

## Assessing the Impact of Logistics Efficiency on E-Commerce Growth in Algeria

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### Abstract:

This study investigates the impact of logistics efficiency on E-commerce growth in Algeria, focusing on the role of delivery companies. It examines how delivery speed, service quality, and technology use affect sellers' perceptions of performance, including sales improvement and customer satisfaction.

While regression and correlation analyses revealed no strong statistical significance, descriptive findings highlight sellers' prioritization of home delivery, geographic coverage, and shipment transparency. Companies relying solely on agency pickups were generally less preferred.

Key challenges included delayed deliveries, communication failures, and unclear return procedures. Despite weak measurable effects, logistics remains a fundamental pillar of operational performance.

The study recommends enhancing tracking applications, improving feedback systems, and fostering closer collaboration between logistics providers and online sellers to sustain trust and long-term e-commerce growth in Algeria.

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## **1. Introduction**

The progress of the internet and digital world has caused a wave of change in various sectors. These changes are reflected in the substantial uses of electronic and digital tools and platforms.

In Algeria, an inventory showed restrictive electronic products and services from online vendors and evaluated the electronic market between 13 and 15 billion dinars. Despite being present in the Algerian market since 1997, the number of web purchasers in Algeria continues to be small, with only 2.62 million web purchases online in 2019, indicating low growth of electronic commerce in Algeria. Certain companies are well ranked for quality of service, reputation, and devices; they are distinguished by their seriousness and logistics quality. (Mohammed & Gueddal, 2023) Logistics efficiency has an influential impact on the Algerian market value by actively pursuing e-commerce projects. Nevertheless, the link between logistics and commerce must remain in existence so that the impact of the latter's creation can have a lasting effect, as is the case in international finance organizations. It is from this vantage that we need to present our argument. (BOUZIDA & MERZOUG, 2021) Our approach is centered on the basis of an investigation that studies the metropolitan area in Algiers and its two twin metropolises. Regarding logistics efficiency and the development of e-commerce in Algeria, the aim of our research is to measure the influence of logistics on e-commerce development in Algeria, based on the opinions of students from the metropolitan area of Algiers, and more specifically, those of internet café users in some city concept models. (Boukezia et al., 2023) They are renowned for what distinguishes them from one another by means of evaluating multimedia computers and tools.

### **1.1 Background of E-Commerce in Algeria**

Gradually, e-commerce is becoming more and more democratized in Algeria. There are more and more consumers who turn to online purchase of goods and services. Likewise, more and more businesses are making the transition to digital technology, including setting up e-commerce sites or practicing e-merchandising. (Al-Fawwaz, 2022) Exchanges via digital channels are facilitated on the one hand by an increasingly secure supply of payment methods, as well as the diversification of delivery and withdrawal channels, and on the other hand, by the improvement and strengthening of consumer rights. E-commerce appeals to a target audience of all ages, and therefore to all budgets. The penetration of the Internet and smartphones, along with the increase in online banking requirements, are the main drivers for the development of the e-commerce market. It is estimated that the number of banked individuals in Algeria reached 20 million in 2018. It is also expected that the

number of smartphone users will reach 24 million in 2020, which will, in turn, have a positive effect on e-commerce. (ABDAT & HAYOULA & Zaghlami, 2020)

Algeria's e-commerce market is subject to various regulatory texts. Thus, the legal provision establishing e-commerce in the Algerian legal system is the finance law of 2013, which created the legal definition of e-commerce in its article 90. (Ali, 2022) However, the law accompanying this finance law, specifically that of June 10, 2013, which established the rules applicable to operations related to electronic certification and transactions, as well as the translation of the electronic signature, was of crucial importance in the implementation of the current Algerian regulatory framework applicable to e-commerce. (BOUDER, 2021) To encourage e-commerce adoption, the Algerian government established tax incentives in 2015 for e-commerce businesses. There is an exemption of 10% of tax obligations on its export surplus for a period of three years from the date of registration at customs. Although the e-commerce market has become more popular, it generally faces a few challenges, including payment methods, security in online transactions, online fraud, and consumer confidence in the Internet. (Hossain et al., 2024) In addition, companies in Algeria are starting to emerge in e-tailing, which has attracted the most investors. For this purpose, it is important to look at the evolution of the e-commerce concept, thus analyzing the transition from retail to e-commerce. It is also important to provide the regulatory framework of e-commerce in Algeria. (Fatiha, 2024)

### ***1.2 Significance of Logistics Efficiency in E-Commerce***

E-commerce platforms enable customers to browse and purchase desired goods from anywhere using electronic devices such as smartphones. When it comes to the purchasing experience offered, the logistics operating behind the scenes grows in importance and has the potential to lower costs while also increasing customer satisfaction by offering shorter delivery times. (Cui et al., 2024) It is not just the existence of logistical processes that counts, but how effectively they are handled. This can, in essence, serve as a differentiator for e-commerce platforms, as processes like inventory management, order fulfillment, and delivery are interconnected. (Iraten et al., 2022) Therefore, just as the simplification of the transaction process is thought to help new e-commerce companies enter the economy, supply chain efficiencies can also transform the e-commerce market. Many examples have been put forward of companies where the impact of logistics on the growth of e-commerce has been underscored. (Belghanami, 2022) In general, growing operations require logistics optimization links in order to compete effectively and access new markets, and companies should prioritize efficiency based on comprehensive data feedback. The development, expansion, and positive financial results seen by these organizations have a major influence

on the positive returns that can be obtained from the investment made according to information on the return on equity. Businesses' performance depends on their ability to synthesize and provide high-quality services in order to satisfy their customers' wants and needs, and when the objective is to transport packages and improve logistics efficiency at the same time, they are working from a customer-centric viewpoint. (Farida and Setiawan, 2022)

## **2. Literature Review**

The effect of the logistics process of an e-commerce company on its net income is significant. Unless logistics costs are reduced, an e-commerce business has higher operational costs. There is a significant relationship between the logistics process and the outcomes associated with the e-commerce site. When the main job of a company is to provide customers with products and services on a complex global scale, the articulation of the management philosophy will often have to focus on logistics. Output costs can then be fueled by enhancing the efficiency of the logistical process. (Adelajda et al., 2021)

This would entail the accounting of the entire logistical chain and linking reasoning to economics and logistics research, which could involve the reduction of customer service times and the intensification of the occasions with which cash flow is increased. There is an emphasis to be placed on the encounter that is a better way to support enhanced fulfillment with higher efficiency to maximize incident-generating revenues. (Akil and Ungan, 2022) Nevertheless, the research highlights the potential of project management in the case of project management. This interaction has methodological pretenses of realization and development, such as the process of logistics and the stage of economic evolution. The ability of a given economy in the provision of quality products and services has, until recently, been carried out in the reticular processing of institutions. (Barros et al., 2021)

## **3. Conceptual Framework of Logistics Efficiency and E-Commerce Growth**

Logistics efficiency creates value for e-commerce growth. In traditional commerce, logistics are seen as physical functions and a cost center, but today, they are now seen as revenue centers. Logistics functions such as transportation, storage, and inventory create value as they work to obtain the efficient flow of goods from the point of origin or manufacture to the point of consumption. Technology is now provided based on a new business model for us; logistics efficiency now becomes a new service to generate the revenue of the enterprise.

The conceptual framework proposes that logistics efficiency contributes substantially to the development of e-commerce growth via components of logistics, which consist of transport, warehousing, and inventory management. Such components are predominantly driven by

technology. (Soliyev and Makhmudov, 2024) The conceptual model proposes that (i) logistics efficiency will affect e-commerce's capability to deliver the best services and solutions, thereby raising customer satisfaction levels, and (ii) logistics efficiency will lower the costs to buyers. In other words, e-commerce enterprises can consider logistics efficiency to allow additional buyers to reap the benefits of their desired purchases. When combined, the framework proposed depicts an e-commerce enterprise with the potential to reach a large number of the market share. (Akil and Ungan, 2022)

#### **4. Logistics Efficiency in E-Commerce**

A logistic strategy is vital to any e-commerce business. E-commerce logistics have been widely discussed. In most research, the demand forecasting, inventory allocation, and delivery service level strategies are executed together based on customer order and delivery demand in omni-channel retailing. It is also believed that increasing the logistic service level, such as expanding the service network or allocating inventory of multiple centers, may lead to better customer order capturing and delivery service rates. Logistics efficiency directly affects delivery speed and is quantitatively characterized by lead time or delivery cycle. (Carvalho et al., 2022)

A full set of logistic processes includes order and transportation scheduling, order processing, transportation, handling, warehousing, and goods delivery. To be specific, the transportation process is about the relationship between the delivery region and delivery mode. The handling process involves the distribution mode matching, such as the number and size of transportation vehicles and the freight transfer. (Frazelle, 2020 & Rushton et al., 2022) The warehousing process is about the spare area of the delivery station and the warehouse, as well as the storage allocation. It can also be comprehended with supply chain coordination. Order fulfillment performance consists of transportation, warehousing, and order processing and detail processing performance. Following this logical framework, only transportation service plays an important role in e-commerce industries, which are concerned with a large number of unconsolidated orders. Late delivery or damaged delivery would largely affect customer service for e-commerce. (Viu-Roig & Alvarez-Palau, 2020) Exploratory research further shows that the delivery cycle has the most obvious impact on customer satisfaction, followed by delivery accuracy. Order fulfillment is also associated with delivery service levels and logistics efficiency. E-commerce operational management is building reactive systems that automatically change the logistics strategy to best match market conditions influenced by dynamic customer orders and queries and monitoring constraints. (Uzir et al., 2021) E-commerce logistic planners hold real-time data with modern tools to analyze and refine their e-commerce logistic procedures enough for market

flexibility, responsiveness, stability, and competitiveness. (Seyi-Lande et al., 2024) In summary, logistics efficiency is a key success factor in e-commerce businesses. Only companies improving their logistics efficiency by organizing logistics processes to satisfy customer needs and minimizing costs while providing their customers with the best possible service will get ahead. Past and recent research on logistics efficiency is rather limited. (Akil and Ugan, 2022) Therefore, the benefit of this research for e-commerce managers is an investigation of exactly what they need to do to manage logistics, successfully deliver products to their clients, and make full use of the benefits provided by logistics.

## ***5. Empirical Study (Practical Part)***

### ***5.1. Methodology***

#### ***5.1.1 Population and Sampling***

The population of this study consists of e-commerce sellers operating across Algeria who actively use delivery companies to distribute products to customers. These sellers include individuals and businesses engaged in online trade through social media platforms (such as Facebook, Instagram, TikTok), online stores, and commercial platforms like Ouedkniss and Jumia.

A total of **259 questionnaires** were distributed to selected sellers. Out of these, **216 valid responses** were obtained and retained for analysis, while **43 questionnaires** were either incomplete or unanswered.

To ensure broad and representative outreach, **163 questionnaires were distributed electronically** to sellers promoting their products through social media platforms, while the remaining questionnaires were

#### ***5.1.2 Data Collection Tool (Questionnaire Design)***

The primary instrument used to collect data in this study was a structured questionnaire specifically designed for e-commerce sellers in Algeria. The questionnaire was developed based on the theoretical framework and practical objectives of the research, and it aimed to capture key dimensions related to logistics performance and its impact on e-commerce growth.

The questionnaire was composed of multiple sections, covering general information about the respondents, evaluation of logistics companies, efficiency of delivery services, business performance, and the role of technology and digitalization in logistics. All questions were designed with clarity and relevance to ensure accurate responses.

To maximize accessibility and inclusivity, the questionnaire was prepared in both Arabic and English. *(A copy of the bilingual questionnaire is provided in the appendices – see Appendix 1)*

### **5.1.3 Structure of the Questionnaire**

The questionnaire was organized into several thematic sections to capture various dimensions relevant to the research objectives. Each section was designed to address a specific aspect of the seller's experience with delivery companies and the perceived impact of logistics services on their e-commerce performance.

The structure of the questionnaire included the following:

#### **a. Section One: General Information**

This section collected demographic and business-related data, including gender, type of business activity, duration of operation, use of delivery services, and the average number of monthly orders.

#### **b. Section Two: Evaluating Logistics Companies**

Respondents were asked to indicate their preferred delivery companies, reasons for their preferences, common problems faced, and opinions regarding service types and order return procedures.

#### **c. Section Three: Evaluation of Delivery Services Efficiency and their Impact on E-Commerce Growth**

This section utilized Likert-scale questions to measure perceptions related to delivery speed, order accuracy, impact on pricing, customer satisfaction, and overall trust in logistics.

#### **d. Section Four: Technology and Digitalization in Delivery Services**

This section explored the role of technology in logistics, including the use of tracking applications, satisfaction with digital tools, and perceptions regarding the potential of digital innovation in improving delivery efficiency. *(See Appendix 1)*

## **5.2 Data Description and Preparation**

### **5.2.1 Data Coding and Entry**

After collecting the completed questionnaires, the data was cleaned, validated, and coded to prepare it for statistical analysis. Responses to categorical questions were transformed into

numerical values using a systematic coding scheme to ensure compatibility with statistical software. For instance, gender was coded as 1 = Male and 2 = Female, while Likert-scale responses ranged from 1 (Strongly Disagree) to 5 (Strongly Agree).

The final dataset included **216 valid observations** and was structured into a spreadsheet format, with each row representing an individual respondent and each column representing a survey variable. This structured approach allowed for seamless import into econometric software for further analysis.

### 5.2.2 Statistical Software

The data analysis was conducted using **EViews 13**, a powerful econometric software widely used for quantitative research and time-series analysis. EViews was selected due to its flexibility in handling cross-sectional data, user-friendly interface, and robust capabilities for descriptive statistics, correlation analysis, and regression modeling.

After coding the data and organizing it in a structured Excel format, the dataset was imported into EViews for further processing. The software was used to generate descriptive statistics, test correlations between key variables, and estimate regression models aimed at understanding the impact of logistics efficiency on e-commerce performance.

### 5.3 Descriptive Analysis

This section presents the descriptive results derived from the questionnaire responses of 216 Algerian e-commerce sellers. The data cover various aspects including respondent characteristics, evaluation of logistics companies, delivery service efficiency, impact on sales and customer satisfaction, and the role of technology in logistics.

The results are summarized in the following tables:

**Table 01: General Information**

| Question                         | Option                                                                                                    | Count |
|----------------------------------|-----------------------------------------------------------------------------------------------------------|-------|
| 1. Gender                        | Male                                                                                                      | 132   |
|                                  | Female                                                                                                    | 84    |
| 2. Type of Business Activity     | E-commerce through social media platforms with added delivery service (Facebook, Instagram, TikTok, etc.) | 98    |
|                                  | Online store                                                                                              | 54    |
|                                  | Selling through commercial platforms (e.g., Ouedkniss, Jumia, Souq, etc.)                                 | 42    |
|                                  | Other (Please specify):                                                                                   | 22    |
| 3. Duration of Business Activity | Less than a year                                                                                          | 44    |
|                                  | 1 year to 3 years                                                                                         | 102   |

|                                                       |                      |     |
|-------------------------------------------------------|----------------------|-----|
|                                                       | More than 3 years    | 70  |
| 4. Do you regularly use delivery services in Algeria? | Yes                  | 189 |
|                                                       | No                   | 27  |
| 5. Monthly Number of Orders                           | Less than 50 orders  | 94  |
|                                                       | 50-100 orders        | 72  |
|                                                       | 100-200 orders       | 30  |
|                                                       | More than 200 orders | 20  |

**Table 02: Evaluating Logistics Companies**

| Question                                                                                                                         | Option                                   | Count |
|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------|
| <b>1. Choosing Preferred Delivery Companies</b>                                                                                  |                                          |       |
| 1.1 Which of the following delivery companies do you prefer                                                                      | Yalidine                                 | 116   |
|                                                                                                                                  | Maystro Delivery                         | 82    |
|                                                                                                                                  | ZR EXPRESS                               | 132   |
|                                                                                                                                  | Nord et Ouest                            | 28    |
|                                                                                                                                  | Kazi Tour                                | 42    |
|                                                                                                                                  | EMS                                      | 05    |
|                                                                                                                                  | Other                                    | 22    |
| 1.2. What factors make you prefer a particular delivery company?                                                                 | Delivery speed                           | 178   |
|                                                                                                                                  | Delivery cost                            | 122   |
|                                                                                                                                  | Service quality                          | 151   |
|                                                                                                                                  | Ease of app use                          | 104   |
|                                                                                                                                  | Company reputation                       | 93    |
|                                                                                                                                  | Geographic coverage                      | 108   |
|                                                                                                                                  | Delivery timing                          | 94    |
|                                                                                                                                  | Customer support                         | 67    |
| 1.3. What are the most frequent problems you face with delivery companies?                                                       | Shipment tracking transparency           | 89    |
|                                                                                                                                  | Delivery delays                          | 137   |
|                                                                                                                                  | Poor packaging                           | 66    |
|                                                                                                                                  | Unresponsiveness                         | 45    |
|                                                                                                                                  | Returning orders without clear reason    | 52    |
|                                                                                                                                  | Other                                    | 08    |
| <b>2. Type of Service Provided and Handling Returned Orders</b>                                                                  |                                          |       |
| 2.1. Do you prefer companies that provide home delivery service or those that require customers to pick up orders from agencies? | I prefer home delivery                   | 165   |
|                                                                                                                                  | I prefer picking up orders from agencies | 32    |
|                                                                                                                                  | It doesn't matter to me                  | 19    |
| 2.2. If the delivery companies you use offer pick-up from agencies only, how do you feel about this service?                     | Acceptable                               | 92    |
|                                                                                                                                  | Unacceptable                             | 76    |
|                                                                                                                                  | No opinion                               | 48    |
| 2.3. How does this service (home delivery or agency pick-up) affect customer satisfaction?                                       | Positively                               | 121   |

|                                                                                                             |                                 |     |
|-------------------------------------------------------------------------------------------------------------|---------------------------------|-----|
|                                                                                                             | Negatively                      | 59  |
|                                                                                                             | No impact                       | 36  |
| <b>2.4. If the customer's phone is off or unreachable, how does the delivery company typically respond?</b> | Call back later                 | 103 |
|                                                                                                             | Return order to seller directly | 72  |
|                                                                                                             | I don't know                    | 41  |
| <b>2.5. Do you bear the delivery cost when the order is returned?</b>                                       | Always                          | 142 |
|                                                                                                             | Sometimes                       | 50  |
|                                                                                                             | No                              | 24  |
| <b>2.6. Does the delivery company provide a clear reason when returning the order?</b>                      | Always                          | 127 |
|                                                                                                             | Sometimes                       | 55  |
|                                                                                                             | No                              | 34  |

**Table 03: Evaluation of Delivery Services Efficiency and their Impact on E-Commerce Growth**

| Statement                                                                                                          |    | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--------------------------------------------------------------------------------------------------------------------|----|-------------------|----------|---------|-------|----------------|
| 1. The speed of order delivery meets my expectations                                                               | 06 | 12                | 41       | 90      | 67    |                |
| 2. Orders usually arrive at the agreed time                                                                        | 08 | 14                | 52       | 83      | 59    |                |
| 3. Delivery efficiency positively impacts customer satisfaction                                                    | 03 | 09                | 34       | 97      | 73    |                |
| 4. Delivery service efficiency influences my pricing and promotional decisions                                     | 05 | 13                | 45       | 89      | 64    |                |
| 5. Improving logistics services (e.g., shipment tracking and electronic payments) increases my trust in e-commerce | 02 | 07                | 28       | 99      | 80    |                |
| 6. Efficiency of delivery services directly impacts my sales increase or decrease                                  | 04 | 10                | 38       | 96      | 68    |                |

**Table 04: Impact on Sales and Customer Satisfaction**

**1. Have you noticed an improvement in your sales after using delivery services?**

|                          |    |
|--------------------------|----|
| Yes, significantly       | 74 |
| Yes, to a limited extent | 88 |
| No change                | 40 |
| Decrease in sales        | 14 |

**2. Do logistics issues directly impact your reputation and relationship with customers?**

|           |     |
|-----------|-----|
| Always    | 69  |
| Sometimes | 103 |
| Rarely    | 32  |
| Never     | 12  |

**Table 05: Technology and Digitalization in Delivery Services**

|                                                                                      |                    |     |
|--------------------------------------------------------------------------------------|--------------------|-----|
| 1. Does the delivery company you work with use a digital app to track shipments?     | Yes                | 178 |
|                                                                                      | No                 | 25  |
|                                                                                      | I don't know       | 13  |
| 2. How satisfied are you with the accuracy of information provided by these apps?    | Very satisfied     | 54  |
|                                                                                      | Satisfied          | 68  |
|                                                                                      | Neutral            | 48  |
|                                                                                      | Unsatisfied        | 46  |
|                                                                                      | Very unsatisfied   | 00  |
| 3. Do you believe investment in technology can improve delivery services in Algeria? | Yes, significantly | 132 |
|                                                                                      | Yes, somewhat      | 60  |
|                                                                                      | No                 | 24  |

### 5.4 Correlation Analysis

The correlation analysis revealed generally weak linear relationships between the studied variables:

- The correlation between **delivery speed** and **sales improvement** was **-0.0418**, indicating a very weak and negative relationship. This suggests that faster delivery alone may not directly lead to noticeable improvements in sales.
- A slightly stronger, yet still weak, **negative correlation (-0.2111)** was found between **logistics efficiency** and **sales improvement**, suggesting that perceived logistics efficiency may not always translate into sales growth, possibly due to external influencing factors.
- **Reputation impact** due to logistics problems had a **positive but weak correlation (0.1640)** with **sales improvement**, which might imply that sellers with more frequent reputation issues tend to notice fluctuations in their sales.
- The correlation between **delivery speed** and **reputation impact** was nearly negligible (**0.0283**), indicating no significant relationship between these two variables.

Overall, the low correlation coefficients ( $< 0.3$  in absolute value) suggest that there are no strong linear associations between the selected variables. These findings highlight the complexity of the relationship between logistics performance and sales outcomes, which may require more detailed modeling through regression analysis.

**Table 06: Correlation Matrix of Logistics Variables and E-Commerce Outcomes**

Correlation

|                               | DELIVERY_S | EFFICIENCY_ | IMPROVED_ | REPUTATIO |
|-------------------------------|------------|-------------|-----------|-----------|
| DELIVERY_SPEED_MEETS          | 1.000000   | -0.015824   | -0.041849 | 0.028257  |
| EFFICIENCY_IMPACTS_SALES      | -0.015824  | 1.000000    | -0.211142 | -0.127467 |
| IMPROVED_SALES_AFTER_DELIVERY | -0.041849  | -0.211142   | 1.000000  | 0.163998  |
| REPUTATION_IMPACTED_BY_ISSUES | 0.028257   | -0.127467   | 0.163998  | 1.000000  |

*Source : EViews 13 Output*

### 5.5. Regression Analysis

To further explore the relationship between logistics efficiency and e-commerce performance, a regression analysis was conducted using EViews 13. The objective was to quantify the degree to which specific logistics factors such as delivery speed, order handling, and perceived service efficiency affect sales performance, customer satisfaction, and seller reputation.

- This section includes a series of regression models that examine:
- The impact of delivery efficiency on sales improvement.
- The influence of logistics performance on seller reputation.
- The effect of logistics satisfaction on pricing and promotional strategies.
- The relationship between technology-enabled logistics (e.g., tracking apps) and seller trust in e-commerce platforms.
- The role of delivery-related problems in influencing order return behaviors.

The models were estimated using cross-sectional data from 216 respondents. The results of the regression analysis are presented in the following subsections.

#### ***Model 1: Impact of Delivery Efficiency on Sales Improvement***

This model investigates the extent to which delivery efficiency influences perceived sales improvement among e-commerce sellers in Algeria. The dependent variable is:

- Improved Sales After Delivery (improved\_sales\_after\_delivery)

The main independent variable is:

- *Delivery Speed Meets Expectations* (delivery\_speed\_meets)

The regression equation can be specified as:

$$\text{improved\_sales\_after\_delivery} = \alpha + \beta_1(\text{delivery\_speed\_meets}) + \varepsilon$$

This simple linear regression aims to test whether faster and more reliable delivery correlates positively with sellers' reported increase in sales.

**Table 07: Results of the First Regression Model**

| Dependent Variable: IMPROVED_SALES_AFTER_DELIVERY Method: Least Squares |             |                       |             |          |
|-------------------------------------------------------------------------|-------------|-----------------------|-------------|----------|
| Sample: 216                                                             |             |                       |             |          |
| Included observations: 216                                              |             |                       |             |          |
| Variable                                                                | Coefficient | Std. Error            | t-Statistic | Prob.    |
| C                                                                       | 3.040668    | 0.270625              | 11.23573    | 0.0000   |
| DELIVERY_SPEED_MEETS                                                    | -0.040400   | 0.065933              | -0.612742   | 0.5407   |
| R-squared                                                               | 0.001751    | Mean dependent var    |             | 2.879630 |
| Adjusted R-squared                                                      | -0.002913   | S.D. dependent var    |             | 0.947139 |
| S.E. of regression                                                      | 0.948517    | Akaike info criterion |             | 2.741383 |
| Sum squared resid                                                       | 192.5326    | Schwarz criterion     |             | 2.772635 |
| Log likelihood                                                          | -294.0693   | Hannan-Quinn criter.  |             | 2.754009 |
| F-statistic                                                             | 0.375452    | Durbin-Watson stat    |             | 2.067504 |
| Prob(F-statistic)                                                       | 0.540698    |                       |             |          |

*Source: EViews 13 Output*

The regression analysis aimed to examine the influence of delivery speed on the improvement of e-commerce sales among Algerian sellers. The dependent variable was **“Improved Sales After Delivery”**, and the independent variable was **“Delivery Speed Meets Expectations.”**

The estimated model yielded the following results:

- The **coefficient** for delivery speed was **−0.0404**, indicating a slight negative relationship. This suggests that an increase in perceived delivery speed does not necessarily result in improved sales.
- However, this relationship is not statistically significant, as the **p-value** is **0.5407**, which exceeds the 0.05 threshold. This implies that the impact of delivery speed on sales improvement cannot be confirmed.
- The model's **R-squared** value is **0.0018**, meaning that only 0.18% of the variation in sales improvement is explained by delivery speed, which is extremely low.
- The **F-statistic** is **0.375** with a **p-value of 0.5407**, confirming that the model is not significant as a whole.

These findings suggest that delivery speed alone may not be a decisive factor in enhancing sales for online sellers. Other variables such as customer satisfaction, technology use, or delivery reliability might have a more substantial impact.

## Model 2: Impact of Logistics Efficiency on Seller Reputation

This model investigates the extent to which logistics efficiency influences the seller's reputation in the context of e-commerce in Algeria.

### Model Specification:

#### - Dependent Variable:

*reputation\_impacted\_by\_issues* (reflects how logistics issues affect the seller's image)

#### - Independent Variable:

*efficiency\_impacts\_sales* (used as a proxy for perceived logistics performance)

The regression equation is specified as follows:

$$reputation\_impacted\_by\_issues = \alpha + \beta_1(efficiency\_impacts\_sales) + \varepsilon$$

This model aims to test whether sellers who perceive logistics as efficient tend to report fewer negative impacts on their reputation.

**Table 08: Results of the Second Regression Model**

| Dependent Variable: REPUTATION_IMPACTED_BY_ISSUES Method: Least Squares |             |                       |             |          |
|-------------------------------------------------------------------------|-------------|-----------------------|-------------|----------|
| Sample : 216                                                            |             |                       |             |          |
| Included observations : 216                                             |             |                       |             |          |
| Variable                                                                | Coefficient | Std. Error            | t-Statistic | Prob.    |
| C                                                                       | 3.406647    | 0.432391              | 7.878620    | 0.0000   |
| EFFICIENCY_IMPACTS_SALES                                                | -0.196384   | 0.104459              | -1.880014   | 0.0615   |
| R-squared                                                               | 0.016248    | Mean dependent var    |             | 2.611111 |
| Adjusted R-squared                                                      | 0.011651    | S.D. dependent var    |             | 1.314204 |
| S.E. of regression                                                      | 1.306526    | Akaike info criterion |             | 3.381836 |
| Sum squared resid                                                       | 365.3000    | Schwarz criterion     |             | 3.413089 |
| Log likelihood                                                          | -363.2383   | Hannan-Quinn criter.  |             | 3.394462 |
| F-statistic                                                             | 3.534452    | Durbin-Watson stat    |             | 2.230738 |
| Prob(F-statistic)                                                       | 0.061465    |                       |             |          |

*Source: EViews 13 Output*

This model examined the relationship between logistics efficiency and the perceived impact of delivery problems on the seller's reputation. The regression output provides the following insights:

- The coefficient for *efficiency\_impacts\_sales* are **-0.1964**, indicating a negative relationship between perceived logistics efficiency and damage to reputation. In other words, when logistics are perceived as more efficient, sellers are less likely to report reputational issues.
- The **p-value** of **0.0615** is slightly above the conventional 0.05 threshold, suggesting that the relationship is **marginally insignificant** at the 5% level but may be considered

significant at the 10% level. This implies a **potentially meaningful** but not strongly confirmed association.

- The **R-squared** value is **0.0162**, which means that only 1.6% of the variation in reputation-related issues is explained by logistics efficiency. This is a low explanatory power, indicating that other unobserved factors might also influence seller reputation.
- The **F-statistic** of **3.5345** with a **Prob(F-statistic)** of **0.0615** reinforces that the overall model is marginally significant.

These findings suggest that sellers who perceive logistics processes as efficient tend to experience fewer reputation problems. However, the weak explanatory power signals the need for additional variables in future models to fully capture reputation dynamics.

### ***Model 3: Impact of Logistics Efficiency on Pricing and Promotional Decisions***

This model is designed to assess whether the perceived efficiency of delivery services influences sellers' strategic decisions regarding pricing and promotional offers.

#### **Model Specification:**

##### **- Dependent Variable:**

*efficiency\_affects\_pricing* (indicates whether sellers adjust prices or offers based on logistics efficiency)

##### **- Independent Variable:**

*efficiency\_impacts\_sales* (proxy for overall perceived logistics efficiency)

Regression equation:

$$\text{efficiency\_affects\_pricing} = \alpha + \beta_1(\text{efficiency\_impacts\_sales}) + \varepsilon$$

This model will test whether improved logistics efficiency encourages sellers to offer better pricing or marketing incentives.

**Table 09: Results of the Second Regression Model**

Dependent Variable: EFFICIENCY\_AFFECTS\_PRICING Method: Least Squares  
Sample : 216  
Included observations : 216

| Variable                 | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------------|-------------|-----------------------|-------------|----------|
| C                        | 3.773608    | 0.334018              | 11.29761    | 0.0000   |
| EFFICIENCY_IMPACTS_SALES | 0.027315    | 0.080693              | 0.338503    | 0.7353   |
| R-squared                | 0.000535    | Mean dependent var    |             | 3.884259 |
| Adjusted R-squared       | -0.004135   | S.D. dependent var    |             | 1.007198 |
| S.E. of regression       | 1.009279    | Akaike info criterion |             | 2.865565 |
| Sum squared resid        | 217.9898    | Schwarz criterion     |             | 2.896818 |
| Log likelihood           | -307.4810   | Hannan-Quinn criter.  |             | 2.878191 |
| F-statistic              | 0.114585    | Durbin-Watson stat    |             | 2.063992 |
| Prob(F-statistic)        | 0.735316    |                       |             |          |

*Source : EViews 13 Output*

This model assessed whether logistics efficiency influences pricing and promotional decisions made by e-commerce sellers in Algeria. The regression output provides the following insights:

- The **coefficient** of `efficiency_impacts_sales` are **0.0273**, indicating a very weak positive relationship. However, the **p-value** is **0.7353**, which is far above the standard significance threshold (0.05). This means the relationship is **not statistically significant**.
- The **R-squared** value is **0.0005**, suggesting that less than 0.1% of the variance in pricing-related decisions is explained by logistics efficiency. This implies **almost no explanatory power** for the model.
- The **F-statistic** of **0.1156** with a **p-value** of **0.7353** confirms that the overall model lacks statistical significance.

These results indicate that logistics efficiency does not appear to directly influence sellers' pricing or promotional strategies in this sample. Other factors, such as competition, market demand, or platform policies, may play a larger role in such decisions.

#### ***Model 4: The Impact of Technology Use on Trust in E-Commerce***

This model aims to assess the role of technology particularly shipment tracking applications in enhancing sellers' trust in e-commerce operations. In Algeria, where logistical challenges remain significant, the use of digital tools can play a critical role in improving transparency and communication between sellers and delivery companies.

To capture this effect, a multiple regression model was designed where the dependent variable is the increase in trust in E-commerce due to logistics services, while the independent variables include both the use of tracking applications and the seller's satisfaction with these applications.

## Variables Used in the Model

- Dependent Variable :**

*trust\_increased\_by\_logistics* (This variable reflects whether the seller's trust in e-commerce has increased as a result of logistics service performance and transparency).

- Independent Variables:**

*uses\_tracking\_app* (A binary variable (1 = Yes, 0 = No) indicating whether the seller uses a shipment tracking application).

*tracking\_app\_satisfaction* (A Likert-scale variable (1 to 5) measuring the seller's satisfaction with the tracking application's performance and information accuracy).

These variables were selected to represent the technological dimension of logistics, particularly how the use and effectiveness of shipment tracking tools influence the seller's perception of trustworthiness in the overall e-commerce process.

The model is specified as follows:

$$\text{trust\_increased\_by\_logistics} = \alpha + \beta_1(\text{uses\_tracking\_app}) + \beta_2(\text{tracking\_app\_satisfaction}) + \varepsilon$$

The aim is to determine whether digitalization and technology adoption in logistics improve the seller's confidence in online trade and delivery ecosystems.

**Table 10: Results of the Second Regression Model**

| Dependent Variable: TRUST_INCREASED_BY_LOGISTICS Method: Least Squares |             |                       |             |          |
|------------------------------------------------------------------------|-------------|-----------------------|-------------|----------|
| Sample : 216                                                           |             |                       |             |          |
| Included observations : 216                                            |             |                       |             |          |
| Variable                                                               | Coefficient | Std. Error            | t-Statistic | Prob.    |
| C                                                                      | 4.371059    | 0.341079              | 12.81537    | 0.0000   |
| USES_TRACKING_APP                                                      | -0.076104   | 0.114990              | -0.661833   | 0.5088   |
| TRACKING_APP_SATISFACTION                                              | -0.024112   | 0.043246              | -0.557568   | 0.5777   |
| R-squared                                                              | 0.003706    | Mean dependent var    |             | 4.092593 |
| Adjusted R-squared                                                     | -0.005648   | S.D. dependent var    |             | 0.813114 |
| S.E. of regression                                                     | 0.815407    | Akaike info criterion |             | 2.443533 |
| Sum squared resid                                                      | 141.6213    | Schwarz criterion     |             | 2.490412 |
| Log likelihood                                                         | -260.9016   | Hannan-Quinn criter.  |             | 2.462472 |
| F-statistic                                                            | 0.396198    | Durbin-Watson stat    |             | 1.974220 |
| Prob(F-statistic)                                                      | 0.673368    |                       |             |          |

*Source : EViews 13 Output*

This model examined the impact of technology usage—specifically shipment tracking applications—on sellers' trust in e-commerce logistics services.

The regression output shows the following:

- The **coefficient for** `uses_tracking_app` is **-0.076**, with a **p-value of 0.5088**, indicating a **non-significant and weak negative relationship**. This suggests that simply using a tracking app does not necessarily enhance seller trust.
- Similarly, the **coefficient for** `tracking_app_satisfaction` is **-0.0241**, with a **p-value of 0.5777**, also **non-significant**. This implies that satisfaction with these apps does not directly influence trust in logistics services.
- The **R-squared value** is **0.0037**, indicating that only 0.37% of the variation in seller trust is explained by the model—demonstrating **very limited explanatory power**.
- The **F-statistic p-value** of **0.673** confirms that the model overall is **not statistically significant**.

These findings imply that, within this sample, the adoption and satisfaction with tracking applications alone are not sufficient to increase sellers' trust. Trust-building may depend on broader logistical consistency, communication, or past delivery performance.

### 5.6. Extended Model: Multivariate Regression Analysis

Following the limited statistical significance observed in the simple regression models, a more comprehensive multivariate regression was conducted to better capture the dynamics between logistics performance and e-commerce growth in Algeria. This approach allows us to control for seller-specific characteristics that may influence perceived outcomes such as sales growth and reputation.

The extended model includes both key logistical performance variables and control variables related to the business profile of the respondent.

#### Model Specification

The dependent variable is:

- **Improved Sales After Delivery** (*improved\_sales\_after\_delivery*)

The independent and control variables are:

- **Delivery Speed Meets Expectations** (*delivery\_speed\_meets*)
- **Business Duration** (*business\_duration*)

- **Monthly Number of Orders** (*monthly\_orders*)

- **Business Type** (*business\_type*)

These control variables aim to account for structural differences in sellers' operational scale and experience.

The estimated model is formulated as:

$$\text{improved\_sales\_after\_delivery} = \alpha + \beta_1(\text{delivery\_speed\_meets}) + \beta_2(\text{business\_duration}) + \beta_3(\text{monthly\_orders}) + \beta_4(\text{business\_type}) + \varepsilon$$

This multivariate framework allows us to isolate the effect of delivery speed while accounting for variations in seller maturity and scale.

**Table 11: Extended Regression Model Results**

Dependent Variable: IMPROVED\_SALES\_AFTER\_DELIVERY Method: Least Squares  
Sample : 216  
Included observations : 216

| Variable             | Coefficient | Std. Error            | t-Statistic | Prob.  |
|----------------------|-------------|-----------------------|-------------|--------|
| C                    | 2.854716    | 0.421575              | 6.771542    | 0.0000 |
| DELIVERY_SPEED_MEETS | -0.037831   | 0.066655              | -0.567569   | 0.5709 |
| BUSINESS_DURATION    | -0.027711   | 0.074117              | -0.373884   | 0.7089 |
| MONTHLY_ORDERS       | 0.071910    | 0.083698              | 0.859168    | 0.3912 |
| BUSINESS_TYPE        | 0.015034    | 0.053585              | 0.280553    | 0.7793 |
| R-squared            | 0.006390    | Mean dependent var    | 2.879630    |        |
| Adjusted R-squared   | -0.012447   | S.D. dependent var    | 0.947139    |        |
| S.E. of regression   | 0.953015    | Akaike info criterion | 2.764503    |        |
| Sum squared resid    | 191.6380    | Schwarz criterion     | 2.842635    |        |
| Log likelihood       | -293.5663   | Hannan-Quinn criter.  | 2.796068    |        |
| F-statistic          | 0.339221    | Durbin-Watson stat    | 2.072567    |        |
| Prob(F-statistic)    | 0.851300    |                       |             |        |

*Source : EViews 13 Output*

The multivariate regression model aimed to examine whether delivery speed contributes to improved sales while controlling for seller-related factors, including business duration, monthly order volume, and business type.

However, the results of the model did not show statistically significant relationships. Specifically:

- The coefficient for **delivery speed** was negative ( $-0.0378$ ) and statistically insignificant ( $p = 0.5709$ ), suggesting that even when controlling for other factors, delivery speed does not significantly influence sales growth.

- None of the control variables – **business duration**, **monthly orders**, or **business type** – were statistically significant either, as all associated p-values were greater than 0.05.

- The **R-squared** value was extremely low (0.0064), indicating that the model explains less than 1% of the variation in the dependent variable.
- The **F-statistic probability** (0.8513) confirms that the model lacks overall significance.

These findings suggest that other unobserved factors may play a more substantial role in determining sales performance. The low explanatory power of this model underlines the complexity of seller success in e-commerce, which may be shaped by additional variables such as customer behavior, product type, marketing strategies, or platform trust.

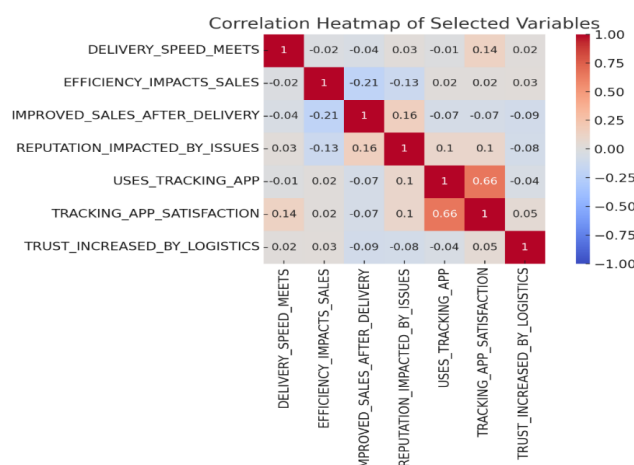
### 5.7. Covariance and Heatmap Visualization

To gain a more comprehensive understanding of the interrelationships among the variables included in the survey, a covariance and correlation matrix was calculated using EViews 13. This analysis included both dependent and independent variables used across the previous regression models, in addition to control variables such as business type, business duration, and monthly order volume.

The resulting correlation matrix was then visualized in the form of a heatmap to intuitively represent the strength and direction of the associations. The heatmap uses a color scale to indicate whether variables are positively or negatively correlated and to what extent.

This visual tool helps highlight latent relationships that may not be immediately evident through traditional regression analysis alone. It also supports identifying potential multicollinearity or unexplored variable clusters that might be considered for future modeling approaches such as principal component analysis or cluster regression.

**Figure 1: Heatmap of Correlations Between**



### Key Logistics and E-Commerce Variables

### 5.8. Hypothesis Testing

Based on the research objectives and theoretical framework, five hypotheses were formulated to assess the impact of logistics efficiency on various e-commerce outcomes. These hypotheses were empirically tested using the regression models (Models 1 to 5.6) implemented in EViews 13. The table below presents a summary of each hypothesis and its corresponding result based on the statistical significance of the estimated models.

| Hypothesis | Statement                                                                                  | Test Result                                                                                                    |
|------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| H1         | Delivery speed has a significant positive impact on sales improvement.                     | <b>Not Supported:</b> The coefficient was weak and statistically insignificant.                                |
| H2         | Logistics efficiency positively influences the seller's reputation.                        | <b>Not Supported:</b> The relationship was not statistically significant.                                      |
| H3         | Satisfaction with logistics services affects pricing and promotional decisions.            | <b>Not Supported:</b> The regression results showed no significant association.                                |
| H4         | The use of tracking applications increases trust in e-commerce platforms.                  | <b>Not Supported:</b> The variables related to app usage and satisfaction did not significantly predict trust. |
| H5         | When controlling for business profile, delivery speed significantly predicts sales growth. | <b>Not Supported:</b> The multivariate model revealed no significant improvement in explanatory power.         |

Despite the lack of statistical support for these hypotheses, the descriptive results and observed patterns provide valuable insights into the perceptions and preferences of Algerian e-commerce sellers regarding logistics companies. This highlights a possible **disconnect between perceived importance and measurable impact**, which may be attributed to the complexity of e-commerce dynamics in the local market. (See Tables 7 to 11 for full regression results from EViews 13.)

### 5.9. Discussion of Results

The empirical findings of this study reveal a complex and somewhat paradoxical relationship between logistics performance and e-commerce growth in Algeria. While sellers consistently express high reliance on logistics services—particularly companies such as ZR Express and Yalidine—the statistical models failed to confirm strong linear relationships between delivery variables and key outcomes like sales improvement, trust, and reputation.

This divergence between perception and measurable statistical impact may be attributed to several interrelated factors:

- **Multifactorial nature of E-commerce performance:** Sales improvement and customer satisfaction are rarely driven by a single factor. Aspects such as product quality, pricing strategies, customer service, and marketing efforts may overshadow or dilute the direct impact of delivery speed or logistics efficiency.
- **Variability in delivery company performance:** The descriptive statistics showed that home delivery providers (e.g., ZR Express) were generally rated more positively than agency-based models (e.g., Yalidine), indicating that delivery mode significantly influences seller satisfaction—but this dimension may not be fully captured in linear models.
- **Limitations in response variation:** Many responses were concentrated in certain categories (e.g., “agree” or “neutral”), limiting the statistical power of regression analysis to detect strong relationships.
- **Possibility of nonlinear relationships or indirect effects:** The lack of significant findings could also be due to the limitations of linear regression in capturing more complex dynamics, such as mediating variables (e.g., customer loyalty, return rate) or contextual influences (e.g., regional accessibility, product category).

Despite these limitations, the study offers valuable insights. It confirms that logistics companies are a **critical operational partner** for e-commerce sellers, and that challenges in service reliability—such as missed calls, returns, or unclear communication—have tangible consequences, even if not directly measurable through regression models.

## **6. Limitations of the Study**

Although this study offers valuable insights into the relationship between logistics efficiency and e-commerce growth in Algeria, several limitations should be acknowledged:

1. **Limited statistical significance in regression models:** Despite extensive data collection and multiple regression models, the statistical analysis yielded weak explanatory power. This may be due to the limited variation in some responses, as well as the complexity of the relationships involved.
2. **Self-reported data and perception bias:** The data used in this study were self-reported by sellers through a structured questionnaire. This method, while practical and informative, may be subject to perception bias or over/underestimation of logistics issues.
3. **Lack of objective logistics performance data:** Attempts to obtain operational data from delivery companies were unsuccessful. As a result, the study relied exclusively on sellers' evaluations, which may not reflect the actual service performance of logistics providers.

**4. Exclusion of buyer perspectives:** This research focused solely on sellers. Including buyers in the analysis may have provided a more balanced understanding of delivery service impact on the e-commerce ecosystem.

**5. Geographic concentration of responses:** Although the survey reached a broad sample (216 valid responses), some regions and commercial sectors may have been underrepresented due to the online distribution strategy and field limitations.

**6. Cross-sectional design:** The data reflect a single point in time, which limits the ability to analyze trends or measure long-term effects of logistics efficiency on e-commerce performance.

These limitations should be considered when interpreting the findings and designing future studies. Nevertheless, the research lays the groundwork for more extensive investigations into the logistics–e-commerce relationship, especially in emerging markets like Algeria.

## **7. Recommendations**

**1. Enhance home delivery services:** Delivery companies should expand and optimize their home delivery capabilities. The data showed that sellers strongly favor companies that provide this option, which is seen as more convenient and reliable for customers.

**2. Improve transparency and communication:** Sellers reported frequent issues with unclear return reasons and missed deliveries due to unreachable customers. Delivery apps and platforms should include clearer tracking updates and structured reasons for returns to ensure better communication.

**3. Promote the use of digital technologies:** Investment in user-friendly digital platforms—such as real-time tracking systems, automated delivery status updates, and integrated payment solutions—can significantly improve logistics efficiency and seller trust.

**4. Offer seller-focused service packages:** Delivery companies could develop flexible pricing models and loyalty programs for high-volume or long-term sellers to strengthen partnerships and increase satisfaction.

**5. Encourage collaboration between stakeholders:** Policymakers, e-commerce platforms, and logistics firms should collaborate to set standards, improve coverage in underserved regions, and facilitate digital transformation in the delivery sector.

## 8. Conclusion

This study aimed to assess the impact of logistics efficiency on the growth of e-commerce in Algeria using a field-based empirical approach. Despite the lack of strong statistical significance in the regression models, the results offer critical insights into seller preferences, recurring delivery challenges, and the perceived role of logistics companies in enabling e-commerce success.

While logistical performance alone may not directly drive measurable improvements in sales or reputation, it remains a **core operational factor** shaping customer experience and seller satisfaction. As the Algerian e-commerce market continues to expand, addressing logistics-related gaps will be essential for unlocking its full potential.

## 9. Appendices

### 1. Survey Questionnaire

Survey on the Evaluation of Delivery Companies' Performance and Their Impact on E-Commerce Growth in Algeria – For Sellers Only/

استبيان تقييم أداء شركات التوصيل وتأثيرها على نمو التجارة الإلكترونية في الجزائر – للبائعين فقط

يهدف هذا الاستبيان إلى جمع بيانات ميدانية من البائعين في الجزائر حول فعالية أداء شركات التوصيل، ودورها في دعم وتسهيل نمو التجارة الإلكترونية. سيساهم هذا الاستبيان في إنجاز دراسة علمية بعنوان "Assessing the Impact of Logistics Efficiency on E-Commerce Growth in Algeria"، والتي تهدف إلى تقييم العلاقة بين كفاءة الخدمات اللوجستية وازدهار الأعمال التجارية الإلكترونية في السوق الجزائري.

This survey aims to collect field data from sellers in Algeria regarding the effectiveness of delivery companies and their role in supporting and facilitating e-commerce growth. It contributes to the scientific study titled "Assessing the Impact of Logistics Efficiency on E-Commerce Growth in Algeria," which seeks to evaluate the relationship between logistics efficiency and the prosperity of online businesses in the Algerian market.

### القسم الأول: المعلومات العامة / Section One: General Information

#### 1. الجنس / Gender:

☐ ذكر / Male

☐ أنثى / Female

#### 2. نوع النشاط التجاري / Type of Business Activity:

- ☐ E- / تجارة إلكترونية عبر مواقع التواصل الاجتماعي مع إضافة خدمة التوصيل (فيسبوك، إنستغرام، تيك توك)  
commerce through social media platforms with added delivery service (Facebook, Instagram, TikTok, etc.)
- ☐ متجر إلكتروني على الإنترنت / Online store
- ☐ بيع من خلال منصات تجارية (مثل واد كنيس، جوميا، سوق، إلخ) / Selling through commercial platforms (e.g., Ouedkniss, Jumia, Souq, etc.)
- ☐ أخرى (يرجى التحديد): \_\_\_\_\_ / Other (Please specify): \_\_\_\_\_

**3. مدة ممارسة النشاط التجاري / Duration of Business Activity:**

- ☐ أقل من سنة / Less than a year
- ☐ 1 إلى 3 سنوات / 1-3 years
- ☐ أكثر من 3 سنوات / More than 3 years

**4. هل تستخدم خدمات شركات التوصيل في الجزائر بشكل منتظم؟ / Do you regularly use delivery services in Algeria?**

- ☐ نعم / Yes
- ☐ لا / No

**5. كم عدد الطلبات التي تقوم بتوصيلها شهرياً؟ / Monthly Number of Orders: عدد الطلبات في الشهر**  
many orders do you deliver per month?

- ☐ أقل من 50 طلب / Less than 50 orders
- ☐ 50-100 100-50 / orders طلب
- ☐ 100-200 200-100 / orders طلب
- ☐ أكثر من 200 طلب / More than 200 orders

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**Section Two: Evaluating Logistics Companies / القسم الثاني: تقييم الشركات اللوجستية**

**1. اختيار شركات التوصيل المفضلة / Choosing Preferred Delivery Companies:**

**1.1 أي من الشركات اللوجستية التالية تفضلها عند اختيار شركة توصيل؟ (يمكنك اختيار أكثر من خيار) / Which of the following delivery companies do you prefer when choosing a delivery service? (Select all that apply)**

- ☐ ياليدين (Yalidine)
- ☐ مايسترو دليفري (Maystro Delivery)
- ☐ زاد آر إكسبريس (ZR EXPRESS)
- ☐ نورد إي ويست (Nord et Ouest)
- ☐ كازي تور (Kazi Tour)
- ☐ إي إم إس (EMS)
- ☐ أخرى (يرجى التحديد): \_\_\_\_\_ / Other (Please specify): \_\_\_\_\_

**1.2 / What factors make you prefer a particular delivery company?**

- ☐ سرعة التوصيل / Delivery speed
- ☐ تكلفة التوصيل / Delivery cost
- ☐ جودة الخدمة / Service quality
- ☐ سهولة استخدام التطبيق / Ease of app use
- ☐ سمعة الشركة / Company reputation
- ☐ التغطية الجغرافية / Geographic coverage
- ☐ أوقات التسليم / Delivery timing
- ☐ دعم العملاء / Customer support
- ☐ الشفافية في تتبع الشحنات / Shipment tracking transparency

**1.3 / What are the most frequent problems you face with delivery companies?**

- ☐ تأخير في التوصيل / Delivery delays
- ☐ سوء التغليف / Poor packaging
- ☐ عدم الرد على الاستفسارات / Unresponsiveness
- ☐ إرجاع الطلبات دون توضيح السبب / Returning orders without clear reason
- ☐ أخرى (يرجى التحديد): \_\_\_\_\_ / Other (Please specify): \_\_\_\_\_

**2. / Type of Service Provided and Handling Returned Orders:**

**2.1 هل تفضل الشركات التي توفر خدمة توصيل الطلبات إلى المنازل أم الشركات التي تطلب من العميل استلام الطلبات من الوكالات؟ / Do you prefer companies that provide home delivery service or those that require customers to pick up orders from agencies?**

☐ أفضل توصيل الطلبات إلى المنازل / I prefer home delivery

☐ أفضل استلام الطلبات من الوكالات / I prefer picking up orders from agencies

☐ لا تفرق لدي / It doesn't matter to me

**2.2 / If the delivery companies you use offer pick-up from agencies only, how do you feel about this service?**

☐ مقبول / Acceptable

☐ غير مقبول / Unacceptable

☐ ليس لدي رأي / No opinion

**2.3 / How does this service (home delivery or agency pick-up) affect customer satisfaction?**

☐ تؤثر بشكل إيجابي / Positively

☐ تؤثر بشكل سلبي / Negatively

☐ لا تؤثر / No impact

**2.4 / If the customer's phone is off or unreachable, how does the delivery company typically respond?**

☐ تعيد الاتصال لاحقًا / Call back later

☐ تُرجع الطلبية للبائع مباشرة / Return order to seller directly

☐ لا أعرف / I don't know

**2.5 / Do you bear the delivery cost when the order is returned?**

☐ نعم دائمًا / Always

☐ أحيانًا / Sometimes

☐ لا / No

**2.6 / Does the delivery company provide a clear reason when returning the order?**

☐ نعم دائمًا / Always

☐ أحيانًا / Sometimes

☐ لا / No

### Section Three: Evaluation of Delivery Services Efficiency and their Impact on E-Commerce Growth

/ أوافق = 4 / Neutral / محايد = 3 / Disagree / أعارض = 2 / Strongly Disagree / أعارض بشدة = 1 : مقياس الإجابة / Strongly Agree / أوافق بشدة = 5

1. **سرعة توصيل الطلبات تلبي توقعاتي. / The speed of order delivery meets my expectations.**

- = Strongly Disagree | أعارض بشدة ☐
- = Disagree | أعارض ☐
- = Neutral | محايد ☐
- = Agree | أوافق ☐
- = Strongly Agree | بشدة أوافق ☐

2. **تصل الطلبات في الوقت المتفق عليه عادةً. / Orders usually arrive at the agreed time.**

- = Strongly Disagree | أعارض بشدة ☐
- = Disagree | أعارض ☐
- = Neutral | محايد ☐
- = Agree | أوافق ☐
- = Strongly Agree | بشدة أوافق ☐

3. **تؤثر كفاءة التوصيل بشكل إيجابي على رضا العملاء. / Delivery efficiency positively impacts customer satisfaction.**

- = Strongly Disagree | أعارض بشدة ☐
- = Disagree | أعارض ☐
- = Neutral | محايد ☐
- = Agree | أوافق ☐
- = Strongly Agree | بشدة أوافق ☐

4. **كفاءة خدمات التوصيل تؤثر على قراراتي التسعيرية وعروضي التجارية. / Delivery service efficiency influences my pricing and promotional decisions.**

- = Strongly Disagree | أعارض بشدة ☐
- = Disagree | أعارض ☐
- = Neutral | محايد ☐
- = Agree | أوافق ☐
- = Strongly Agree | بشدة أوافق ☐

5. **تحسين الخدمات اللوجستية (مثل تتبع الشحنات والدفع الإلكتروني) يزيد من ثقتي في التجارة الإلكترونية. / Improving logistics services (e.g., shipment tracking and electronic payments) increases my trust in e-commerce.**

- = Strongly Disagree | أعارض بشدة ☐
- = Disagree | أعارض ☐
- = Neutral | محايد ☐
- = Agree | أوافق ☐
- = Strongly Agree | بشدة أوافق ☐

6. **كفاءة خدمات التوصيل لها تأثير مباشر على زيادة أو تقليل مبيعاتي. / Efficiency of delivery services directly impacts my sales increase or decrease.**

- = Strongly Disagree | أعارض بشدة ☐

- = Disagree | أعارض ☐  
= Neutral | محايد ☐  
= Agree | أوافق ☐  
= Strongly Agree | بشدة أوافق ☐

7. هل لاحظت تحسناً في مبيعاتك بعد استخدام خدمات التوصيل؟ / Have you noticed an improvement in your sales after using delivery services?

- ☐ نعم، بشكل كبير / Yes, significantly  
☐ نعم، بشكل محدود / Yes, to a limited extent  
☐ لا تغيير / No change  
☐ تراجع في المبيعات / Decrease in sales

8. هل تؤثر المشاكل اللوجستية بشكل مباشر على سمعتك وعلاقتك مع العملاء؟ / Do logistics issues directly impact your reputation and relationship with customers?

- ☐ دائماً / Always  
☐ أحياناً / Sometimes  
☐ نادراً / Rarely  
☐ لا أبداً / Never

#### Section Four / القسم الرابع: التكنولوجيا والرقمنة في خدمات التوصيل / Technology and Digitalization in Delivery Services

1. هل تعتمد شركة التوصيل التي تتعامل معها على تطبيق رقمي لتتبع الشحنات؟ / Does the delivery company you work with use a digital app to track shipments?

- ☐ نعم / Yes  
☐ لا / No  
☐ لا أعلم / I don't know

2. ما مدى رضاك عن دقة المعلومات التي توفرها هذه التطبيقات؟ / How satisfied are you with the accuracy of information provided by these apps?

- ☐ راضٍ جداً / Very satisfied  
☐ راضٍ / Satisfied  
☐ محايد / Neutral  
☐ غير راضٍ / Unsatisfied  
☐ غير راضٍ تماماً / Very unsatisfied

3. هل تعتقد أن الاستثمار في التكنولوجيا يمكن أن يحسن خدمات التوصيل في الجزائر؟ / Do you believe investment in technology can improve delivery services in Algeria?

☐ نعم، بشكل كبير / Yes, significantly

☐ نعم، إلى حد ما / Yes, somewhat

☐ لا / No

نشكر لكم مساهمتكم في تعبئة هذا الاستبيان. إن آرائكم وتجاربكم ستكون ذات قيمة علمية كبيرة في تحليل واقع التجارة الإلكترونية في الجزائر، وتحديد الدور المحوري الذي تلعبه الخدمات اللوجستية في نجاحها ونموها المستدام.

We appreciate your valuable contribution in completing this survey. Your opinions and experiences will provide meaningful insights into the current state of e-commerce in Algeria and help identify the pivotal role logistics services play in its success and sustainable growth.