumer buying behavior. By utilizing algorithms and cookies, digital marketing presents targeted advertisements at the right moments, based on consumer behavior and preferences (Foroudi & Dean, 2017). This approach can affect social and psychological factors, create product demand, and potentially make products go viral.

Consumer behavior is defined by Schiffman & Kanuk (2007, p.3) as "the behavior that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they expect will satisfy their needs." Bashir (2013) emphasizes that individual or group consumer behavior can vary based on numerous internal and external factors such as personality traits, psychological drives, and social influences, all which impact decision-making and purchasing behavior. The online buying behavior follows a five-stage decision-making process like traditional shopping behavior. These stages are:

1. **Need Recognition**
2. **Information Search**
3. **Evaluation of Alternatives**
4. **Purchase Decision**
5. **Post-Purchase Behavior** (Li & Zhang, 2002, p.508; Baeva, 2011, p.25).

However, distinctions must be considered when comparing online buying behavior to physical shopping behavior (Hasslinger *et al.*, 2007, p.7). As Baeva

(2011, p.26) explains, shopping is a socio-psychological behavior, and therefore, interactions in online and traditional shopping contexts may differ. For instance, in physical stores, consumers can experience face-to-face interactions, whereas online consumers are limited to virtual interactions, such as reading other consumers' reviews and testimonials about a product.

Baeva (2011, p.23) also notes that consumers can evaluate the quality of items in advance in store-based retail environments, such as by feeling the material, which is not possible in an online shopping environment.

These differences highlight the unique aspects of online and offline consumer buying behaviors and the various factors that influence them.

2.2. Impact of E-Commerce on Sales

2.2.1. Increased Market Reach:

- E-commerce allows businesses to access new markets globally without the need for a physical presence. This means companies can sell their products and services to customers anywhere in the world (Chaffey & Ellis-Chadwick. 2019) & (Smith & Zook. 2016).
- E-commerce enables businesses to transcend geographical boundaries and significantly expand their customer base.

2.2.2. Enhanced Customer Experience:

- E-commerce platforms offer a convenient and easy shopping experience for customers, allowing them to shop anytime and from anywhere.
- Many platforms include features such as personalized recommendations, customer reviews, and product comparisons, which increase customer satisfaction and trust in making purchases.

2.2.3. Cost Reduction:

- Businesses that adopt e-commerce can reduce costs associated with operating physical stores, such as rent, staffing, and utilities.
- E-commerce allows companies to manage inventory more efficiently and use data to analyze customer behavior and drive sales.

2.2.4. Improved Marketing and Promotion:

- E-commerce provides digital marketing tools such as online advertisements, email marketing, and social media marketing, which can be more cost-effective compared to traditional marketing methods.
- These tools help reach the target audience more accurately and increase engagement with the brand.

2.2.5. Increased Sales:

- Studies have shown that companies adopting e-commerce often experience an increase in sales due to easier customer access and enhanced marketing and sales operations.
- E-commerce platforms offer detailed reports and analytics that help businesses understand customer behavior and refine their sales strategies.

Chapter Three

Study Methodology

Introduction

The research methodology is fundamental to scientific investigation, providing a detailed plan for how data will be collected and analyzed to ensure accurate and reliable results. This chapter outlines the methodology used in our study on **"The Impact of E-Commerce on Consumer Behavior and Sales in Aramex Logistics in Saudi Arabia"**.

We will detail the research design, sampling techniques, data collection tools, and analysis methods employed. Additionally, we will clarify the reasons for selecting these methods and how they enhance the validity and reliability of the study's findings.

Study Methodology:

The study follows the descriptive-analytical approach aimed at describing and analyzing the impact of e-commerce on consumer behavior and sales in Aramex Logistics in Saudi Arabia. The descriptive-analytical approach allows for understanding the relationship between independent and dependent variables and evaluating how e-commerce influences consumer purchasing decisions and logistics operations.

Research Methods:

- **Data Sources:** Primary Data: Data will be collected from Aramex customers in Saudi Arabia through questionnaires and from Aramex employees through personal interviews.
- **Secondary Data:** Annual reports, company documents, and relevant academic articles will be used.

Study population and sample:

The study population consists of all employees of Aramex Logistics in Saudi Arabia.

As for the study sample, 72 employees were selected, and (100) electronic forms were sent via e-mails for all company employees, and (72) responses were obtained and analyzed statistically, and the following table shows the demographic distribution of the study sample according to their personal data:

1. Analysis of the characteristics of the sample members:

Table 1: Distribution of the study sample according to their personal and employment data

Variables	Categories	Number of Respondents	Percentage %
Geder	Male	45	62.5
	Female	27	37.5
Department	Marketing	6	8.3
	Sales	2	2.8
	Customer Service	8	11.1
	Logistics	27	37.5
	Management	29	40.3
Years of service	Less than 1 year	8	11.1
	1-3 years	9	12.5
	4-6 years	21	29.2
	6 years and above	34	47.2

Table data (1) indicates that most of the study sample members were males, reaching (45) (62.5%), while females (37.5%).

As for the department in which the study sample works, the percentage of those working in the management department was the highest percentage, reaching (40.3%), followed by the logistics department (37.5%), followed by those who work in the customer service department (11.1%), then the marketing department and their percentage was (8.3%), and finally those who work in the sales department and their percentage (2.8%), which is the lowest percentage among them.

With regard to the number of years of service in the company for the members of the study sample, the results showed that the highest percentage in the sample was (6 years or more) by (47.2%), then those who worked in the company for (4-6 years) and their percentage was (29.2%), followed by employees for (1-3 years) by (12.5%), and the least service was (less than a year) by (11.1%). These data are represented by the following graph:

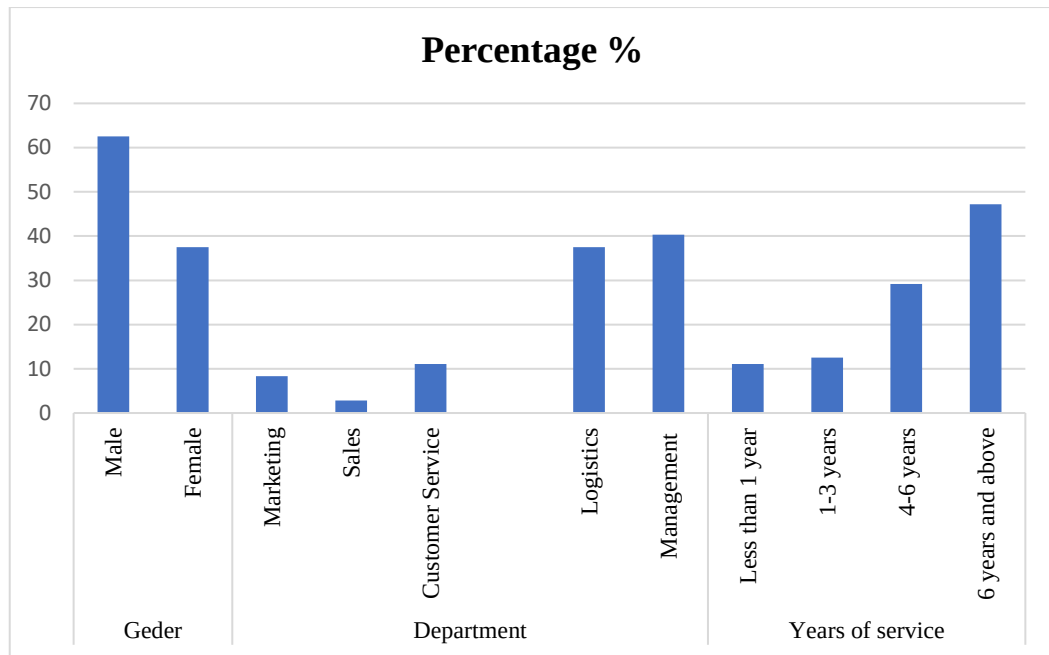


Figure 1: Distribution of the study sample according to their personal and employment data

Research Tools:

Questionnaire:

To achieve the objectives of the study, a questionnaire was developed to measure the impact of e-commerce on consumer behavior and sales at Aramex Logistics in Saudi Arabia based on what was reviewed from previous studies and the theoretical framework, as follows:

- **Part I:** Personal data, including (gender, department in which you work within the company, and number of years of service in Aramex).
- **The second part:** It is related to the independent variable (e-commerce) and includes a set of paragraphs that measure the extent of its use within the company.
- **The third part:** related to the dependent variable (sales) and includes a set of paragraphs that measure the impact of the application of e-commerce on sales.

- **Part IV:** Consumer behavior in the period in which e-commerce was applied within the company.
- **Part V:** Consumer behavior in the period in which e-commerce was not applied within the company.
- **Part VI:** Consumers' response to promotions in the period when e-commerce was implemented.
- **Part VII:** Consumers' response to promotions in the period when e-commerce was not implemented.
- **Part VIII:** Improving customer service at Aramex and represented in a set of paragraphs.

Each paragraph of the questionnaire was given a score to identify the extent to which the study sample agrees with the paragraphs related to the variables of the study model, as follows:

Answer	Strongly agree	agree	neutral	Disagree	Strongly disagree
Value	5	4	3	2	1

The validity of the study tool:

1- Face Validity

The questionnaire was reviewed by a panel of faculty members to ensure the validity of its items. Their feedback was incorporated, with some items being revised and necessary adjustments made to achieve a balanced and accurate content across the questionnaire. Additionally, a pilot test was conducted with a sample of 25 employees from Aramex Company, the subject of the current study. This pilot test aimed to gauge the respondents' engagement with the questionnaire items. The participants showed a willingness to interact with the questionnaire, confirming the tool's validity.

2- Validity

This validity means the extent to which the paragraphs of each of the study variables express the variable to which it belongs, and attention was focused on ensuring that each of the variables of the study accurately with a set of paragraphs and that these paragraphs actually measure this variable, and the truthfulness of the content of the questionnaire was measured by measuring the relationship between each paragraph and the axis to which it belongs and excluding paragraphs whose correlation coefficient is weak, and their statistical significance is at a level less than 0.05, as follows:

1. The extent of e-commerce usage within Aramex

Table 2: Correlation coefficient of paragraphs of the first item (The extent of e-commerce usage within Aramex)

N	Pearson Correlation	Sig.
1	**0.859	0.000
2	**0.879	0.000
3	**0.831	0.000
4	**0.846	0.000

**. Correlation is significant at the 0.01 level.

It is clear from the previous table that the correlation coefficients for the paragraphs of the dimensions of the first item (e-commerce application) ranged between (0.831) and (0.879), which is statistically significant at the level (0.01), and this indicates that there is internal consistency between the paragraphs of this variable.

2. Sales

Table 3: Correlation coefficient of paragraphs of the second item (Sales)

N	Pearson Correlation	Sig.
5	**0.854	0.000
6	**0.841	0.000
7	**0.883	0.000
8	**0.833	0.000

It is clear from the previous table that the correlation coefficients for the paragraphs of the dimensions of the second item (Sales) ranged between (0.833) and (0.883), which is statistically significant at the level (0.01), and this indicates that there is internal consistency between the paragraphs of this variable.

3. Consumer behavior in the period in which e-commerce was applied within the company.

Table 4: Correlation coefficient of paragraphs of the third item (Consumer behavior in the period in which e-commerce was applied within the company)

N	Pearson Correlation	Sig.
9	**0.802	0.000
10	**0.854	0.000
11	**0.841	0.000
12	**0.844	0.000

It is clear from the previous table that the correlation coefficients for the paragraphs of the dimensions of the third item (Consumer behavior in the period in which e-commerce was applied within the company) ranged between (0.802) and (0.854), which is statistically significant at the level (0.01), and this indicates that there is internal consistency between the paragraphs of this variable.

4. Consumer behavior in the period in which e-commerce was not applied within the company.

Table 5: Correlation coefficient of paragraphs of the fourth item (Consumer behavior in the period in which e-commerce was applied within the company)

N	Pearson Correlation	Sig.
13	**0.827	0.000
14	**0.801	0.000
15	**0.821	0.000
16	**0.735	0.000

It is clear from the previous table that the correlation coefficients for the paragraphs of the dimensions of the fourth item (Consumer behavior in the period in which e-commerce was not applied within the company) ranged between (0.735) and (0.827), which is statistically significant at the level (0.01), and this indicates that there is internal consistency between the paragraphs of this variable.

5. Consumers' response to promotions in the period when e-commerce was implemented.

Table 6: Correlation coefficient of paragraphs of the fifth item (Consumers' response to promotions in the period when e-commerce was implemented)

N	Pearson Correlation	Sig.
17	**0.856	0.000
18	**0.873	0.000
19	**0.894	0.000
20	**0.865	0.000

It is clear from the previous table that the correlation coefficients for the paragraphs of the dimensions of the fifth item (Consumers' response to promotions in the period when e-commerce was implemented) ranged between (0.856) and (0.894), which is statistically significant at the level (0.01), and this indicates that there is internal consistency between the paragraphs of this variable.

6. Consumers' response to promotions in the period when e-commerce was not implemented.

Table 7: Correlation coefficient of paragraphs of the sixth item (Consumers' response to promotions in the period when e-commerce was not implemented)

N	Pearson Correlation	Sig.
21	**0.810	0.000
22	**0.832	0.000
23	**0.850	0.000
24	**0.859	0.000

It is clear from the previous table that the correlation coefficients for the paragraphs of the dimensions of the sixth item (Consumers' response to promotions in the period when e-commerce was not implemented) ranged between (0.810) and (0.859), which is statistically significant at the level (0.01), and this indicates that there is internal consistency between the paragraphs of this variable.

7. Improving customer service at Aramex and represented in a set of paragraphs.

Table 8: Correlation coefficient of paragraphs of the seventh item (Improving customer service at Aramex and represented in a set of paragraphs)

N	Pearson Correlation	Sig.
25	**0.838	0.000
26	**0.903	0.000
27	**0.907	0.000
28	**0.884	0.000

It is clear from the previous table that the correlation coefficients for the paragraphs of the dimensions of the seventh item (Improving customer service

at Aramex and represented in a set of paragraphs) ranged between (0.838) and (0.907), which is statistically significant at the level (0.01), and this indicates that there is internal consistency between the paragraphs of this variable.

Reliability of the study tool:

To ensure the stability of the study tool, internal consistency was calculated according to Cronbach's alpha equation for all study variables, as follows:

Table 9: Values of Internal Consistency Coefficients Using Cronbach Alpha Test

Study variables	Statements	Alpha value
E-commerce usage	1-4	0.876
Sales	5-8	0.873
Consumer behavior in the period in which e-commerce was applied within the company	9-12	0.855
Consumer behavior in the period in which e-commerce was not applied within the company	13-16	0.802
Consumers' response to promotions in the period when e-commerce was implemented	17-20	0.895
Consumers' response to promotions in the period when e-commerce was not implemented	21-24	0.857
Improving customer service	25-28	0.905
Total	1-28	0.975

The values of Cronbach alpha for all study variables and for the questionnaire in general were higher than (80%), which is a very good percentage in research and studies, which indicates its high reliability, and the following table illustrates this.

Statistical processing used:

To answer the study questions and test its hypotheses, the researcher used the Statistical Package for Social Sciences - SPSS as follows:

1. First: Descriptive Statistic Measures

To describing the demographic and functional characteristics of the sample of study individuals, which include:

- Frequencies and percentages to describe the characteristics of the study sample and measure the relative frequency distributions for them.
- Arithmetic mean to measure the average of the respondents' answers to the questionnaire items.
- Standard deviation to measure the extent of dispersion of answers from their arithmetic mean.

2. Second: Analytical statistics

- Pearson correlation coefficient to verify the validity of the paragraphs' construction dimensions of the study variables, and to verify the absence of a complete correlation between the study variables.
- Cronbach's Alpha reliability coefficient to identify the stability of the study scales.

Limitations of the study

- **Temporal limits:** The study extends from the beginning of the use of e-commerce in ARAMEX logistic to the present.
- **Spatial Research:** The study focuses on ARAMEX logistic in Saudi Arabia.
- **Objectivity:** The study includes assessing the impact of the use of e-commerce on the efficiency of operations and logistics performance.

Chapter Four

Results and Hypothesis Testing

Findings of the Study

This chapter presents the results of the study that the researcher reached through analyzing the data he obtained from the answers of the study sample, according to the study questions that aimed to identify the impact of e-commerce on consumer purchasing behavior and sales at Aramex Saudi Arabia Logistics Company. The following is a presentation of these results:

- **Analysis of the response of the sample members towards the variables of the study**

1. E-commerce usage

The arithmetic means and standard deviations of the responses of the study sample individuals on the axis of e-commerce were extracted, and table (10) shows these results.

Table 10: The arithmetic means and standard deviations of the responses of the study sample members for the paragraphs of the axis (E-commerce usage) are arranged in descending order.

N	Statement	N	Mean	St.d	Level	Rank
1	The company uses ecommerce platforms effectively.	72	3.90	1.200	High	4
2	E-commerce is used to improve the customer experience.	72	3.93	1.166	High	2
3	The company relies heavily on e-commerce in its day-to-day operations.	72	3.91	1.183	High	3
4	E-commerce is used to expand the customer base.	72	4.08	1.195	High	1
Overall Mean		72	3.95	1.01	High	

It is clear from the previous table that the arithmetic averages of this item (E-commerce usage) have ranged between (3.90, 4.08), and the item has

obtained a total arithmetic average (**3.95**), which is of the high level, and paragraph (4) has won the highest arithmetic average (**4.08**), which is from the high level, as the paragraph stipulates (E-commerce is used to expand the customer base). In the second place, paragraph No. (2) came with an arithmetic mean (**3.93**) which is of the high level, and it stipulated (E-commerce is used to improve the customer experience). In the third place, paragraph No. (3) came with an arithmetic mean (**3.91**) which is of the high level, and it stipulated (The company relies heavily on e-commerce in its day-to-day operations). In the fourth place, paragraph No. (1) came with an arithmetic mean (**3.90**) which is of the high level, and it stipulated (The company uses ecommerce platforms effectively). This explains that the application of e-commerce at ARAMEX is of a high standard.

2. Sales

The arithmetic means and standard deviations of the responses of the study sample members on the sales axis were extracted, and table (11) shows these results.

Table 11: The arithmetic means and standard deviations of the responses of the study sample members for the paragraphs of the axis (Sales) are arranged in descending order.

N	Statement	N	Mean	St.d	Level	Rank
1	The company's e-commerce application contributed to the increase in sales.	72	4.18	1.129	High	1
2	E-commerce helps in reaching new customers.	72	4.06	1.225	High	3
3	The company saw a rise in revenue after the implementation of e-commerce.	72	4.01	1.168	High	4
4	E-commerce has improved the buying process for customers.	72	4.11	1.273	High	2
Overall Mean		72	4.09	1.022	High	

It is clear from the previous table that the arithmetic averages of this item (Sales) have ranged between (4.01, 4.18), and the item has obtained a total arithmetic average (4.09), which is of the high level, and paragraph (1) has won the highest arithmetic average (4.18), which is from the high level, as the paragraph stipulates (The company's e-commerce application contributed to the increase in sales). In the second place, paragraph No. (4) came with an arithmetic mean (4.11) which is of the high level, and it stipulated (E-commerce has improved the buying process for customers). In the third place, paragraph No. (2) came with an arithmetic mean (4.06) which is of the high level, and it stipulated (E-commerce helps in reaching new customers). In the fourth place, paragraph No. (3) came with an arithmetic mean (4.01) which is of the high level, and it stipulated (The company saw a rise in revenue after the implementation of e-commerce). This explains that sales of e-commerce at Aramex is of a high standard.

3. Consumer behavior in the period in which e-commerce was applied within the company

The arithmetic means and standard deviations of the responses of the study sample members on the consumer behavior in the period in which e-commerce was applied within the company axis were extracted, and table (12) shows these results.

Table 12: The arithmetic means and standard deviations of the responses of the study sample members for the paragraphs of the axis (Consumer behavior in the period in which e-commerce was applied within the company) are arranged in descending order.

N	Statement	N	Mean	St.d	Level	Rank
1	I noticed changes in consumer behavior after implementing e-commerce.	72	3.97	1.150	High	4
2	Consumers became more engaged with the company after adopting e-commerce.	72	4.02	1.112	High	2
3	Consumers are preferring to buy online after implementing e-commerce.	72	3.98	1.144	High	3
4	The use of e-commerce has positively impacted consumers' buying experience.	72	4.09	1.164	High	1
Overall Mean		72	4.02	0.954	High	

It is clear from the previous table that the arithmetic averages of this item (Consumer behavior in the period in which e-commerce was applied within the company) have ranged between (**3.97, 4.09**), and the item has obtained a total arithmetic average (**4.02**), which is of the high level, and paragraph (**4**) has won the highest arithmetic average (**4.09**), which is from the high level, as the paragraph stipulates (The use of e-commerce has positively impacted consumers' buying experience). In the second place, paragraph No. (**2**) came with an arithmetic mean (**4.02**) which is of the high level, and it stipulated (Consumers became more engaged with the company after adopting e-commerce). In the third place, paragraph No. (**3**) came with an arithmetic mean (**3.98**) which is of the high level, and it stipulated (Consumers are preferring to buy online after implementing e-commerce). In the fourth place, paragraph No. (**1**) came with an arithmetic mean (**3.97**) which is of the high level, and it stipulated (I noticed changes in consumer behavior after implementing e-commerce). This explains that the consumer behavior in the period in which e-commerce was applied within the company at Aramex is of a high standard.

4. Consumer behavior in the period in which e-commerce was not applied within the company

The arithmetic means and standard deviations of the responses of the study sample members on the consumer behavior in the period in which e-commerce was not applied within the company axis were extracted, and table (13) shows these results.

Table 13: The arithmetic means and standard deviations of the responses of the study sample members for the paragraphs of the axis (Consumer behavior in the period in which e-commerce was not applied within the company) are arranged in descending order.

N	Statement	N	Mean	St.d	Level	Rank
1	Consumer behavior was different before the implementation of e-commerce.	72	4.02	1.150	High	2
2	Consumers preferred to buy from brick-and-go stores before implementing e-commerce.	72	4.09	1.089	High	1
3	There was no significant interaction between the company and consumers before the implementation of e-commerce.	72	3.63	1.154	High	4
4	The buying experience for consumers was less smooth before e-commerce was adopted.	72	3.77	1.302	High	3
Overall Mean		72	3.88	0.932	High	

It is clear from the previous table that the arithmetic averages of this item (Consumer behavior in the period in which e-commerce was not applied within the company) have ranged between (3.63, 4.09), and the item has obtained a total arithmetic average (3.88), which is of the high level, and paragraph (2) has won the highest arithmetic average (4.09), which is from the high level, as the paragraph stipulates (Consumers preferred to buy from brick-and-go stores before implementing e-commerce). In the second place, paragraph No. (1) came with an arithmetic mean (4.02) which is of the high level, and it stipulated

(Consumer behavior was different before the implementation of e-commerce). In the third place, paragraph No. (4) came with an arithmetic mean (3.77) which is of the high level, and it stipulated (The buying experience for consumers was less smooth before e-commerce was adopted). In the fourth place, paragraph No. (3) came with an arithmetic mean (3.63) which is of the high level, and it stipulated (There was no significant interaction between the company and consumers before the implementation of e-commerce). This shows that consumer behavior during the period when e-commerce was not implemented within the company at Aramex was at a high level, but it increased more after the implementation of e-commerce because it helps facilitate logistics services.

5. Consumers' response to promotions in the period when e-commerce was implemented

The arithmetic means and standard deviations of the responses of the study sample members on the Consumers' response to promotions in the period when e-commerce was implemented axis were extracted, and table (14) shows these results.

Table 14: The arithmetic means and standard deviations of the responses of the study sample members for the paragraphs of the axis (Consumers' response to promotions in the period when e-commerce was implemented) are arranged in descending order.

N	Statement	N	Mean	St.d	Level	Rank
1	Promotions became more effective after the adoption of e-commerce.	72	4.15	1.134	High	2
2	Consumer response to promotions was positive after the implementation of e-commerce.	72	4.12	1.125	High	3
3	Customers have shown more interest in promotions offered via e-commerce platforms.	72	4.09	1.115	High	4
4	Online promotions helped increase sales.	72	4.18	1.129	High	1
Overall Mean		72	4.13	0.982	High	

It is clear from the previous table that the arithmetic averages of this item (Consumers' response to promotions in the period when e-commerce was implemented) have ranged between (4.09, 4.18), and the item has obtained a total arithmetic average (4.13), which is of the high level, and paragraph (4) has won the highest arithmetic average (4.18), which is from the high level, as the paragraph stipulates (Online promotions helped increase sales). In the second place, paragraph No. (1) came with an arithmetic mean (4.15) which is of the high level, and it stipulated (Promotions became more effective after the adoption of e-commerce). In the third place, paragraph No. (2) came with an arithmetic mean (4.12) which is of the high level, and it stipulated (Consumer response to promotions was positive after the implementation of e-commerce). In the fourth place, paragraph No. (3) came with an arithmetic mean (4.09) which is of the high level, and it stipulated (Customers have shown more interest in promotions offered via e-commerce platforms). The conclusion from the results presented in the table is that the consumer response to the promotions during the period in which e-commerce was implemented was very positive and effective. The arithmetic means of this response ranged between (4.09 and 4.18) with an overall mean of (4.13), indicating a high level of satisfaction and response.

6. Consumers' response to promotions in the period when e-commerce was not implemented

The arithmetic means and standard deviations of the responses of the study sample members on the Consumers' response to promotions in the period when e-commerce was not implemented axis were extracted, and table (15) shows these results.

Table 15: The arithmetic means and standard deviations of the responses of the study sample members for the paragraphs of the axis (Consumers' response to promotions in the period when e-commerce was not implemented) are arranged in descending order.

N	Statement	N	Mean	St.d	Level	Rank
1	Consumer response to promotions was weak before e-commerce was implemented.	72	3.94	1.243	High	2
2	Customers weren't interested in promotions before implementing ecommerce.	72	3.54	1.320	Average	4
3	Traditional promotions have never been as effective as they are now with e-commerce.	72	4.00	1.162	High	1
4	Traditional promotion did not achieve the desired results before the adoption of e-commerce.	72	3.81	1.190	High	3
Overall Mean		72	3.82	1.029	High	

It is clear from the previous table that the arithmetic means of this item (Consumers' response to promotions in the period when e-commerce was not implemented) have ranged between (3.54, 4.00), and the item has obtained a total arithmetic mean (3.82), which is of the high level, and paragraph (3) has won the highest arithmetic mean (4.00), which is from the high level, as the paragraph stipulates (Traditional promotions have never been as effective as they are now with e-commerce). In the second place, paragraph No. (1) came with an arithmetic mean (3.94) which is of the high level, and it stipulated (Consumer response to promotions was weak before e-commerce was

implemented). In the third place, paragraph No. (4) came with an arithmetic mean (3.81) which is of the high level, and it stipulated (Traditional promotion did not achieve the desired results before the adoption of e-commerce). In the fourth place, paragraph No. (2) came with an arithmetic mean (3.54) which is of the average level, and it stipulated (Customers weren't interested in promotions before implementing ecommerce). The conclusion from the results presented in the table is that the consumer response to the promotions during the period in which e-commerce was implemented was very positive and effective. The arithmetic means of this response ranged between (4.09 and 4.18) with an overall mean of (4.13), indicating a high level of satisfaction and response. We conclude from the results related to the period in which e-commerce was not implemented that consumers' response to promotions was relatively weak compared to the period in which e-commerce was implemented. The arithmetic means ranged between (3.54 and 4.00) with an overall mean of (3.82), indicating a fairly high level, but less effective than the period in which e-commerce was implemented.

7. Improving customer service

The arithmetic means and standard deviations of the responses of the study sample members on the Improving customer service axis were extracted, and table (16) shows these results.

Table 16: The arithmetic means and standard deviations of the responses of the study sample members for the paragraphs of the axis (Improving customer service) are arranged in descending order.

N	Statement	N	Mean	St.d	Level	Rank
1	E-commerce has contributed to improving the quality of customer service in the company.	72	4.04	1.143	High	3
2	Customers get quick and accurate responses through ecommerce platforms.	72	3.91	1.159	High	4
3	Ecommerce has helped solve customer problems more effectively.	72	4.08	1.071	High	1
4	Customers are becoming more satisfied with the company's services thanks to e-commerce.	72	4.04	1.067	High	2
Overall Mean		72	4.02	0.980	High	

It is clear from the previous table that the arithmetic means of this item (Improving customer service) have ranged between (3.91, 4.08), and the item has obtained a total arithmetic mean (4.02), which is of the high level, and paragraph (3) has won the highest arithmetic mean (4.08), which is from the high level, as the paragraph stipulates (Ecommerce has helped solve customer problems more effectively). In the second place, paragraph No. (4) came with an arithmetic mean (4.04) which is of the high level, and it stipulated (Customers are becoming more satisfied with the company's services thanks to e-commerce). In the third place, paragraph No. (1) came with an arithmetic mean (4.04) which is of the high level, and it stipulated (E-commerce has contributed to improving the quality of customer service in the company). In the fourth place, paragraph No. (2) came with an arithmetic mean (3.91) which

is of the average level, and it stipulated (Customers get quick and accurate responses through ecommerce platforms). The conclusion from the results presented in the table is that customer service improvement has witnessed a significant improvement thanks to e-commerce, as the arithmetic means of this improvement ranged between (3.91 and 4.08) with an overall mean of (4.02), indicating a high level of improvement and satisfaction.

- **Testing the hypotheses of the study**

This section deals with testing the hypotheses of the study through the use of a simple regression analysis test, as follows.

First hypothesis H0₁:

There is no statistical relationship between the use of e-commerce and the increase in sales at Aramex.

To test the first hypothesis, a simple linear regression test was used to test the relationship between the use of e-commerce (independent variable) and sales (dependent variable) and the following table shows these results.

Table 17: Results of simple regression analysis to test the first hypothesis of the study

R	Beta	R²	F	Sig
0.848	0.848	0.719	179.101	0.000

* Statistically significant at the level of ($\alpha \leq 0.05$)

It is clear from the table that the value of the statistician (F) (179.101) with a level of significance less than (0.05), which indicates the acceptance of the hypothesis, and that there is a positive and statistically significant relationship between the usage of e-commerce and the sales at Aramex at a significant level (0.05). Where the value of correlation (R) (0.848) with a coefficient of

determination (R²) (0.719), that the impact of the a usage of e-commerce on the sales within the company affects by (71.9%).

- **Second hypothesis H0₂:**

There are statistical differences in consumer behavior between the period in which e-commerce was implemented and the period in which it was not.

Table 18: Results of the t-test analysis to calculate the difference between the means of each of the two variables to test the second hypothesis

Group	Sample Size (n)	Mean	St.d	t-vaue	df	p-value
Consumer behavior between the period in which e-commerce was implemented	72	4.02	0.954	2.025	71	0.04
Consumer behavior between the period in which e-commerce was not implemented	72	3.88	0.932			

Since the p-value is less than 0.05, we conclude that the difference between the average consumer behavior in the two periods is statistically significant. In other words, there is a statistically significant difference between consumer behavior in the period when e-commerce was implemented and the period when it was not implemented. The higher mean (4.02) indicates that consumers' behavior was more positive when e-commerce was implemented. This could mean that consumers were more satisfied or engaged with the offerings and services provided via e-commerce. The lower mean (3.88) indicates that consumer behavior was less positive in the period when e-commerce was not implemented. This may mean that consumers were less satisfied or engaged with traditional offerings and services. Therefore, we can conclude that the e-commerce application had a positive impact on consumer behavior, improving their experience and increasing their satisfaction.

- **Third hypothesis H0₃:**

There were no statistical differences in consumer response to promotions between the period when e-commerce was implemented and when it was not.

Table 19: Results of the t-test analysis to calculate the difference between the means of each of the two variables to test the third hypothesis

Group	Sample Size (n)	Mean	St.d	t-vaue	df	p-value
Consumer response to promotions between the period when e-commerce was implemented	72	4.13	0.982	3.906	71	0.00
Consumer response to promotions between the period when e-commerce was not implemented	72	3.82	1.029			

Since the p-value is much less than 0.05, we conclude that the difference between the average consumer response to promotions in the two periods is strongly statistically significant. In other words, there is a statistically significant difference between consumer response to promotions in the period when e-commerce was implemented and the period when it was not implemented. The higher mean (4.13) indicates that consumers responded more positively to promotions when e-commerce was implemented. This could mean that e-commerce promotions were more effective and attractive to consumers, leading to an improved experience and increased satisfaction. The lower mean (3.82) indicates that consumers responded less positively to promotions in the period when e-commerce was not implemented. This may mean that traditional promotions were less effective in attracting and satisfying consumers. Therefore, we can conclude that the e-commerce application had a significant positive impact on consumers' response to promotions, improving their experience and significantly increasing their satisfaction.

- **fourth hypothesis H0₄:**

There is a statistical relationship between the use of e-commerce and the improvement of customer service at Aramex.

To test the fourth hypothesis, a simple linear regression test was used to test the relationship between the usage of e-commerce (independent variable) and customer service at Aramex (dependent variable) and the following table shows these results.

Table 20: Results of simple regression analysis to test the fourth hypothesis of the study

R	Beta	R²	F	Sig
0.789	0.789	0.622	115.373	0.000

* Statistically significant at the level of ($\alpha \leq 0.05$)

It is clear from the table that the value of the statistician (F) (115.373) with a level of significance less than (0.05), which indicates the acceptance of the hypothesis, and that there is a positive and statistically significant relationship between the usage of e-commerce and customer service at Aramex at a significant level (0.05). Where the value of correlation (R) (0.789) with a coefficient of determination (R²) (0.622), that the impact of the a usage of e-commerce on the sales within the company affects by (62.2%).

Chapter five

Conclusions and recommendations

Results

1. E-commerce use at Aramex is highly effective, with average scores ranging from 3.90 to 4.08, indicating a high level of efficiency in expanding the customer base and enhancing daily operations.
2. E-commerce has significantly boosted sales, with average scores between 4.01 and 4.18, reflecting a strong positive impact on company revenues and improving the customer purchase process.
3. Consumer behavior showed a notable positive impact due to e-commerce, with average scores ranging from 3.97 to 4.09, indicating an enhanced shopping experience and increased engagement with the company.
4. Consumer behavior was still high but less effective compared to the period with e-commerce. Average scores ranged from 3.63 to 4.09, showing significant improvement after e-commerce implementation.
5. Consumer response to promotions was very positive and effective, with average scores between 4.09 and 4.18, highlighting the success of online promotions in increasing sales and customer satisfaction.
6. Consumer response to promotions was relatively weaker before e-commerce, with average scores ranging from 3.54 to 4.00, indicating significant improvement after e-commerce implementation.
7. Customer service saw considerable improvement due to e-commerce, with average scores between 3.91 and 4.08, reflecting enhanced service effectiveness and increased customer satisfaction.
8. There is a strong positive and statistically significant relationship between e-commerce usage and sales at Aramex.
9. A statistically significant difference was found between consumer behavior during periods with and without e-commerce.

10. There is a strong statistically significant difference in consumer response to promotions between the e-commerce and non-e-commerce periods.
11. A positive and statistically significant relationship exists between e-commerce usage and customer service at Aramex.

Conclusions

- E-commerce has proven to be highly effective at Aramex, as indicated by the high average scores ranging from 3.90 to 4.08. This effectiveness is evident in its role in expanding the customer base and improving daily operations.
- The implementation of e-commerce has significantly boosted sales at Aramex. With average sales scores between 4.01 and 4.18, the data demonstrates a substantial positive impact on company revenues and the purchasing process.
- E-commerce has positively influenced consumer behavior, with average scores ranging from 3.97 to 4.09 during its implementation period. This indicates enhanced shopping experiences and increased consumer engagement compared to the period before e-commerce.
- Consumer behavior was notably better during the e-commerce period (mean of 4.02) compared to the pre-e-commerce period (mean of 3.88). This highlights a significant improvement in consumer satisfaction and engagement due to the adoption of e-commerce.
- Consumer response to promotions was more favorable during the e-commerce period, with scores between 4.09 and 4.18. This shows that online promotions were more successful and engaging compared to traditional promotions, which had lower effectiveness (scores between 3.54 and 4.00).
- E-commerce has led to notable improvements in customer service at Aramex, with average scores ranging from 3.91 to 4.08. This reflects a

significant enhancement in service quality and customer satisfaction due to e-commerce adoption.

- The analysis confirms that e-commerce has a strong positive and statistically significant impact on sales, consumer behavior, promotional effectiveness, and customer service. The F-values and correlation coefficients indicate substantial relationships between e-commerce usage and these outcomes, with e-commerce accounting for a significant portion of the variance in sales (71.9%) and customer service improvements (62.2%).

Recommendations

- Aramex should continue to invest in and refine its e-commerce strategies to sustain and further enhance its effectiveness. This includes optimizing online platforms, enhancing user experience, and leveraging data analytics to understand consumer behavior and preferences.
- To maximize the impact of promotions, Aramex should increase the frequency and variety of online promotions. Implementing targeted marketing campaigns and personalized offers can further boost consumer engagement and drive higher sales.
- Given the positive impact of e-commerce on customer service, Aramex should continue to prioritize improvements in this area. Implementing advanced customer support technologies, such as AI chatbots and efficient complaint resolution systems, can enhance service quality and customer satisfaction.
- Aramex should regularly monitor and analyze consumer behavior trends to stay ahead of changing preferences and demands. Utilizing consumer feedback and market research will help in adjusting strategies to maintain high levels of satisfaction and engagement.

- The company should make use of data-driven insights to optimize sales and marketing strategies. Analyzing sales data, consumer feedback, and promotional performance can provide valuable information for refining strategies and achieving better results.
- Providing ongoing training and support for teams managing e-commerce operations will ensure they stay updated with the latest trends and technologies. This will help in maintaining the effectiveness of e-commerce initiatives and addressing any challenges promptly.
- Regularly evaluate the performance of e-commerce initiatives using key performance indicators (KPIs) and adapt strategies based on the findings. This approach will help in continuously improving the impact of e-commerce on sales, consumer behavior, and customer service.
- Aramex should foster a culture of innovation to explore new technologies and approaches in e-commerce. Staying innovative can provide a competitive edge and contribute to ongoing improvements in customer engagement and satisfaction.

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Appendices

Survey Questionnaire

This questionnaire aims to collect the necessary data to study the impact of e-commerce on consumer behavior and sales in Aramex logistics in Saudi Arabia as a graduation project in business administration, and you were selected to answer the statements contained therein.

Please read all paragraphs carefully and answer them objectively as this has a significant impact on the validity of the results of the study, noting that all data contained in this questionnaire will be treated with strict confidentiality and will only be used for scientific research purposes.

Thank you for your cooperation.....

Part I: Personal Data

1- Gender

- male
- female

2- Department

- Marketing
- Sales
- Customer Service
- Logistics
- Management

3- Years of experience in the company

- Less than a year
- 1-3 years
- 4-6 years
- 6 years and above

Part Two: Questionnaire Questions

Please answer each of the following statements by placing an (x) in the box representing your opinion:

N	Statements	Answer alternatives				
		Strongly agree	Agree	neutral	Disagree	Strongly disagree
The extent of e-commerce usage within Aramex						
1.	The company uses ecommerce platforms effectively.					
2.	E-commerce is used to improve the customer experience.					
3.	The company relies heavily on e-commerce in its day-to-day operations.					
4.	E-commerce is used to expand the customer base.					
Sales						
5.	The company's e-commerce application contributed to the increase in sales.					
6.	E-commerce helps in reaching new customers.					
7.	The company saw a rise in revenue after the implementation of e-commerce.					
8.	E-commerce has improved the buying process for customers.					

Consumer behavior in the period in which e-commerce was implemented						
9.	I noticed changes in consumer behavior after implementing e-commerce.					
10.	Consumers became more engaged with the company after adopting e-commerce.					
11.	Consumers are preferring to buy online after implementing e-commerce.					
12.	The use of e-commerce has positively impacted consumers' buying experience.					
Consumer behavior in the period when e-commerce was not implemented						
13.	Consumer behavior was different before the implementation of e-commerce.					
14.	Consumers preferred to buy from brick-and-go stores before implementing e-commerce.					
15.	There was no significant interaction between the company and consumers before the implementation of e-commerce.					
16.	The buying experience for consumers was less smooth before e-commerce was adopted.					

Consumer response to promotions in the period when e-commerce was implemented						
17.	Promotions became more effective after the adoption of e-commerce.					
18.	Consumer response to promotions was positive after the implementation of e-commerce.					
19.	Customers have shown more interest in promotions offered via e-commerce platforms.					
20.	Online promotions helped increase sales.					
Consumer response to promotions in the period when e-commerce was not implemented						
21.	Consumer response to promotions was weak before e-commerce was implemented.					
22.	Customers weren't interested in promotions before implementing ecommerce.					
23.	Traditional promotions have never been as effective as they are now with e-commerce.					
24.	Traditional promotion did not achieve the desired results before the adoption of e-commerce.					

Improving customer service at Aramex						
25.	E-commerce has contributed to improving the quality of customer service in the company.					
26.	Customers get quick and accurate responses through ecommerce platforms.					
27.	Ecommerce has helped solve customer problems more effectively.					
28.	Customers are becoming more satisfied with the company's services thanks to e-commerce.					

الملخص العربي

هدفت هذه الدراسة إلى تأثير التجارة الإلكترونية على سلوك المستهلك والمبيعات في أرامكس اللوجستية في المملكة العربية السعودية، ولتحقيق أهداف الدراسة، قاما الباحثان بتصميم استبانة شملت (28) فقرة لجمع المعلومات الأولية من عينة الدراسة المكونة من 72 مفردة. وفي ضوء ذلك تم جمع وتحليل البيانات واختبار الفرضيات باستخدام الحزمة الإحصائية للعلوم الاجتماعية SPSS وتم استخدام الأساليب الإحصائية لتحقيق أهداف الدراسة، منها تحليل الانحدار البسيط، واختبار T وبعد إجراء عملية التحليل لبيانات الدراسة وفرضياتها توصلت الدراسة إلى عدد من النتائج أبرزها:

- هناك علاقة إيجابية ذات دلالة إحصائية بين استخدام التجارة الإلكترونية والمبيعات في أرامكس، حيث تفسر التجارة الإلكترونية 71.9% من التغير في المبيعات.
- سلوك المستهلكين تحسن بشكل ملحوظ خلال فترة تطبيق التجارة الإلكترونية، مع ارتفاع في متوسطات الرضا والتفاعل.
- استجابة المستهلكين للعروض الترويجية كانت أكثر إيجابية وفعالة أثناء تطبيق التجارة الإلكترونية، مقارنة بالفترة السابقة.
- هناك تحسن كبير في جودة خدمة العملاء بفضل التجارة الإلكترونية، مع زيادة في رضا العملاء.

وقد أوصت الدراسة بما يلي:

1. تحسين وتوسيع استراتيجيات التجارة الإلكترونية لتسريع نمو المبيعات وزيادة رضا العملاء.
- الاستثمار في تحسين أدوات دعم العملاء لضمان استجابة سريعة وفعالة.
2. تعزيز فعالية العروض الترويجية على المنصات الإلكترونية لضمان جذب أكبر عدد من العملاء وزيادة الاستجابة الإيجابية للعروض.

تأثير التجارة الإلكترونية على سلوك المستهلك والمبيعات في
أرامكس اللوجستية في المملكة العربية السعودية

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2024 - 2023