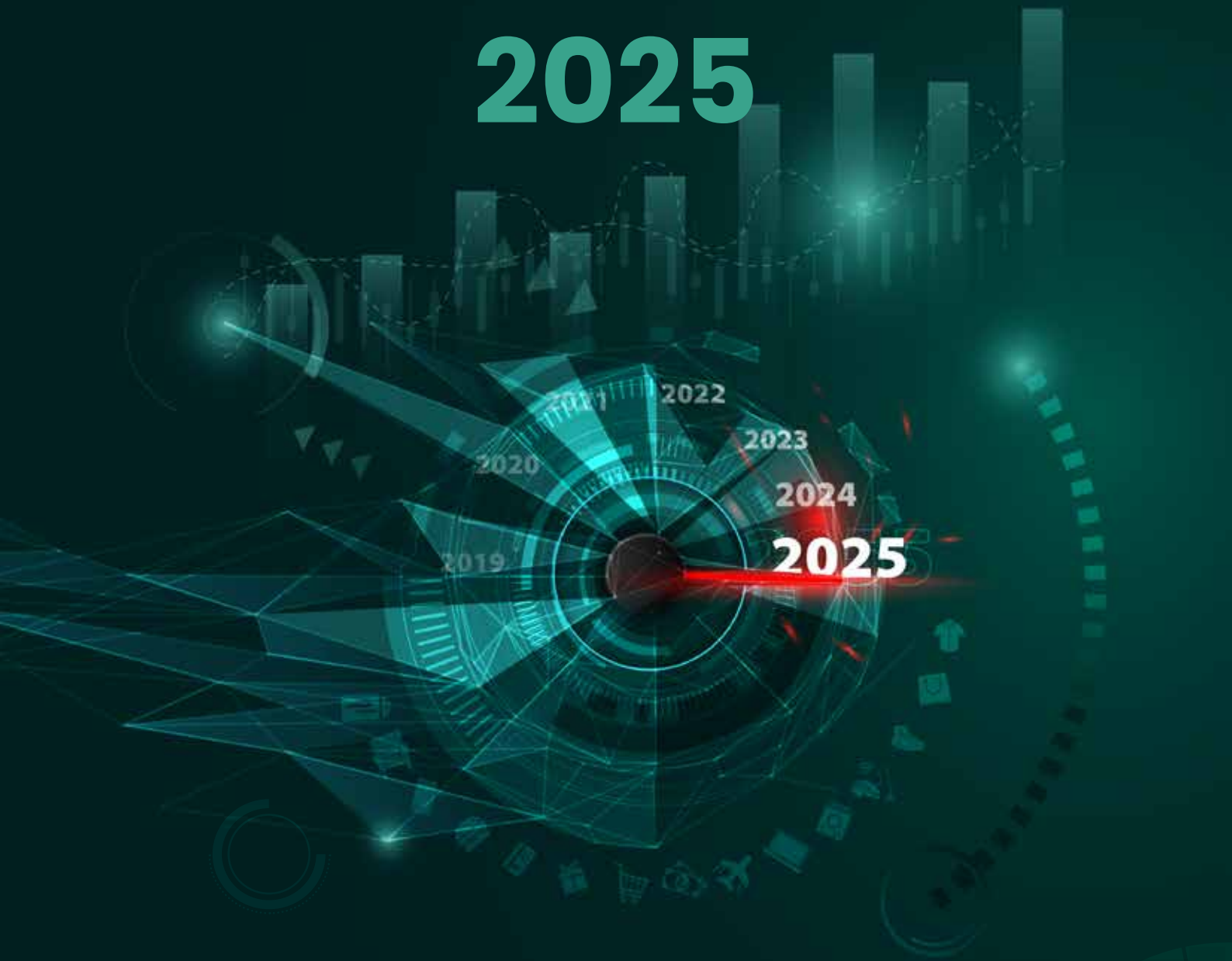
REPUBLIC OF TÜRKİYE
MINISTRY OF TRADE

E-COMMERCE OUTLOOK IN TÜRKİYE REPORT 2025



E-Commerce
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MAY 2026

REPUBLIC OF TÜRKİYE
MINISTRY OF TRADE

DIRECTORATE GENERAL OF DOMESTIC TRADE
DEPARTMENT OF ELECTRONIC COMMERCE

ISBN: 978-625-92240-1-5

Public Network: etbis.ticaret.gov.tr

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Production by
Ajans Düş Pınarı
Graphic Design: Pınar COŞGUN
Address: Birlik Mah. 467. Cad. No: 25/4 Çankaya/ANKARA
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Place and Date of Printing: Ankara, 2026

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Foreword by Minister of Trade

E-commerce, as one of the fundamental components of the digital economy, continues to grow on a global scale, reshaping production, distribution, and consumption processes and driving the transformation of trade. With its strong growth performance in recent years, Türkiye ranks among the leading countries in the e-commerce sector and is steadily strengthening its position in this field thanks to its robust domestic market and dynamic ecosystem.

In our country, e-commerce is demonstrating multifaceted growth through increasing transaction volumes, an expanding user base, and diversifying business models. Advancements in digital payment systems, the widespread adoption of mobile commerce, and the embrace of data-driven business practices are among the key factors supporting the sector. This development enables businesses to reach broader customer bases, thereby increasing the scale and diversity of commercial activities.

As the Ministry of Trade, we adopt a data-driven, holistic, and proactive policy approach to ensure the balanced and sustainable growth of the e-commerce ecosystem. Within this scope, indicators related to the sector are regularly monitored, and regulatory and supportive mechanisms are effectively implemented in line with the data obtained. Thanks to our data infrastructure within the Electronic Commerce Information System, the current outlook of e-commerce is presented in detail, thereby strengthening policy development processes.

With the development of e-commerce, preserving a competitive and balanced market structure, ensuring that relations between platforms and businesses are conducted on a sound basis, and increasing predictability in the sector are among priority areas. In this regard, legal and administrative regulations are addressed with a dynamic approach, and swift and effective solutions are developed in response to the needs of the sector.

E-commerce accelerates the integration of our SMEs, tradesmen, and entrepreneurs into the digital economy, facilitating their access to national and international markets. This process offers significant opportunities for a more balanced distribution of economic activities across the country. Increasing the digital capacity of our businesses and supporting their competitiveness are among the priorities of our Ministry of Trade.

Prepared based on 2025 data and presenting numerous indicators related to the e-commerce ecosystem within a comprehensive framework, the "E-Commerce Outlook in Türkiye 2025" report serves as a reliable reference source for the sector and, as in previous years, offers strong content this year as well.

I would like to thank all stakeholders, particularly our Directorate General of Domestic Trade, who contributed to the preparation of this valuable study, which includes not only basic statistics on e-commerce but also detailed indicators for many sub-sectors, and I hope that the Report will contribute to our country's e-commerce ecosystem.

Professor Ömer BOLAT
Minister of Trade of the Republic of Türkiye

Foreword by Director General of Domestic Trade

Data, which has become one of the most important elements of trade, is of great importance today for policymakers, entrepreneurs, and all sector stakeholders. In this context, it is necessary to regularly monitor statistics in the field of e-commerce and present the current outlook of the sector.

The Electronic Commerce Information System (ETBIS), launched by our Ministry of Trade in 2017, serves as an important resource for compiling, monitoring, and evaluating data related to the e-commerce ecosystem. At this point, ETBIS constitutes a strong data infrastructure that enables the development of the sector to be monitored from a multidimensional perspective.

In line with the rapidly changing structure of e-commerce, the transformation in consumer behavior, new business models, and developments in digital technologies, studies have been carried out to strengthen the ETBIS infrastructure. Thanks to the improvements made, more comprehensive, up-to-date, and detailed datasets have been obtained. This data also contributes to presenting a strong outlook on the e-commerce ecosystem.

Prepared within this framework, the "E-Commerce Outlook in Türkiye 2025" report presents the current state of e-commerce in our country from different dimensions. The report includes comprehensive data under numerous headings, such as transaction volumes, sector-based developments, payment habits, consumer trends, campaign periods, province-based distributions, e-commerce, sustainability, the second-hand vehicle market, and the use of artificial intelligence.

In particular, the increasing share of e-commerce in general commerce, businesses' shift toward digital channels, and consumers' growing interest in e-commerce clearly demonstrate our country's potential in the field of digital commerce. These developments indicate that the contribution of e-commerce to economic growth, employment, entrepreneurship, and regional development is growing stronger day by day.

I would like to thank all employees of our Electronic Commerce Department and all institutions and organizations that contributed to the preparation of this report, which we hope will serve as an important reference source for all stakeholders in the field of e-commerce, and I hope that the Report will be beneficial to our country's e-commerce ecosystem.

Adem BAŞAR
Director General of Domestic Trade

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Introduction

E-commerce in Türkiye has now become one of the main components of commerce, with the volume it has reached and the intensity of transactions it generates. The increasing transaction volume, expanding user base, and diversifying business models show that the sector is undergoing a dynamic development process. Prepared within this framework, the "E-Commerce Outlook in Türkiye 2025" report aims to present the current state of the e-commerce ecosystem from a comprehensive perspective.

In the **Basic Statistics** section of the report, the development of general and retail e-commerce volume and the number of transactions over the years is addressed in both Turkish lira and US dollars, while the share of e-commerce in gross domestic product and general commerce is presented. Through the demographic breakdowns of e-commerce spending, the differing trends in consumer behavior by gender, age groups, and sectors are made visible.

In the **Sector Statistics** section, e-commerce volumes and annual change rates by sector are examined, and differences between sectors are presented through indicators such as average basket values and cancellation and return rates. The share of e-commerce in general commerce is presented for prominent sectors, and the spread and level of development of e-commerce across different sectors are evaluated comparatively.

In the **E-Commerce and Traditional Commerce** section, the transaction volumes of e-commerce and traditional commerce are compared by days of the week and time intervals throughout the day, and consumption trends are addressed through the time dimension. For selected sectors, the preference patterns for e-commerce and General commerce are presented comparatively with a distinction between weekdays and weekends.

In the **Monthly and Daily Statistics** section, the monthly change in real e-commerce and retail e-commerce volume is examined, making seasonal fluctuations visible. The periods in which e-commerce activity is concentrated are identified through daily transaction numbers, and the days with the highest and lowest transaction volumes are presented.

In the **Campaign Month Statistics** section, the changes experienced across sectors throughout November, e-commerce volume, the distribution of product purchases and sales, and province-based differences are examined. By presenting daily active e-commerce business ratios and volume distributions by product groups during the campaign period, the impact of campaign processes on e-commerce is set out within a holistic framework.

In the **Payment and Spending Type Statistics** section, the distribution of payment methods and spending types used in e-commerce transactions is addressed. Within this scope, the shares of different payment instruments within e-commerce volume and the structure formed according to spending types are presented.

In the **Statistics on E-Commerce Businesses** section, the development in the number of businesses over the years, the distribution by business type, and the demographic characteristics of tradesmen engaged in e-commerce are presented. The sectors in which businesses operate, and their marketplace usage patterns are detailed, and the number of different marketplaces in which they operate as well as marketplace usage trends by sector are examined. In addition, the degree to which businesses are concentrated in specific sectors and their specialization structures are addressed, and the relationship of these structures with e-commerce volume is presented, offering a holistic outlook on the positioning of businesses within the ecosystem.

In the **E-Commerce Adaptation Index and Provincial Statistics** section, the levels of adaptation of provinces to e-commerce are presented comparatively through their index values. E-commerce purchase and sales amounts by province and the distribution of businesses engaged in e-commerce activities are examined, and regional differences are visualized through maps.

The indicators presented in this section provide an overview of the geographical distribution of e-commerce and the disparities in its development across provinces.

In the **Quick Commerce** section, the development of q-commerce volume over the years, its share within e-commerce, and its sectoral distribution are presented. In particular, the structure formed according to delivery models in the food and supermarket sector is examined, and the distribution of businesses' sales volumes between q-commerce and traditional commerce channels is compared. In addition, the province-based distribution of q-commerce and the areas of concentration by product groups are addressed, while prominent product groups in the food and supermarket and food delivery sectors are presented in terms of volume and number of items.

In the **Private Label Products in Food Retail** section, the share of private label products within the total volume of food and supermarket service providers is examined in terms of value and number of items, and their distribution by main product groups is also presented.

In the **Used Car Sales in E-Commerce** section, the distribution of used car sales carried out within the scope of e-commerce is examined based on key characteristics such as fuel type, brand, model, transmission type, trim level, and engine displacement. A general outlook on the structure of the market is presented by including the age distribution of used car.

In the **Sustainable E-Commerce** section, the sectoral distribution of sustainable e-commerce volume and indicators regarding refurbished and second-hand product sales are presented. Businesses' approaches to sustainability practices are examined, and the distribution of these practices by sales channel, number of employees, transaction volume, and sectors is evaluated, setting out a general framework for sustainability trends in e-commerce.

In the **Shipping Statistics** section, cargo delivery times and the daily distribution of these times are examined, and intra-city delivery rates are presented. Shipment density is evaluated by provinces and districts, and the regions sending and receiving the highest number of cargo shipments are identified. In addition, comparisons regarding delivery times between provinces and the geographical distribution of cargo mobility are presented through maps, while a general outlook on the logistics structure is set out through indicators such as cargo shipment density per capita.

In the **Use of Artificial Intelligence in E-Commerce Businesses** section, the sectoral, geographical, and structural characteristics of the businesses participating in the survey conducted by our Ministry of Trade are presented, and businesses' level of awareness and use of artificial intelligence are examined. The artificial intelligence applications used by businesses and the steps they have taken in this field are evaluated, while the factors limiting the use of artificial intelligence and their reflections on organizational structure are addressed. In addition, a general outlook on businesses' digital transformation processes is presented through indicators related to ethical approaches, future usage trends, digital security, and social media use.

In the final section of the report, **Econometric Perspective,** the relationships between sectors are addressed through the results of the Granger causality test, and variance decomposition findings for thematic sectors are presented. This section enables e-commerce dynamics to be evaluated within the framework of sectoral interactions.

Within this framework, the "E-Commerce Outlook in Türkiye 2025" report aims to bring together multidimensional data on the e-commerce ecosystem, shed light on the current state of the sector, and provide a guiding reference source for all stakeholders.

Çağatay Yasin KARABOĞA
Head of Electronic Commerce Department

BASIC STATISTICS

CHAPTER 1

Basic Statistics

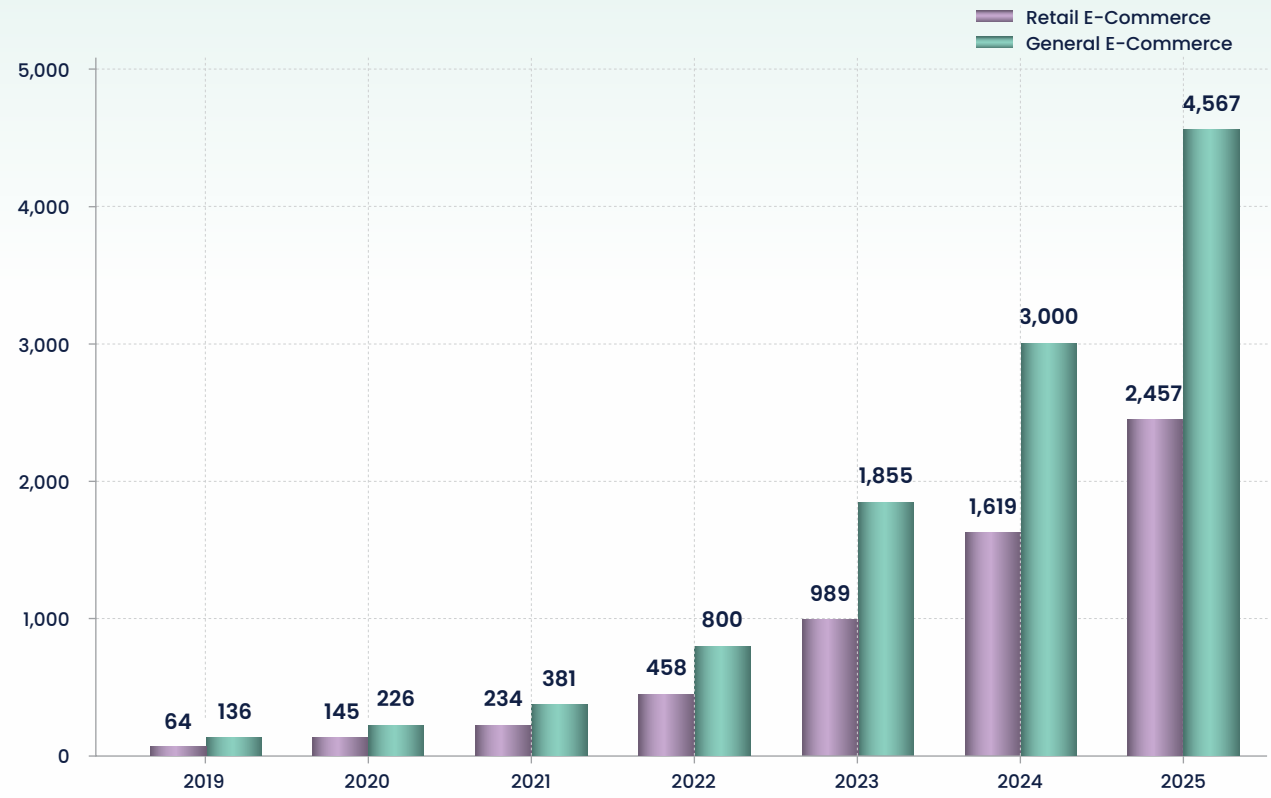
E-commerce volume in Türkiye continued to grow in 2025, increasing by **52.2%** compared to the previous year and reaching **4.57 trillion TL**. These data show that the e-commerce ecosystem maintained its strong course in 2025 and that e-commerce continues to increase its weight within economic activities. Retail e-commerce volume increased by **51.8%** compared to the previous year, reaching **2.46 trillion TL**. The increase observed in retail e-commerce indicates that consumers' shift toward digital channels continues.

52.2%

Annual **growth rate**

4.57 trillion TL

General **e-commerce volume**



Graph 1. Changes in the Volume of General and Retail E-Commerce by Year (in billions of TL)

Graph 1 shows the annual change in general and retail e-commerce volume in Türkiye between 2019 and 2025. In 2025, general e-commerce volume increased by **52.2%** compared to the previous year, reaching **4.57 trillion TL**, while retail e-commerce volume increased by **51.8%**, reaching **2.46 trillion TL**.

The compound annual growth rate of general e-commerce volume between 2019 and 2025 was **79.6%**. The compound annual growth rate of retail e-commerce volume between 2019 and 2025 was **83.7%**.

79.6%

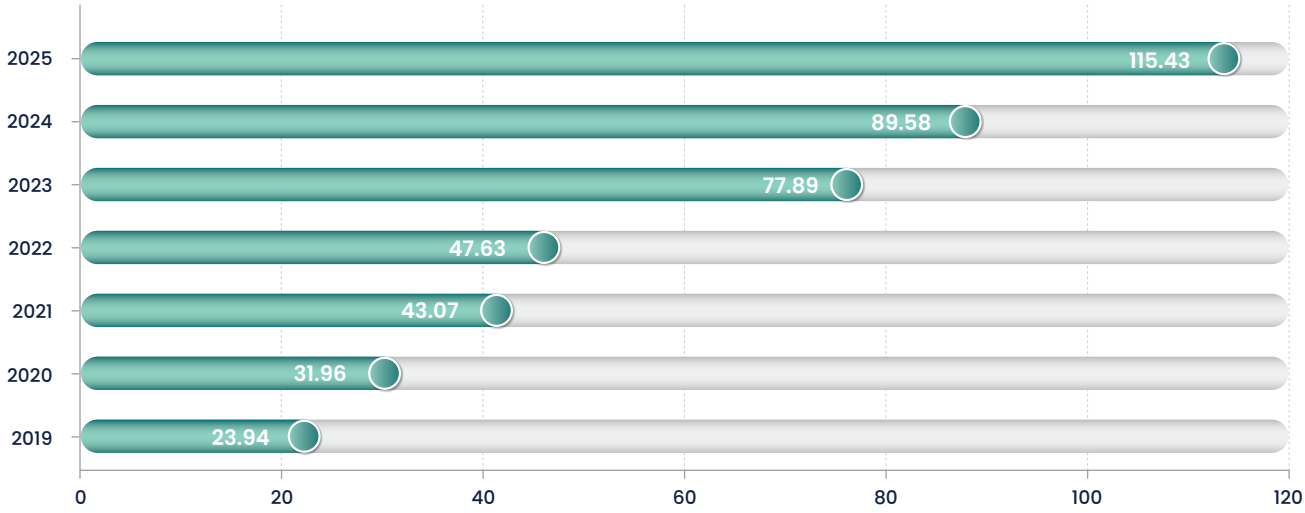
Compound Annual Growth Rate of E-Commerce Volume **from 2019 to 2025**

83.7%

Compound Annual Growth Rate of Retail E-Commerce Volume **from 2019 to 2025**

Graph 2. **Changes in the Number of General and Retail E-Commerce Transactions by Year (in billions)**

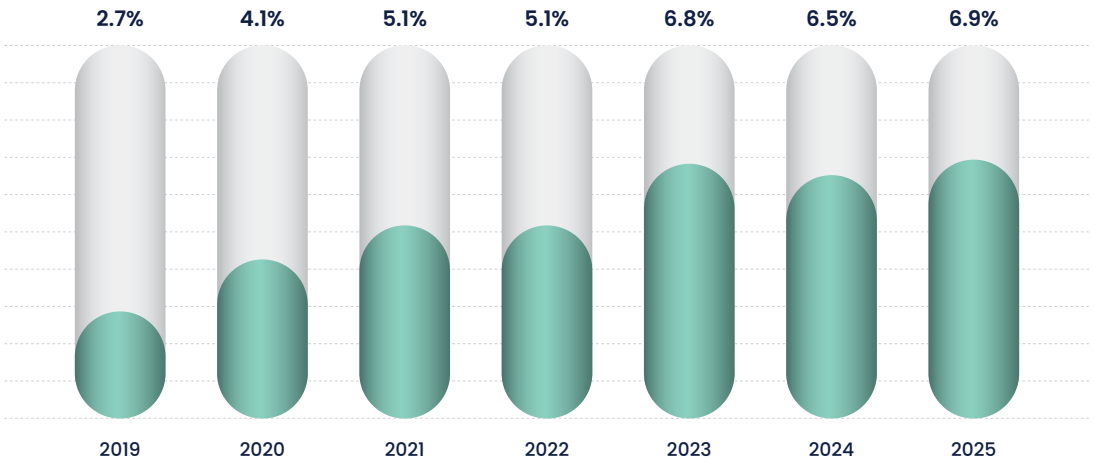
Graph 2 shows the number of general and retail e-commerce transactions in Türkiye between 2019 and 2025 by year. The total number of e-commerce transactions reached **5.94 billion** in 2025. Retail e-commerce transactions, on the other hand, amounted to **1.94 billion**.



Graph 3. **Changes in General E-Commerce Volume in US Dollars[1] (in billions of dollars)**

Graph 3 shows the annual change in Türkiye's general e-commerce volume in US dollars between 2019 and 2025.

The e-commerce volume, which was **23.94 billion US dollars** in 2019, increased steadily every year, reaching **89.58 billion US dollars** in 2024 and **115.43 billion US dollars** in 2025, with a **28.9%** increase compared to the previous year. The compound annual growth rate of e-commerce volume in US dollars between 2019 and 2025 was **30%**.

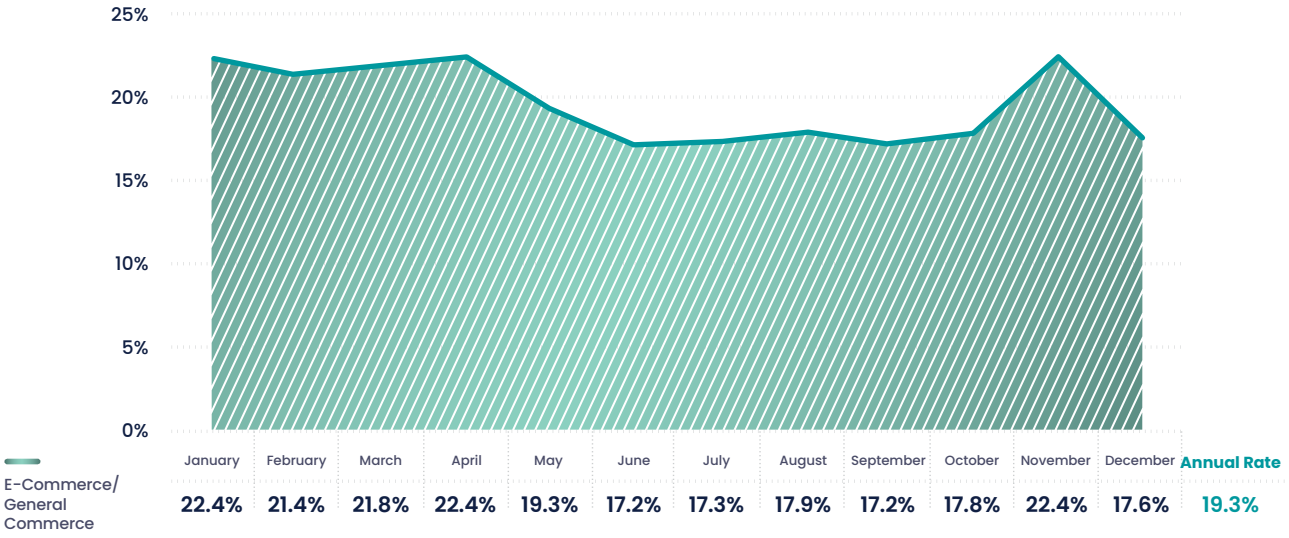


Graph 4. **The Share of E-Commerce in Gross Domestic Product (%)**

When Graph 4 is examined, it can be seen that the share of domestic e-commerce volume in 2025 within the gross domestic product (GDP), announced by the Turkish Statistical Institute (TÜİK) as 63 trillion 20 billion 905 million TL, reached **6.9%**.

1 All calculations in the report denominated in US dollars were made using the daily exchange rate for the relevant periods.

The Ratio of E-Commerce to General Commerce



Graph 5. **The Ratio of E-Commerce to General Commerce** (%, 2025)

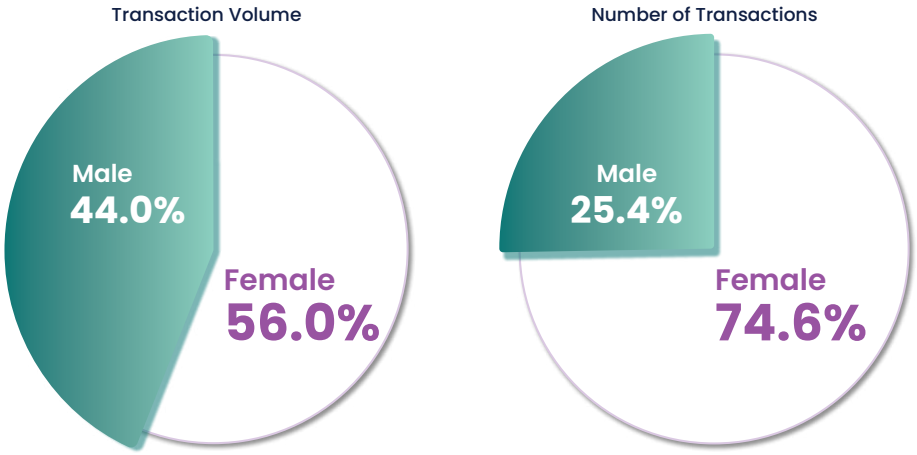
The share of e-commerce in general commerce stood at **19.3%** for the year 2025. This figure indicates that e-commerce continues to maintain a strong position within the overall trade landscape.

When examined on a monthly basis, fluctuations were observed throughout the year. The rates, which stood at **22.4%** in January, **21.4%** in February, **21.8%** in March, and **22.4%** in April, began to decline starting in May and stabilized in the **17–18%** range during the summer months. In November, the rate rose again to **22.4%** due to the impact of campaign periods; however, it is estimated that consumers reduced their e-commerce spending in December as a result of the intense shopping period that occurred the previous month.[2]

2 The ratio of e-commerce volume to general commerce volume was calculated using real figures based on NACE codes for general trade. In making this calculation, the figures for the NACE codes falling under the scope of e-commerce within general trade were taken into account.

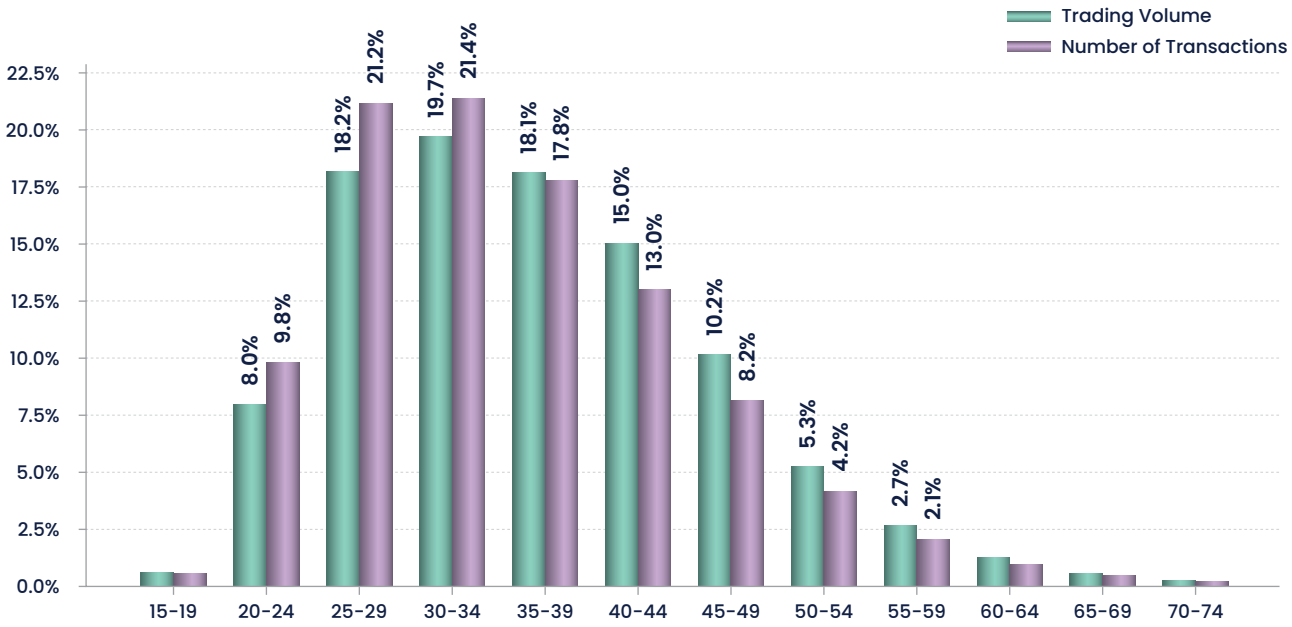
Key Consumer Statistics in E-Commerce

Distribution of E-Commerce Spending by Gender and Age



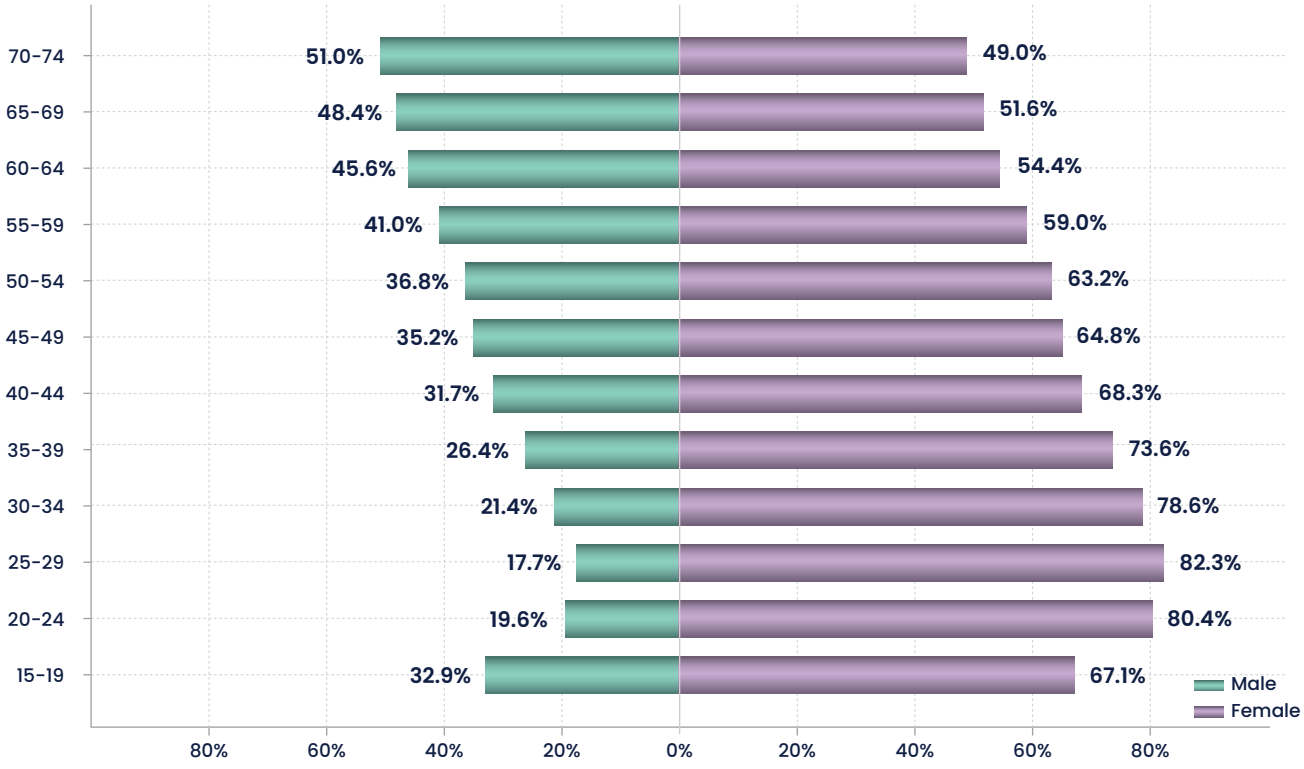
Graph 6. **Distribution of E-Commerce Spending by Gender: Transaction Volume and Number of Transactions (%, 2025; marketplaces)**

As of 2025, **56%** of e-commerce spending on marketplaces was made by female users. Male users accounted for **44%** of this spending. In terms of the number of transactions, **74.6%** of all transactions on marketplaces were made by female users, while **25.4%** were made by male users.



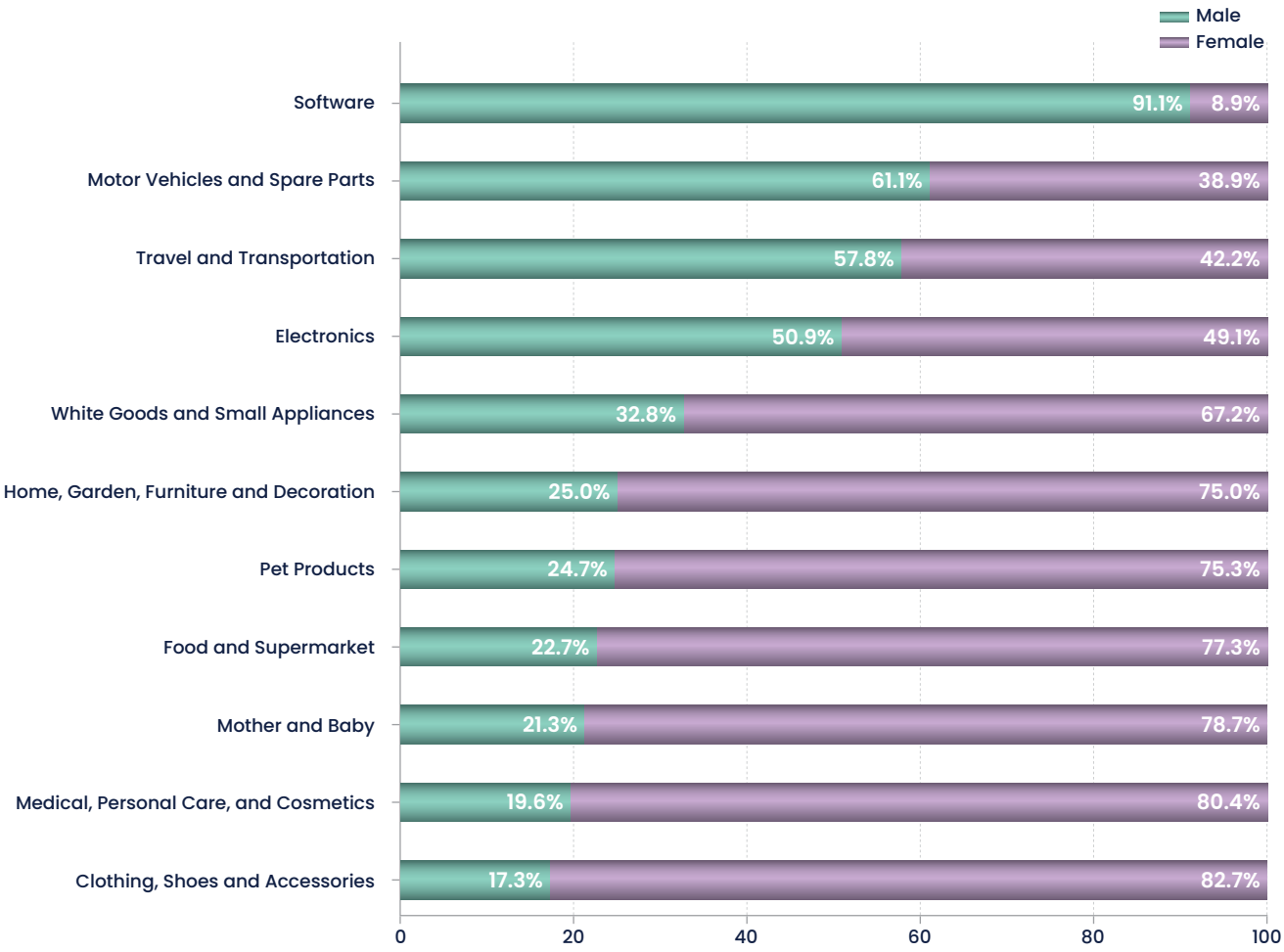
Graph 7. **Distribution of E-Commerce Spending by Transaction Volume and Number of Transactions by Age Group (%, 2025; marketplaces)**

According to 2025 data, the highest proportions of e-commerce spending in terms of transaction volume and number of transactions are observed in the 25–34 age group. E-commerce spending begins to decline in both volume and number in the 35–39 age group. The share of spending by age groups of 50 and above in total spending is declining significantly.



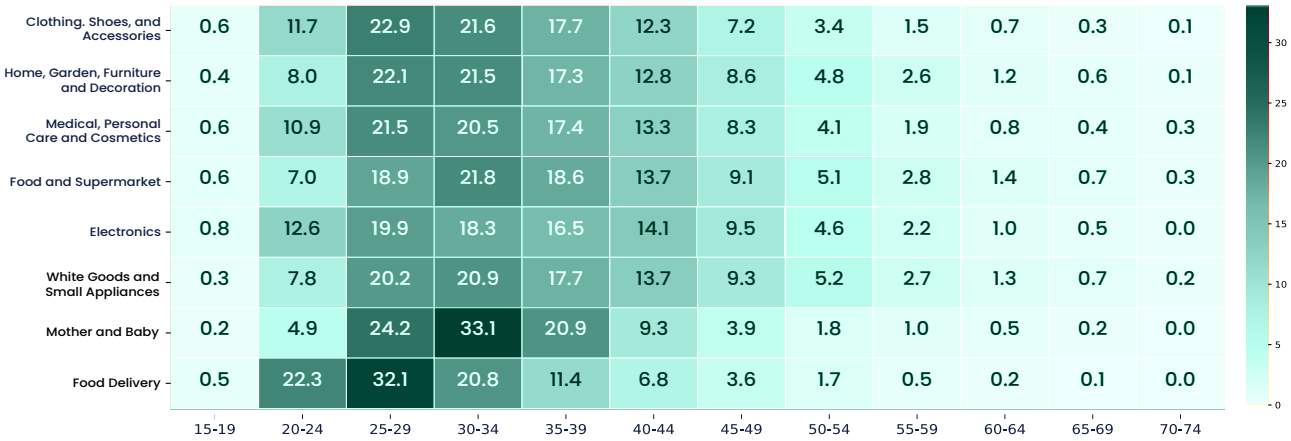
Graph 8. **Distribution of E-Commerce Spending by Age Group and Gender (%, 2025; marketplaces)**

According to 2025 data, in the distribution of e-commerce spending by age group and gender, the ratio of female users reaches its highest level particularly in the 25–29 age group, at **82.3%**, while the ratio of male users in the same age group remains at **17.7%**. In the 25–44 age range, the ratio of female users remains high, in the 68–82% band, while this ratio gradually declines for female users after the age of 30. In the age groups of 65 and above, the difference in spending ratios between genders is quite small.



Graph 9. Distribution of E-Commerce Spending by Sector and Gender (%, 2025; marketplaces)

According to 2025 data, the gender distribution of e-commerce spending differs across sectors. In sectors such as clothing, shoes and accessories; medical, personal care and cosmetics; mother and baby; and food and supermarket, the ratio of female users is significantly higher than that of male users. In contrast, in the software, motor vehicles and spare parts, travel and transportation, and electronics sectors, the ratio of male users is higher than that of female users. These data show that e-commerce spending differs by sector according to gender, and that a clear user trend has emerged in some sectors.



Graph 10. **Heat Map of E-Commerce Spending by Sector and Age Group (%, 2025; marketplaces)**

According to the graph, spending intensity is observed across all sectors in the 25–39 age range, while the food delivery sector stands out particularly in the 25–29 age group and the mother and baby sector in the 30–34 age group.

SECTOR STATISTICS

CHAPTER 2

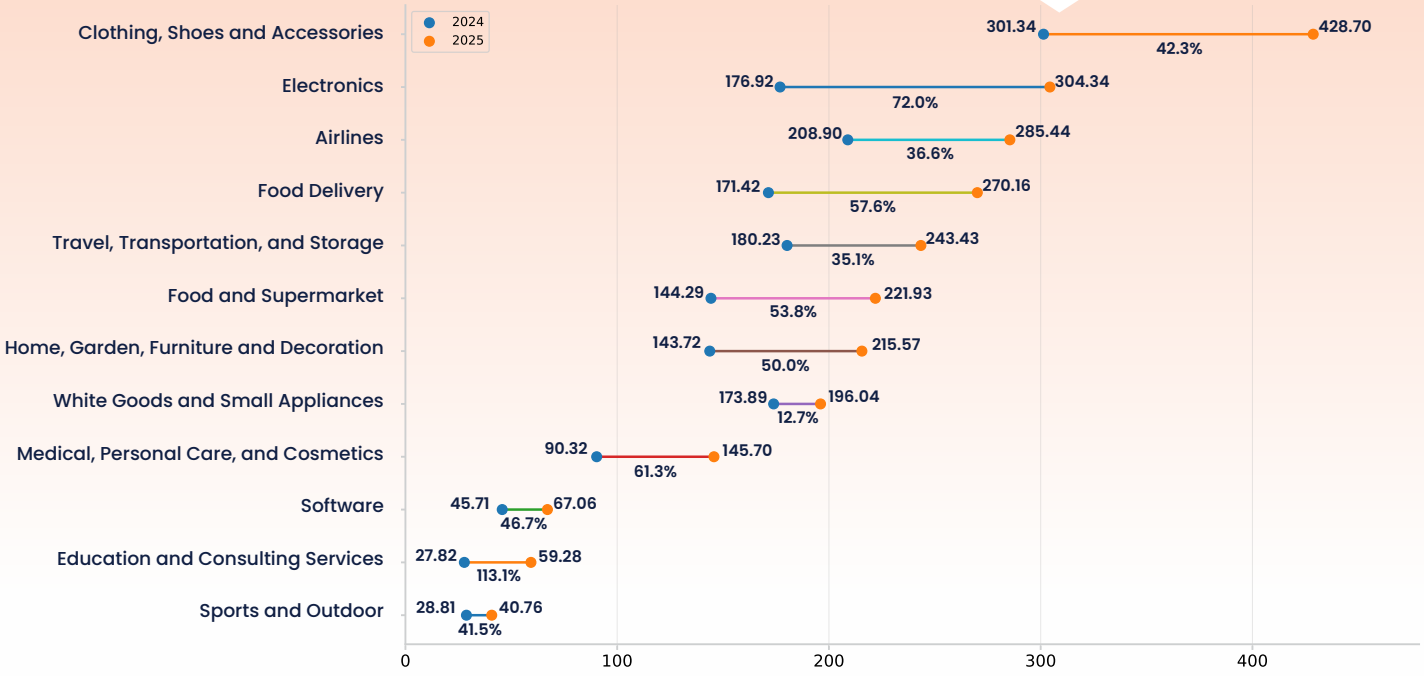
Sector Statistics

428.70 billion TL

E-commerce volume **in the clothing, shoes and accessories sector**

304.34 billion TL

E-commerce volume **in the electronics sector**



Graph 11. E-Commerce Volumes by Sector and Annual Growth Rates (%, billion TL, 2024–2025)

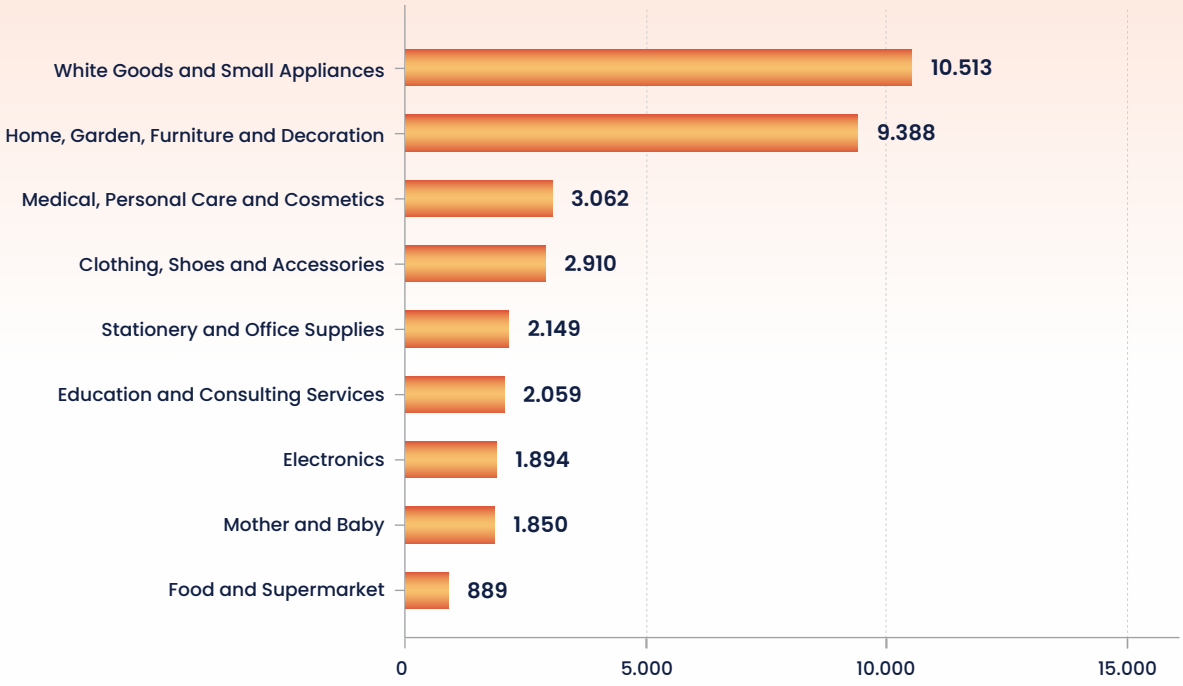
A review of Graph 11 shows that the clothing, shoes and accessories sector ranks first with **428.70 billion TL**, followed by the electronics sector with **304.34 billion TL**, the airline sector with **285.44 billion TL**, and the food delivery sector with **270.16 billion TL**.

285.44 billion TL

E-commerce volume **in the airlines sector**

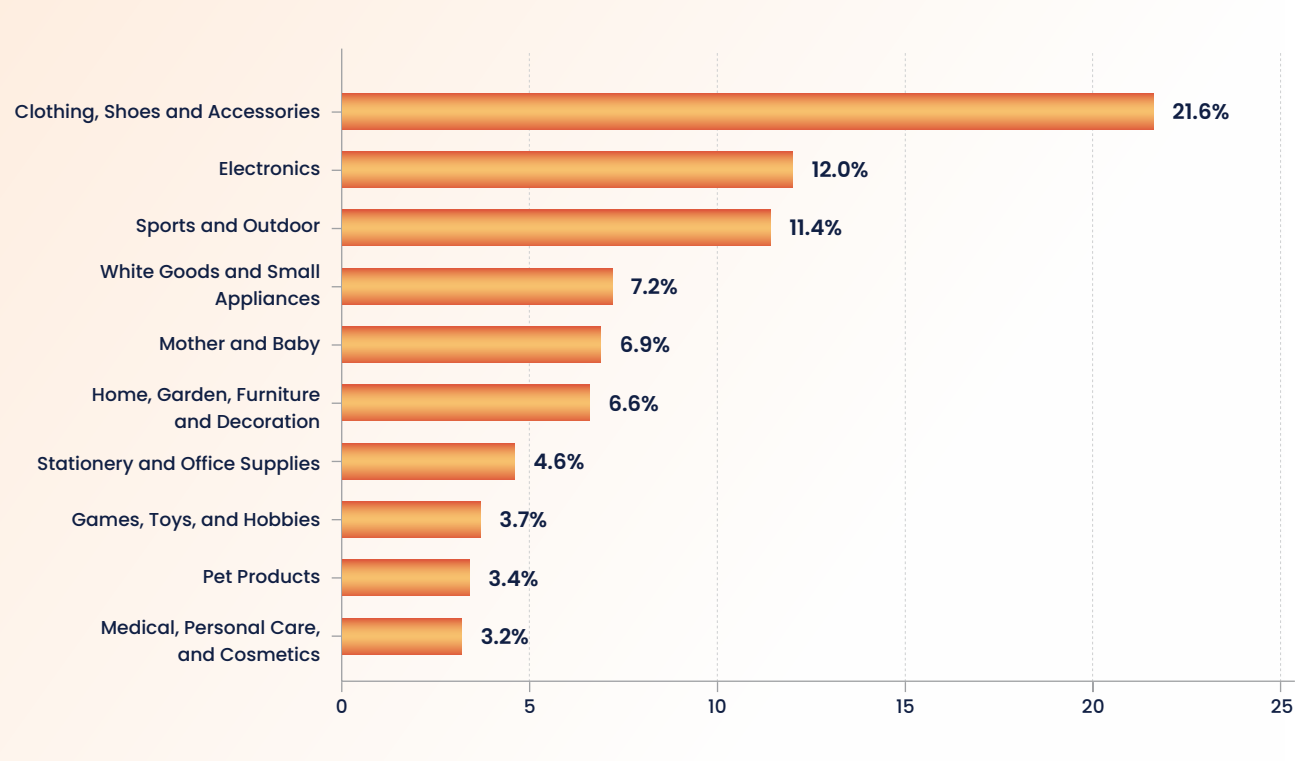
270.16 billion TL

E-commerce volume **in food delivery**



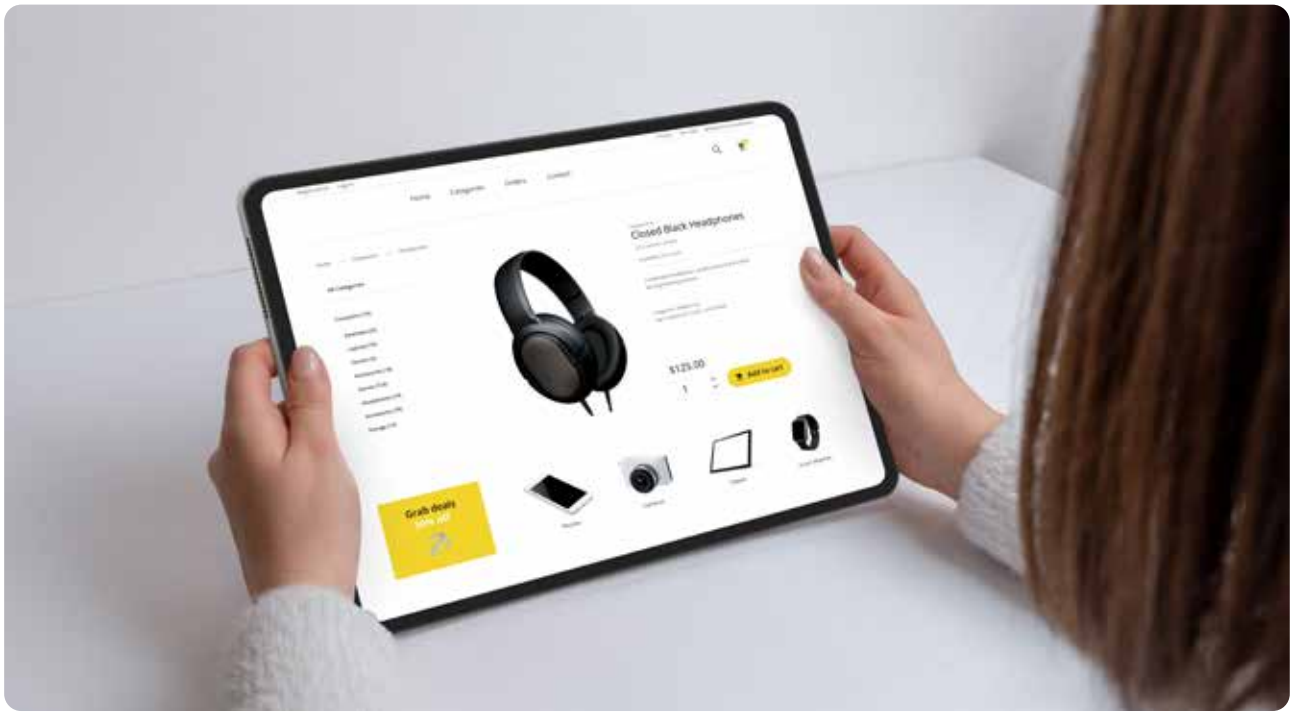
Graph 12. Average Basket Value by Sector (TL, 2025)

According to Graph 12, which enables a better understanding of sectoral price diversity and sector-specific pricing trends in e-commerce, the sectors with the highest average basket value in 2025 were white goods and small appliances; home, garden, furniture and decoration; and medical, personal care and cosmetics.



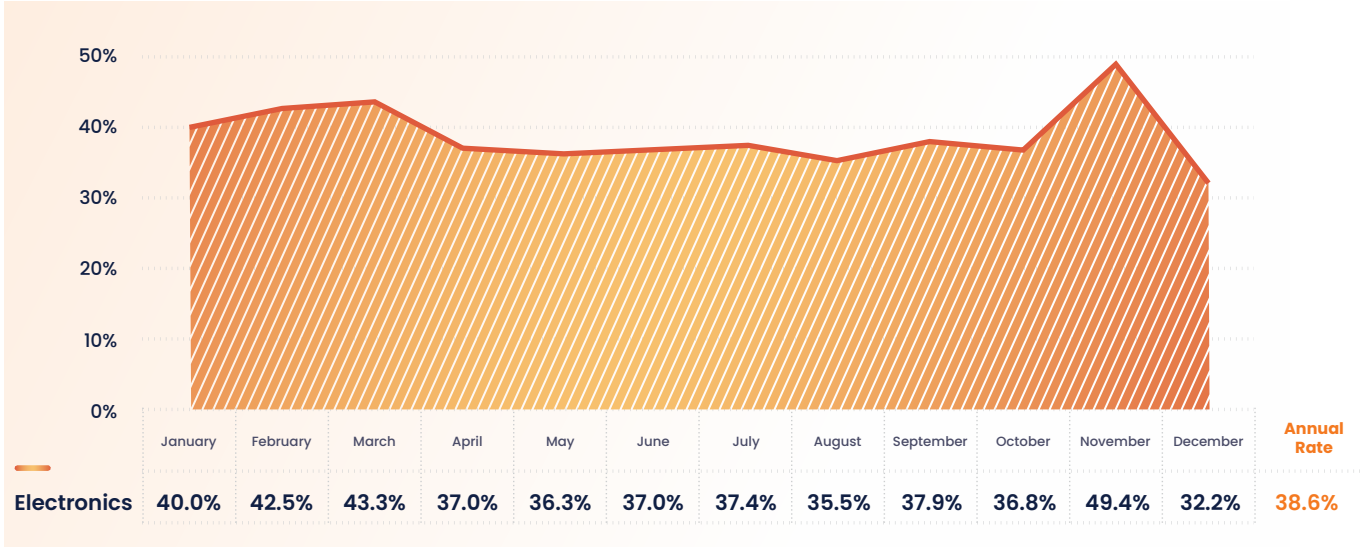
Graph 13. Cancellation and Return Rates by Sectors (%, 2025)

According to Graph 13, the highest cancellation and return rate—**21.6%**—is in the clothing, shoes and accessories sector. This sector is followed, in order, by electronics, sports and outdoor, white goods and small appliances, and the mother and baby sector.



1. Electronics

The share of e-commerce in general commerce in the electronics sector was **38.6%** on average throughout the year. In November, this rate peaked at **49.4%**. In December, however, a decline was observed. In general, a stable trend was observed throughout the year, and demand is considered to have been triggered by seasonal campaigns.

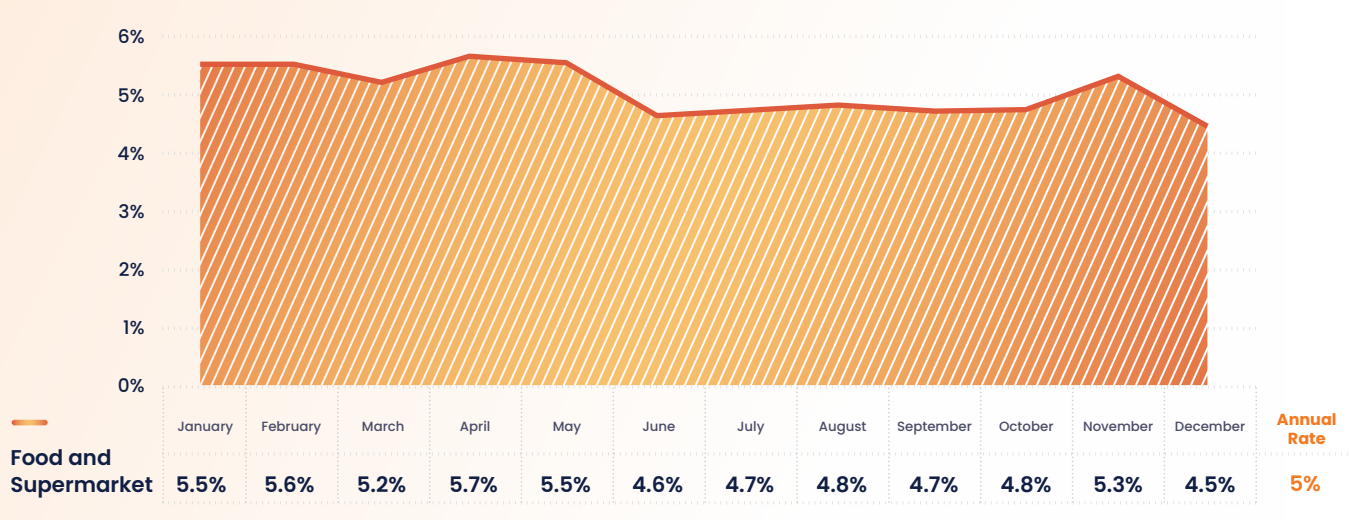


	January	February	March	April	May	June	July	August	September	October	November	December	Annual Rate
Electronics	40.0%	42.5%	43.3%	37.0%	36.3%	37.0%	37.4%	35.5%	37.9%	36.8%	49.4%	32.2%	38.6%

Graph 14. The Ratio of E-Commerce to General Commerce in the Electronics Sector (%, 2025)

2. Food and Supermarket

In 2025, the share of e-commerce in general commerce in the food and supermarket sector remained limited at **5%**. The sector followed a stable trend throughout the year and was relatively less affected by seasonal factors. In this sector, where general shopping habits remain strong, the lower rate of digitalization also reveals the existence of potential.

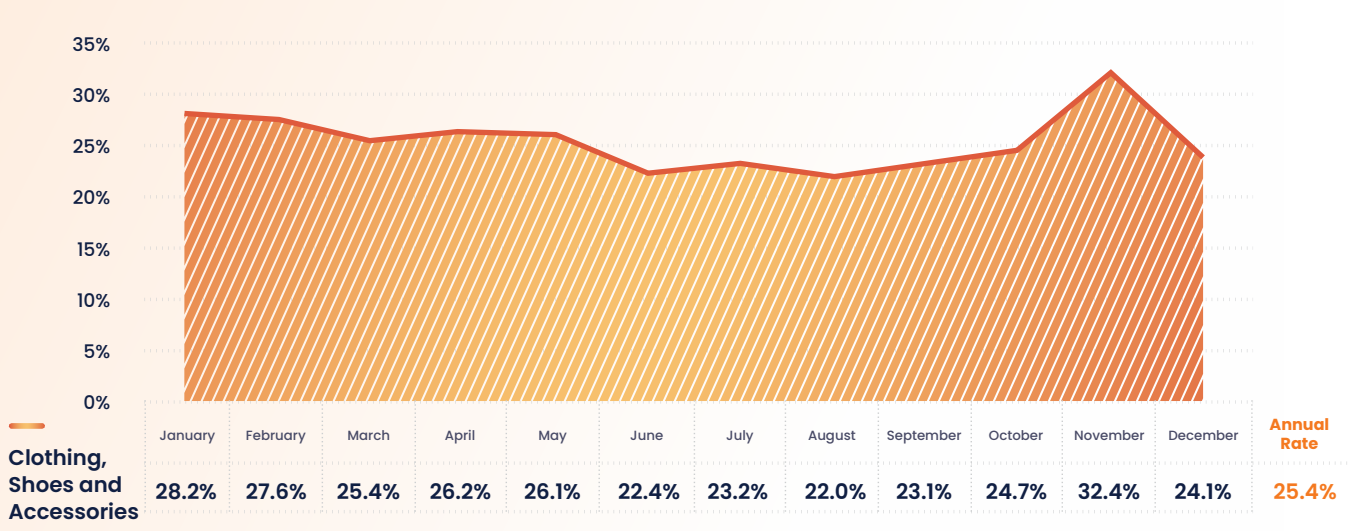


	January	February	March	April	May	June	July	August	September	October	November	December	Annual Rate
Food and Supermarket	5.5%	5.6%	5.2%	5.7%	5.5%	4.6%	4.7%	4.8%	4.7%	4.8%	5.3%	4.5%	5%

Graph 15. The Ratio of E-Commerce to General Commerce in the Food and Supermarket Sector (%, 2025)

3. Clothing, Shoes and Accessories

In 2025, the share of e-commerce in general commerce in the clothing, shoes and accessories sector was **25.4%**. This rate peaked in November, rising to **32.4%**. It is thought that this increase was supported particularly by end-of-season campaigns and discount periods.

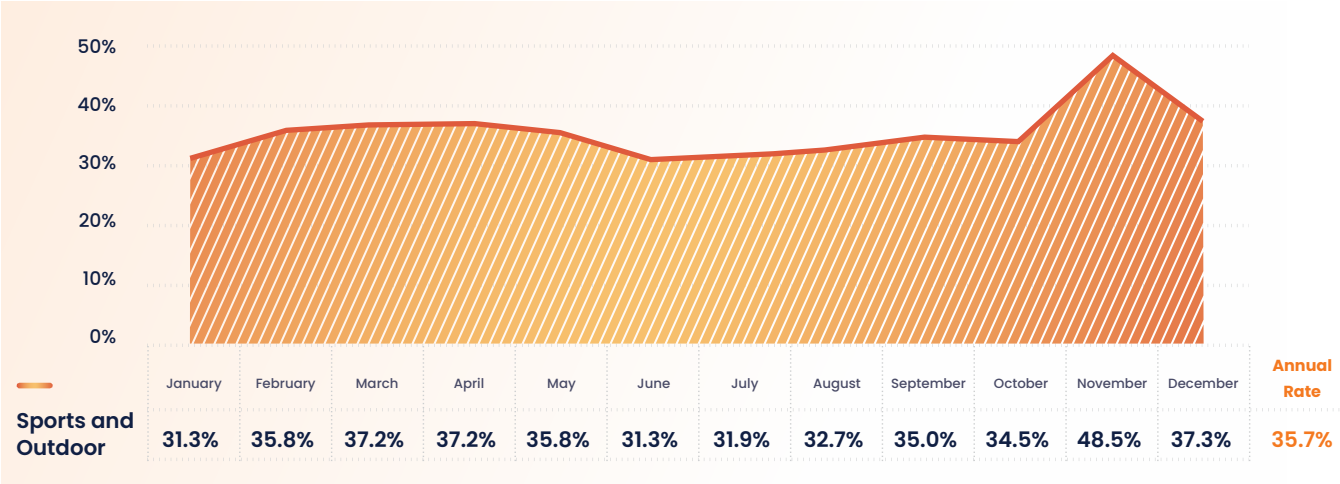


	January	February	March	April	May	June	July	August	September	October	November	December	Annual Rate
Clothing, Shoes and Accessories	28.2%	27.6%	25.4%	26.2%	26.1%	22.4%	23.2%	22.0%	23.1%	24.7%	32.4%	24.1%	25.4%

Graph 16. The Ratio of E-Commerce to General Commerce in the Clothing, Shoes and Accessories Sector (%, 2025)

4. Sports and Outdoor

In 2025, the share of e-commerce in the overall sports and outdoor products market stands at a notably high **35.7%**. The sector peaked at **48.5%** in November and ended the year at **37.3%** in December.

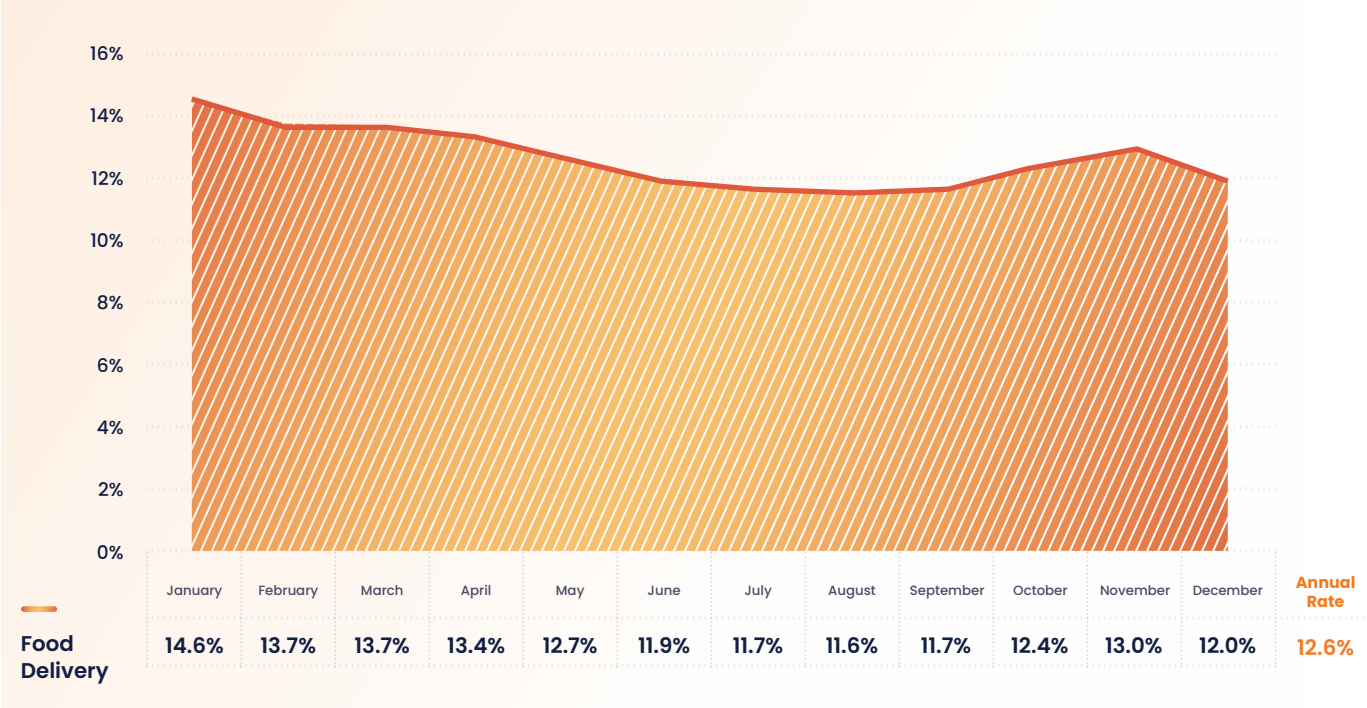


	January	February	March	April	May	June	July	August	September	October	November	December	Annual Rate
Sports and Outdoor	31.3%	35.8%	37.2%	37.2%	35.8%	31.3%	31.9%	32.7%	35.0%	34.5%	48.5%	37.3%	35.7%

Graph 17. The Ratio of E-Commerce to General Commerce in the Sports and Outdoor Sector (%, 2025)

5. Food Delivery

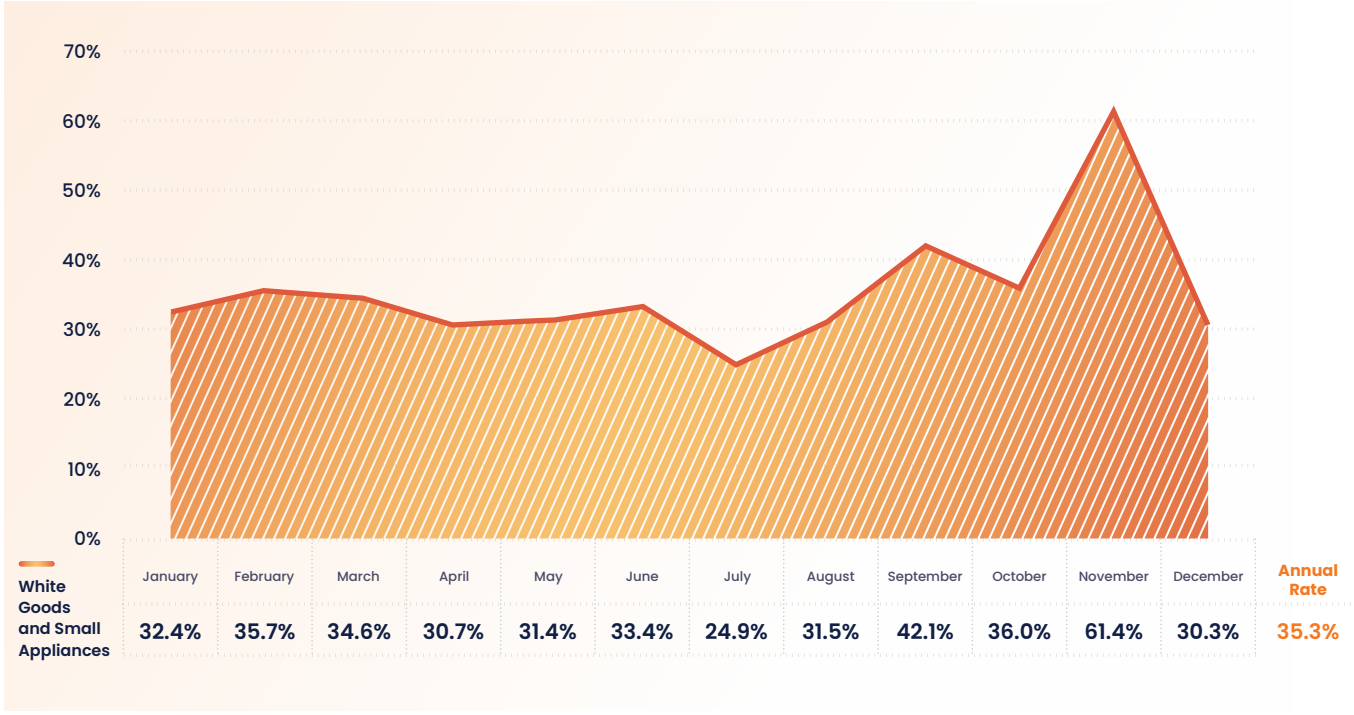
In 2025, the ratio of e-commerce to general commerce in the food delivery sector was **12.6%**. The sector showed a balanced outlook throughout the year. The highest rate of the year was recorded in January at **14.6%**, while the lowest rate was recorded in August at **11.6%**.



Graph 18. The Ratio of E-Commerce to General Commerce in the Food Delivery Sector (%, 2025)

6. White Goods and Small Appliances

The share of e-commerce in general commerce in the white goods and small appliances sector was **35.3%** throughout the year. This rate peaked in November, rising to **61.4%**, while the lowest rate of the year was observed in July at **24.9%**. The sector is considered to be highly sensitive to campaigns.



	January	February	March	April	May	June	July	August	September	October	November	December	Annual Rate
White Goods and Small Appliances	32.4%	35.7%	34.6%	30.7%	31.4%	33.4%	24.9%	31.5%	42.1%	36.0%	61.4%	30.3%	35.3%

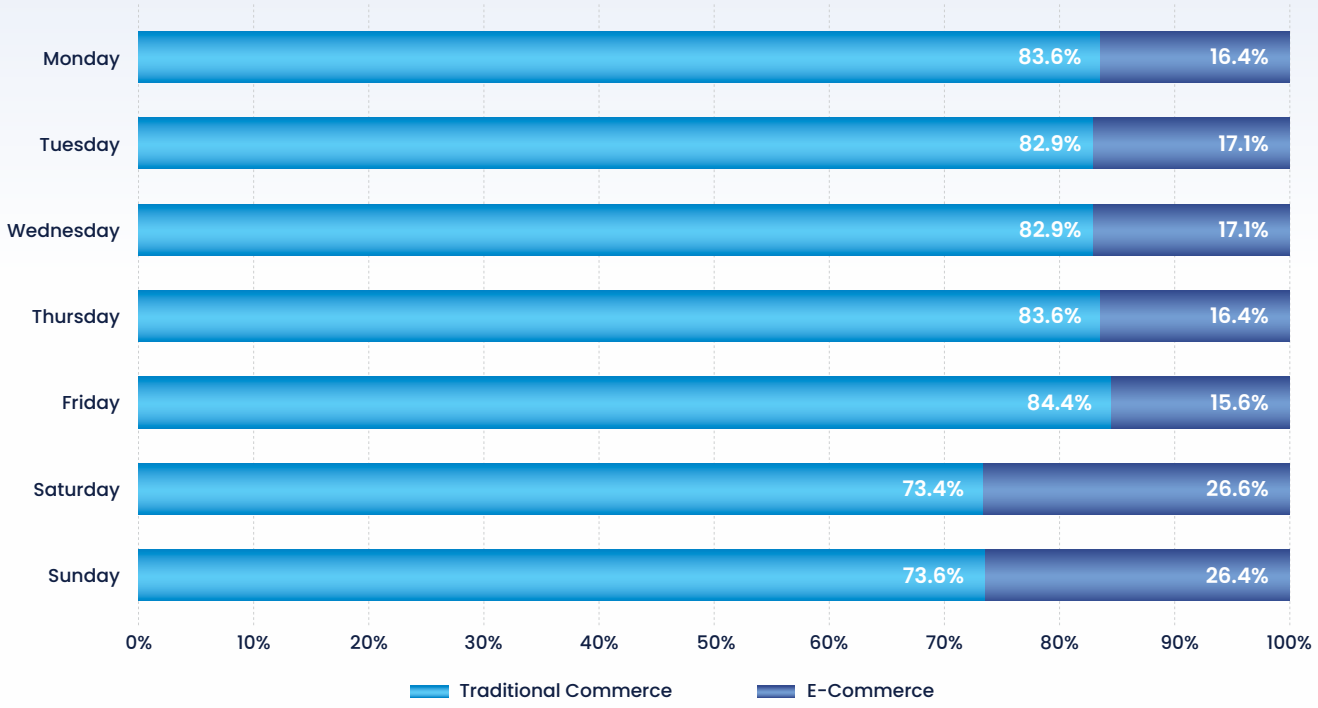
Graph 19. The Ratio of E-Commerce to General Commerce in the White Goods and Small Appliances Sector (%, 2025)

E-COMMERCE AND TRADITIONAL COMMERCE

CHAPTER 3

E-Commerce and Traditional Commerce

Day and Time Comparison of E-Commerce and Traditional Commerce

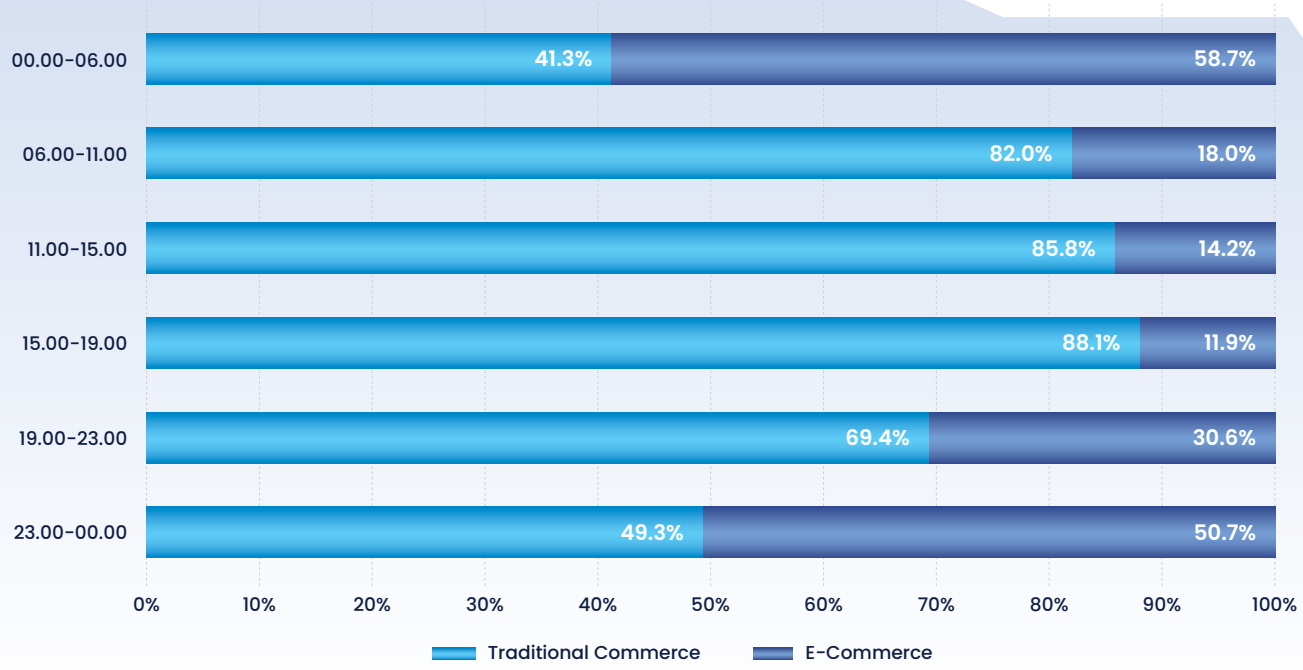


Graph 20. Comparison of E-Commerce and Traditional Commerce Volumes by Day of the Week (%, 2025)

When the distribution of e-commerce[3] and Traditional commerce[4] volumes is examined, clear differences emerge between weekdays and weekends. It is noteworthy that the share of e-commerce reaches its highest level on weekends, particularly on Saturday. Compared to traditional commerce, the share of e-commerce reaches its highest level on Saturday, at **26.6%**. On weekdays, this rate remains in the 15.6–17.1% band. This indicates that consumers tend to shift toward online shopping instead of physical stores on weekends.

26.6%

Share of e-commerce **on Saturday**



Graph 21. Comparison of E-Commerce and Traditional Commerce Volumes by Time Intervals (%, 2025)

The distribution of e-commerce and traditional commerce volumes by transaction hours reflects changes in consumer behavior throughout the day. During nighttime hours, the share of e-commerce rises to **58.7%**. This demonstrates the 24/7 accessibility advantage of e-commerce. Similarly, in the evening hours, the share of e-commerce increases compared to daytime hours.

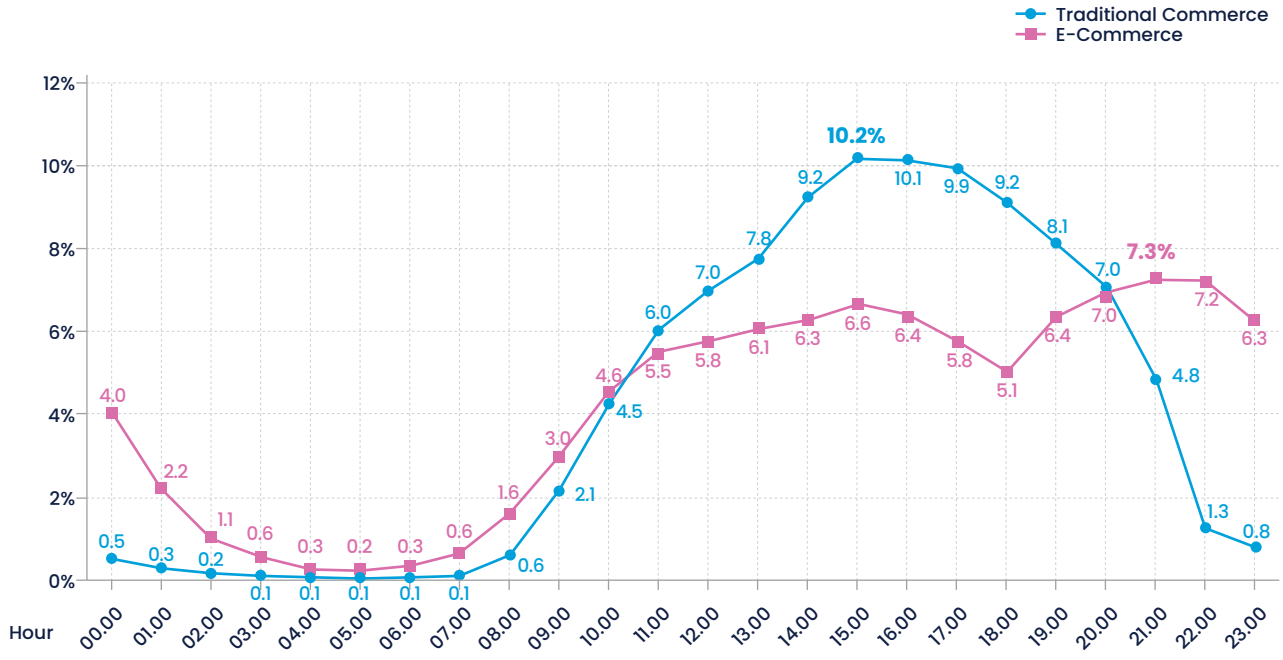
In the remainder of this section, the e-commerce volumes of the electronics, clothing, shoes and accessories, and food and supermarket sectors are compared with traditional commerce volumes by hour and by days of the week. In this comparison, the weekday variable was created by aggregating the volume on weekdays, while the weekend variable was created by aggregating the volume on weekend days.

58.7%

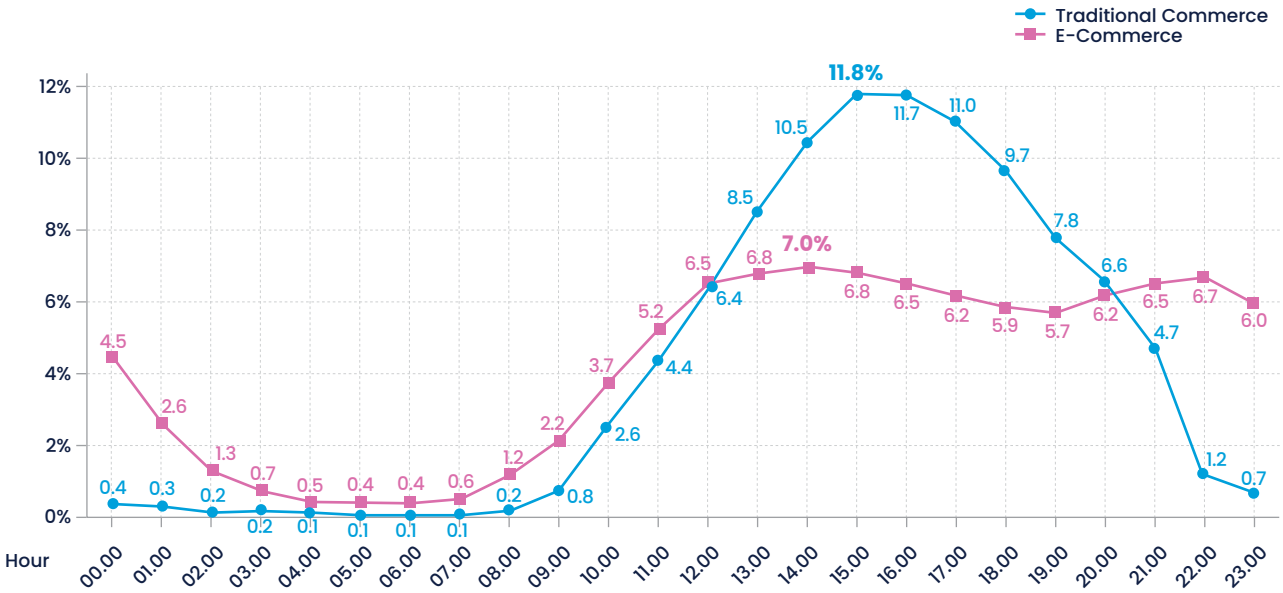
Share of e-commerce **during nighttime hours**

3 This figure is calculated exclusively for this section based on e-commerce virtual POS data.
4 This figure is calculated exclusively for this section based on traditional commerce physical POS data.

Electronics

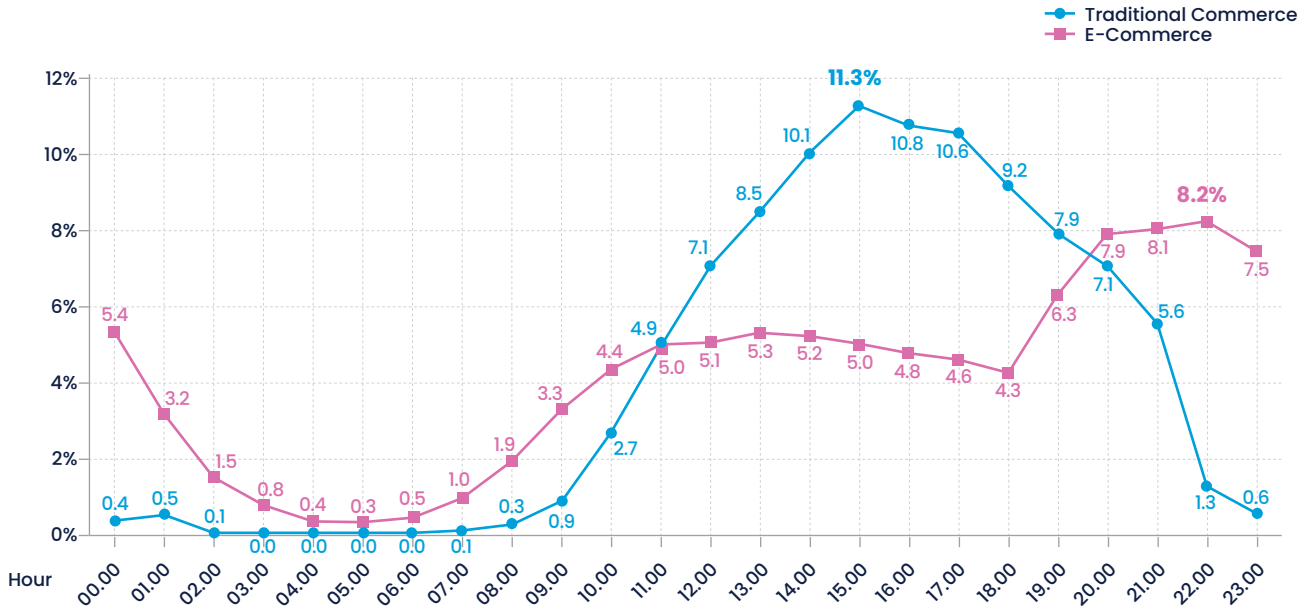


Graph 22. Intra-day Distribution of E-Commerce and Traditional Commerce Volumes in the Electronics Sector (%, weekdays)

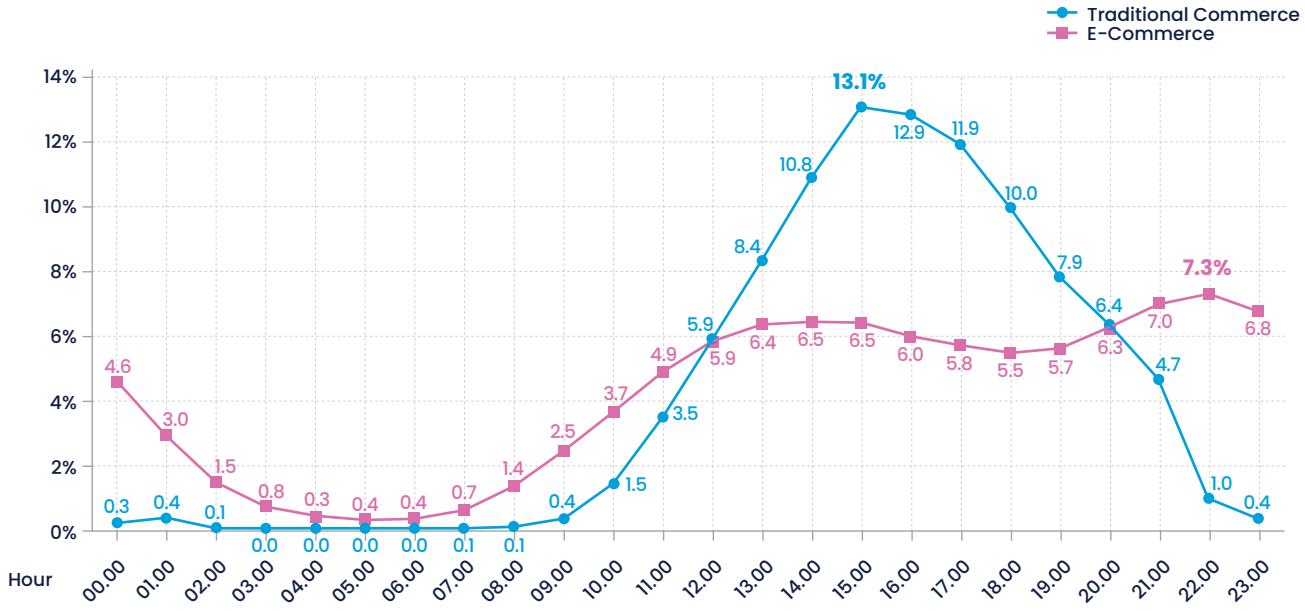


Graph 23. Intra-Day Distribution of E-Commerce and Traditional Commerce Volumes in the Electronics Sector (%, weekend)

Clothing, Shoes and Accessories

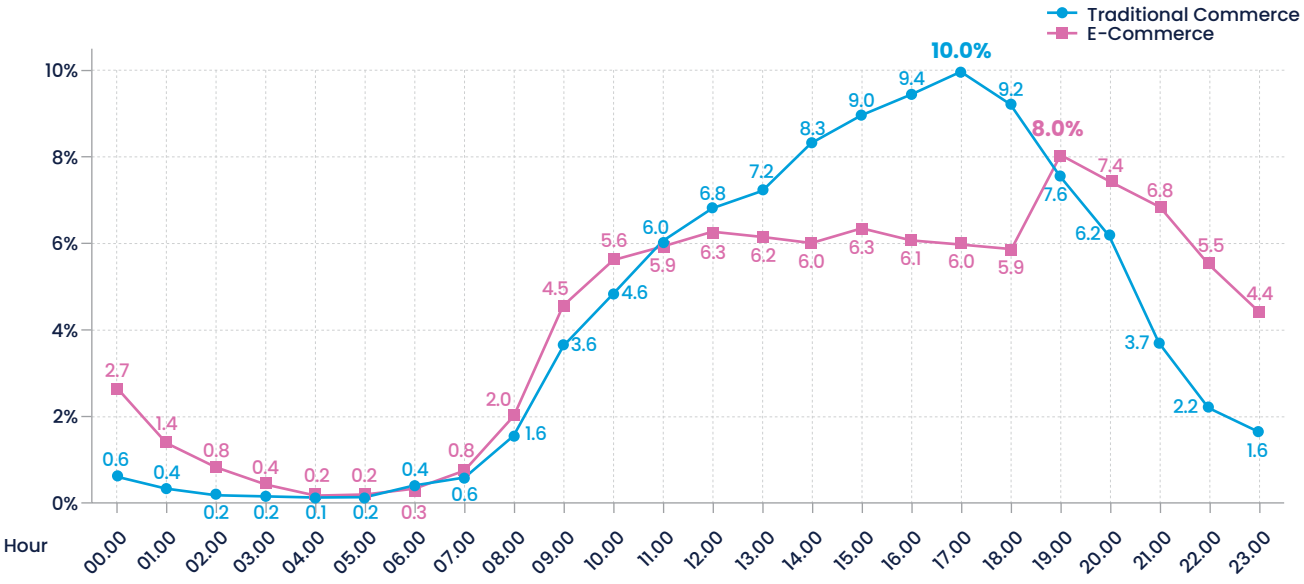


Graph 24. Intra-day Distribution of E-Commerce and Traditional Commerce Volumes in the Clothing, Shoes and Accessories Sector (%, weekdays)

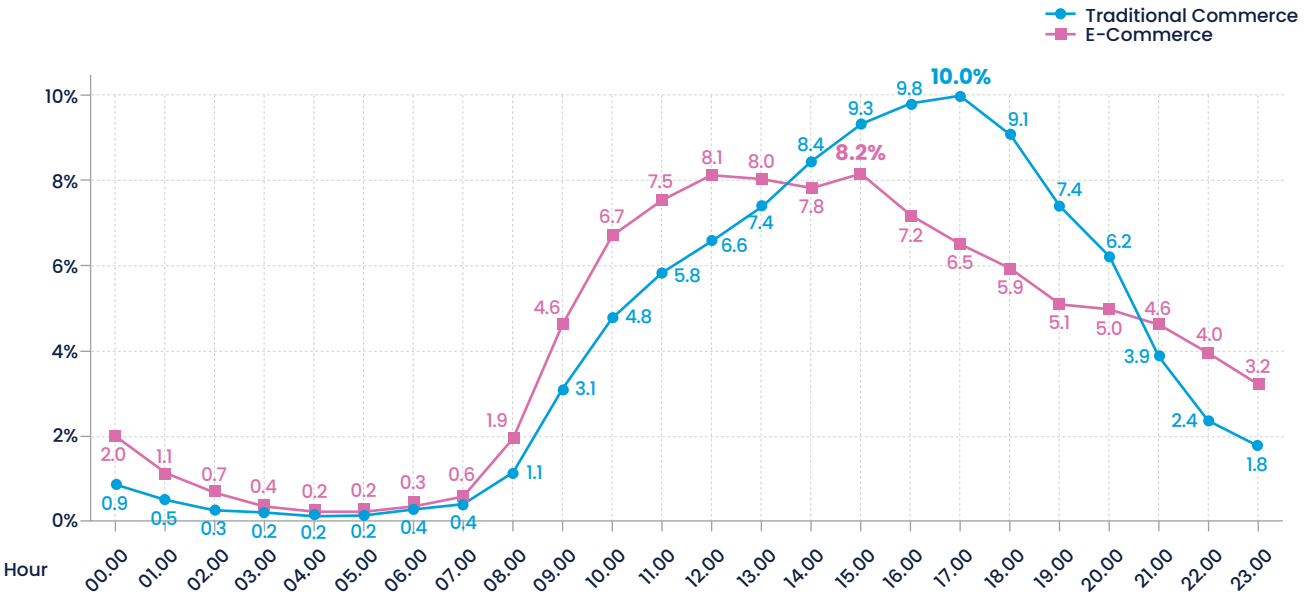


Graph 25. Intra-day Distribution of E-Commerce and Traditional Commerce Volumes in the Clothing, Shoes and Accessories Sector (%, weekend)

Food and Supermarket



Graph 26. Intra-day Distribution of E-commerce and Traditional Commerce Volumes in the Food and Supermarket Sector (%, weekdays)



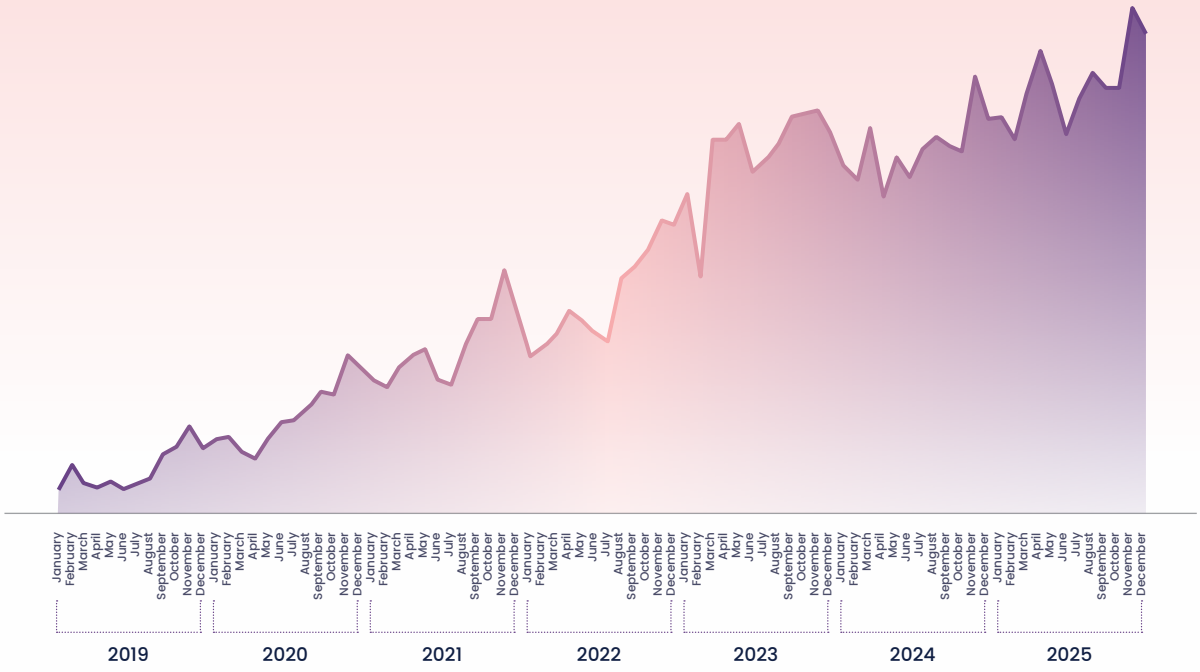
Graph 27. Intra-day Distribution of E-commerce and Traditional Commerce Volumes in the Food and Supermarket Sector (%, weekend)

MONTHLY AND DAILY STATISTICS

CHAPTER 4

Monthly and Daily Statistics

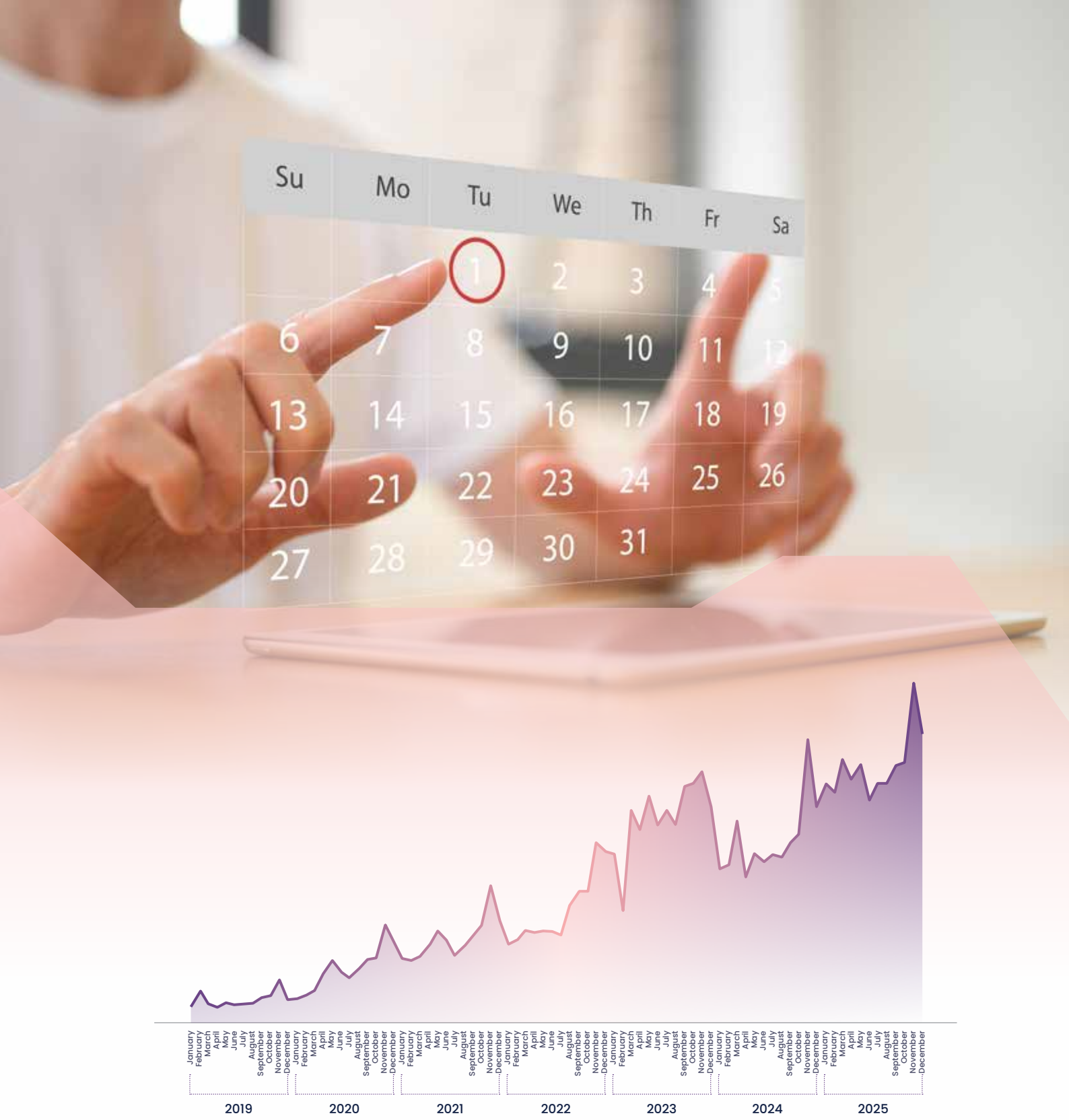
Monthly E-Commerce Volume



Graph 28. Monthly Trend of Real E-Commerce Volume[5]

Graph 28 shows the monthly trend of real e-commerce volume in Türkiye. As can be seen from the graph, general e-commerce volume has displayed a continuous upward trend on an annual basis since 2019.

5 Real e-commerce volume refers to the volume adjusted for the annual Consumer Price Index (CPI).

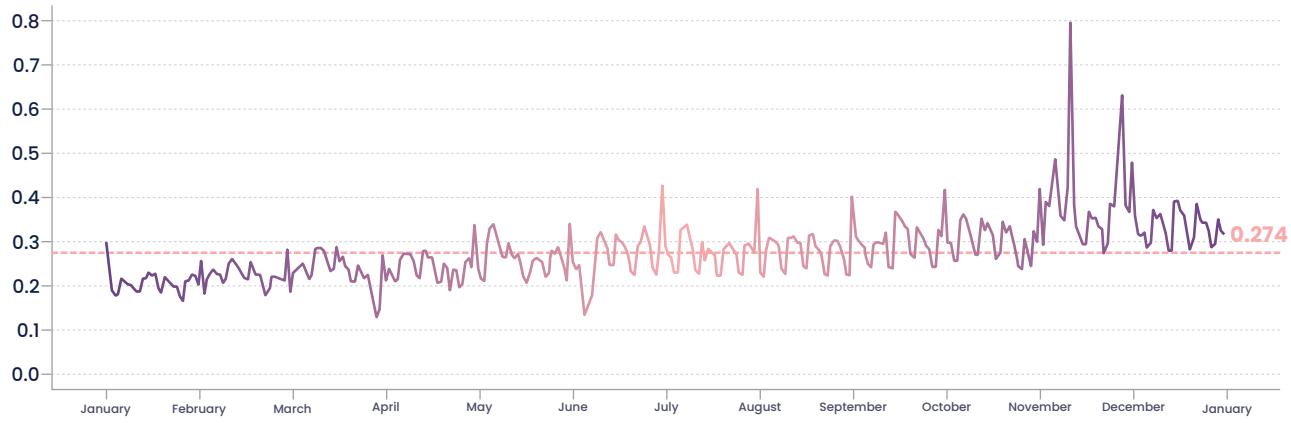


Graph 29. Real Retail E-Commerce Volume by Month

Graph 29 shows the monthly trend in the real retail e-commerce volume in Türkiye. The upward trend in general e-commerce volume is also evident in retail e-commerce. The graph demonstrates that retail e-commerce has experienced significant growth over time.

Number of E-Commerce Transactions on a Daily Basis

If the same number of e-commerce transactions were conducted every day of the year, the daily rate would be 1/365 = 0.274%. The degree of deviation of the daily e-commerce rates shown in Graph 30 from the 0.274% rate indicates the extent to which the number of transactions on those days differed from the average number of transactions.



Graph 30. Daily Number and Average Number of Transactions (%, 2025; marketplaces)

Upon examining the graph, it is observed that the daily number of transactions fluctuates throughout the year but generally remains around the average. On certain notable dates, the number of transactions deviates significantly; in particular, there were sharp spikes in transaction numbers during November and December. These peaks occurred as a result of major promotional periods. On the other hand, there were significant declines in transaction counts, particularly at the end of March and in June. These troughs stem from a decrease in consumer demand for e-commerce during holidays.

Table 1. Top 10 Days with the Most Transactions (2025)

Date	Value (%)	Special Occasion
11.11.2025	**0.79**	November Campaigns
27.11.2025	**0.62**	
28.11.2025	**0.53**	
6.11.2025	**0.48**	
1.12.2025	**0.47**	Cyber Monday
5.11.2025	**0.43**	November Campaigns
1.07.2025	**0.42**	-
10.11.2025	**0.42**	November Campaigns
1.08.2025	**0.41**	-
7.11.2025	**0.41**	November Campaigns

Table 2. Top 10 Days with the Least Transactions (2025)

Date	Value (%)	Special Occasion
30.03.2025	**0.12**	First Day of Eid al-Fitr
31.03.2025	**0.14**	Second Day of Eid al-Fitr
29.03.2025	**0.15**	Eve of Eid al-Fitr
7.06.2025	**0.15**	Second Day of Eid al-Adha
26.01.2025	**0.16**	-
4.01.2025	**0.17**	-
25.01.2025	**0.17**	-
22.02.2025	**0.17**	-
8.06.2025	**0.17**	Third Day of Eid al-Adha

Tables 1 and 2 show the days with the highest and lowest number of transactions. According to the tables, the highest number of e-commerce transactions was mainly reached during the period of the November campaigns, while fewer transactions were made on religious holidays compared to other days.

CAMPAIGN MONTH STATISTICS

5 CHAPTER

Campaign Month Statistics

November, known as the "campaign month" in e-commerce, indicates a significant acceleration in e-commerce activity. In November 2025, e-commerce volume increased by **41.5%** compared to the same period in 2024. During the same period, the number of products and services sold rose by **11.6%**.

Table 3. **Change in E-Commerce Volume by Sector During the Campaign Month (%, November 2024–2025; marketplaces)**

Sector	Growth Rate
Books and Magazines	59.4%
Food Delivery	55.8%
Entertainment and Art	54.2%
Food and Supermarket	51.0%
Electronics	49.9%
Pet Products	49.3%
Medical, Personal Care and Cosmetics	47.6%
Home, Garden, Furniture and Decoration	42.8%
White Goods and Small Appliances	42.3%
Clothing, Shoes and Accessories	27.1%
Mother and Baby	24.6%

During the campaign month, the highest volume increase compared to the same period of the previous year occurred in the books and magazines, food delivery, entertainment and art, and food and supermarket sectors, respectively.

Table 4. E-commerce Volume and Number of Products Sold by Sector During the Campaign Month (%, November 2024–2025; marketplaces)

Sectors	Volume	Number of Products
Clothing, Shoes and Accessories	17%	14%
Electronics	15%	2%
Food Delivery	13%	35%
White Goods and Small Appliances	11%	1%
Home, Garden, Furniture and Decoration	8%	7%
Food and Supermarket	8%	22%
Medical, Personal Care and Cosmetics	6%	8%

During the campaign month, the clothing, shoes and accessories and electronics sectors had the highest shares in e-commerce volume, while the food delivery and food and supermarket sectors had the highest shares in terms of the number of products sold.

Table 5. Distribution of E-Commerce Sales Volume and Number of Products by Province During the Campaign Month (%; marketplaces)

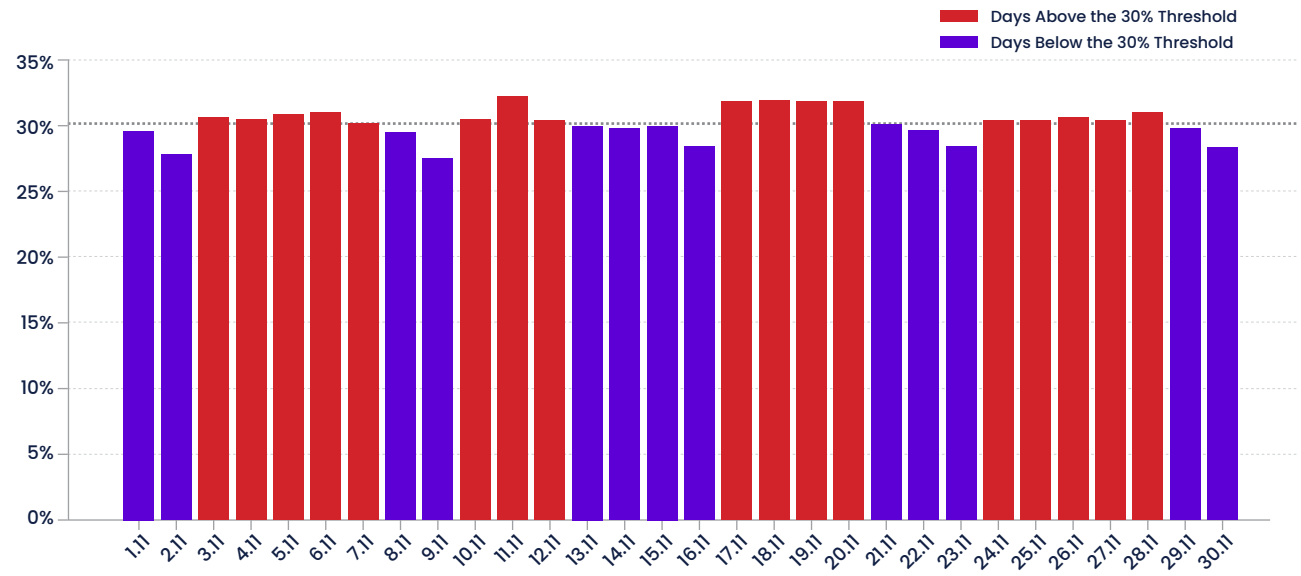
Seller's Province	Volume	Number of Products
İstanbul	67%	59.9%
Ankara	4.9%	6.5%
İzmir	4.3%	5.3%
Bursa	2.9%	3.3%
Kayseri	1.6%	0.9%
Antalya	1.2%	1.8%
Adana	1.2%	1.4%
Gaziantep	1.2%	1.4%
Kocaeli	1.1%	1.8%

When examining the distribution of e-commerce sales by province during the campaign month, İstanbul stands out with a **67%** share of sales volume and a **59.9%** share of product count. İstanbul is followed by the provinces of Ankara, İzmir, and Bursa.

Table 6. Distribution of E-Commerce Purchases Volume and Number of Products by Province During the Campaign Month (%; marketplaces)

Buyer's Province	Volume	Number of Products
İstanbul	31%	36%
Ankara	10%	9%
İzmir	7%	7%
Bursa	4%	4%
Antalya	4%	4%
Kocaeli	3%	3%
Adana	2%	2%
Konya	2%	2%
Mersin	2%	2%

When examining the distribution of e-commerce purchases by province during the campaign month, İstanbul stands out with a 31% share of purchase volume and a **36%** share of the number of products. İstanbul is followed by the provinces of Ankara, İzmir, Bursa, and Antalya.



Graph 31. Daily Active E-Commerce Business Rate During the Campaign Month (%; marketplaces)

When the daily activity rates of businesses engaged in e-commerce activities during the campaign month are examined, it is seen that approximately one-third of businesses made at least one sale each day throughout the month. The average daily active business rate during the campaign month was calculated as **30.1%.**[6]

Table 7. Distribution of E-Commerce Volume by Product Category During the Campaign Month (%)

Product Categories	Volume Percentage	Product Categories	Volume Percentage
Shoes	5.3%	Fruits and Vegetables	1.9%
Vacuum Cleaners	5.2%	Pants	1.9%
Shirts and Tops	4.4%	Laundry Machines	1.8%
Cosmetics	4.2%	Televisions	1.7%
Laptops	3.2%	Clothing	1.6%
Outerwear	2.9%	Backpacks	1.5%
Kitchen Appliances	2.7%	Electronics	1.4%
Furniture	2.6%	Tableware	1.3%
Household Cleaning Supplies	2.4%	Tablets	1.2%
Hair Care	2.3%	Dresses	1.1%
Telephones	2.1%		

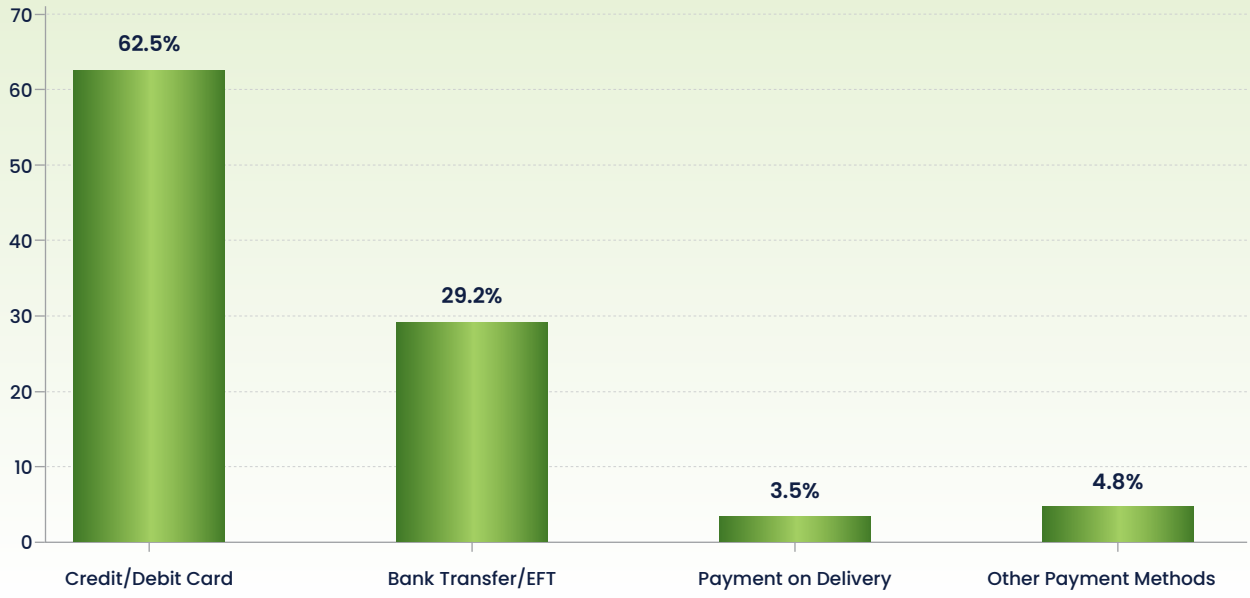
When e-commerce volume during the campaign month is examined by product groups, shoes, vacuum cleaners, and clothing products stand out among the prominent categories. In addition, significant concentration is also observed in product groups such as cosmetics, laptops, and kitchen appliances.

6 The daily average active business rate refers to the number of businesses that make at least one sale per day.

PAYMENT AND SPENDING TYPE STATISTICS

CHAPTER 6

Payment and Spending Type Statistics



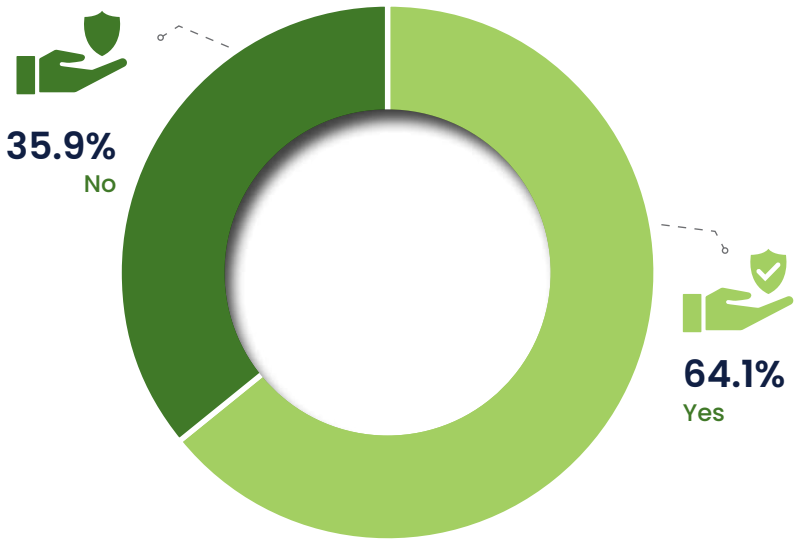
Graph 32. Distribution of Payment Methods Within E-Commerce Volume (%, 2025)

Graph 32 shows the distribution of e-commerce volume by payment methods. When the payment methods used in e-commerce are examined, card payments rank first with **62.5%**. This shows that a large proportion of e-commerce users prefer debit and credit cards for payment transactions. Wire transfer/EFT payments rank second with **29.2%**, while payment on delivery accounts for **3.5%** and other payment types for **4.8%**.[7]

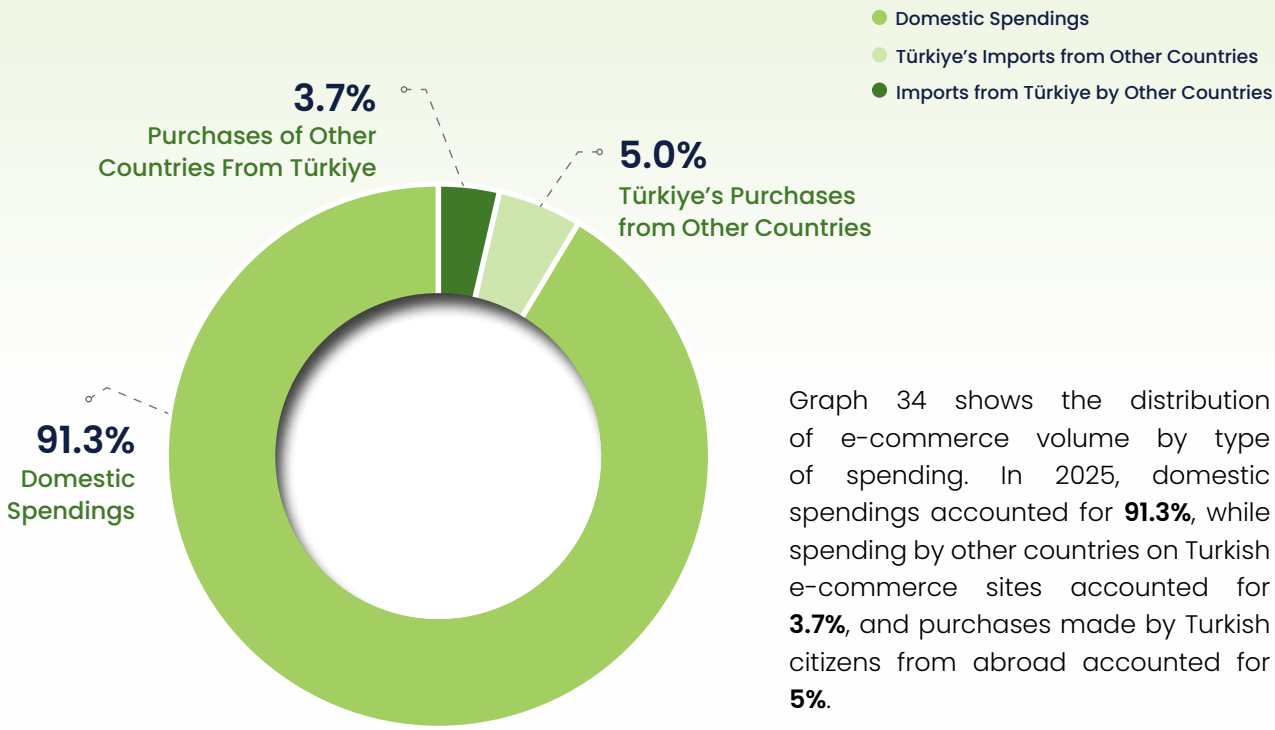
7 The category "Other Payment Types" includes the following payment methods: Multiple Payment, Digital or Mobile Wallet, Prepaid Card, Check / Direct Debit, Virtual Money, and Shopping Credit.

This distribution shows that digital payment systems are more widespread in the e-commerce sector in Türkiye and that the use of credit and debit cards is much more preferred than traditional payment methods.

In addition, as shown in Graph 33, 3D Secure was used in **64.1%** of card payments.



Graph 33. 3D Secure Usage Rate in Card-Based Purchases (%, 2025)



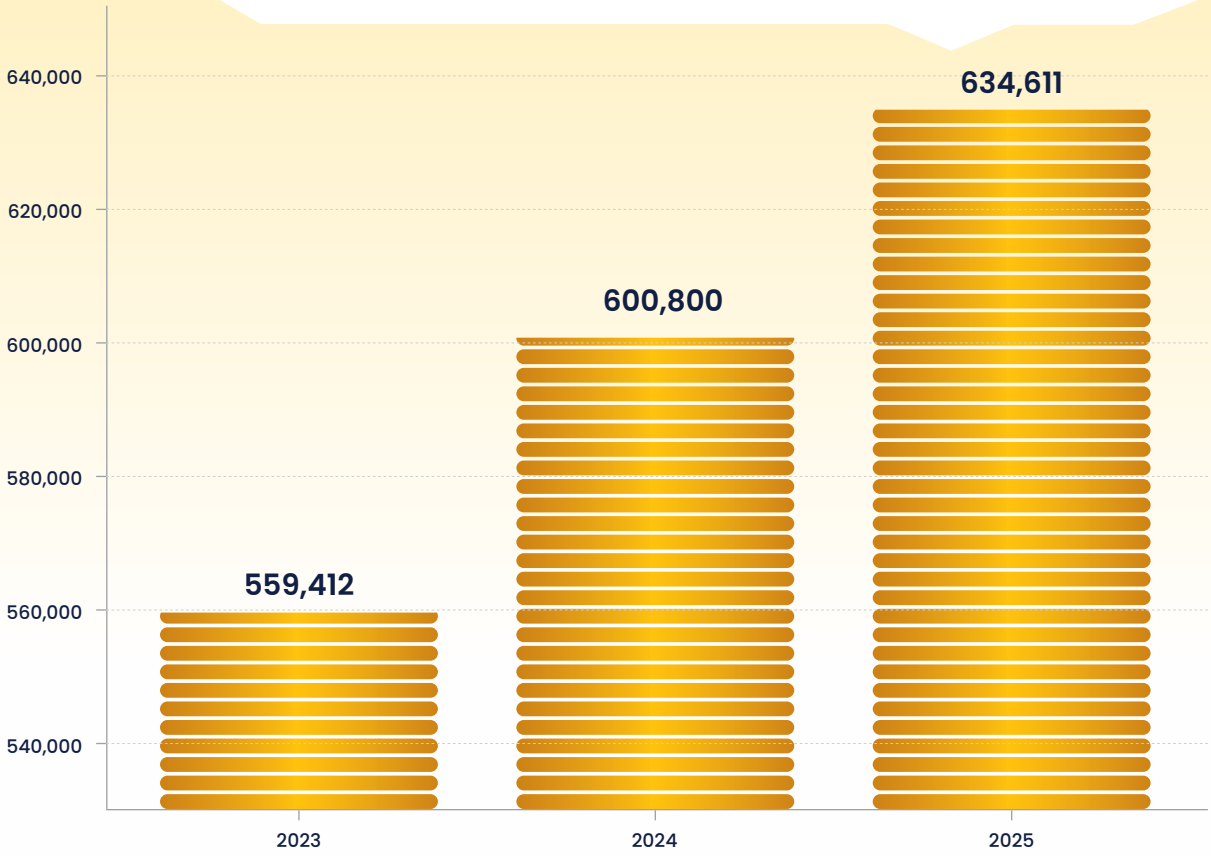
Graph 34 shows the distribution of e-commerce volume by type of spending. In 2025, domestic spendings accounted for **91.3%**, while spending by other countries on Turkish e-commerce sites accounted for **3.7%**, and purchases made by Turkish citizens from abroad accounted for **5%**.

Graph 34. Distribution of E-Commerce Volume by Spending Type (%, 2025)

STATISTICS ON E-COMMERCE BUSINESSES

CHAPTER 7

Statistics on E-Commerce Businesses



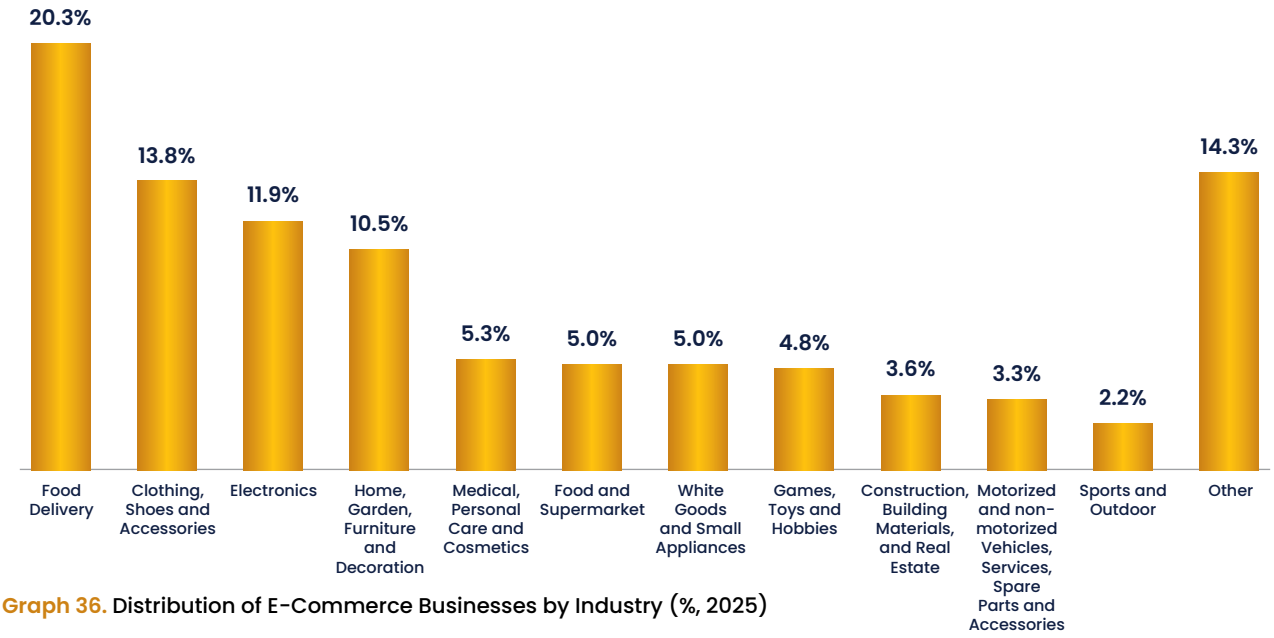
Graph 35. Number of Businesses Engaged in E-Commerce by Year (2023-2025)

Graph 35 shows the number of registered businesses engaged in e-commerce by year.

In 2024, **600,800** businesses across Türkiye engaged in e-commerce. As of 2025, the number of businesses engaged in e-commerce stands at **634,611**.

When viewed over the years, it is evident that the upward trend in the number of businesses engaged in e-commerce continues.

Distribution of Businesses by Sector



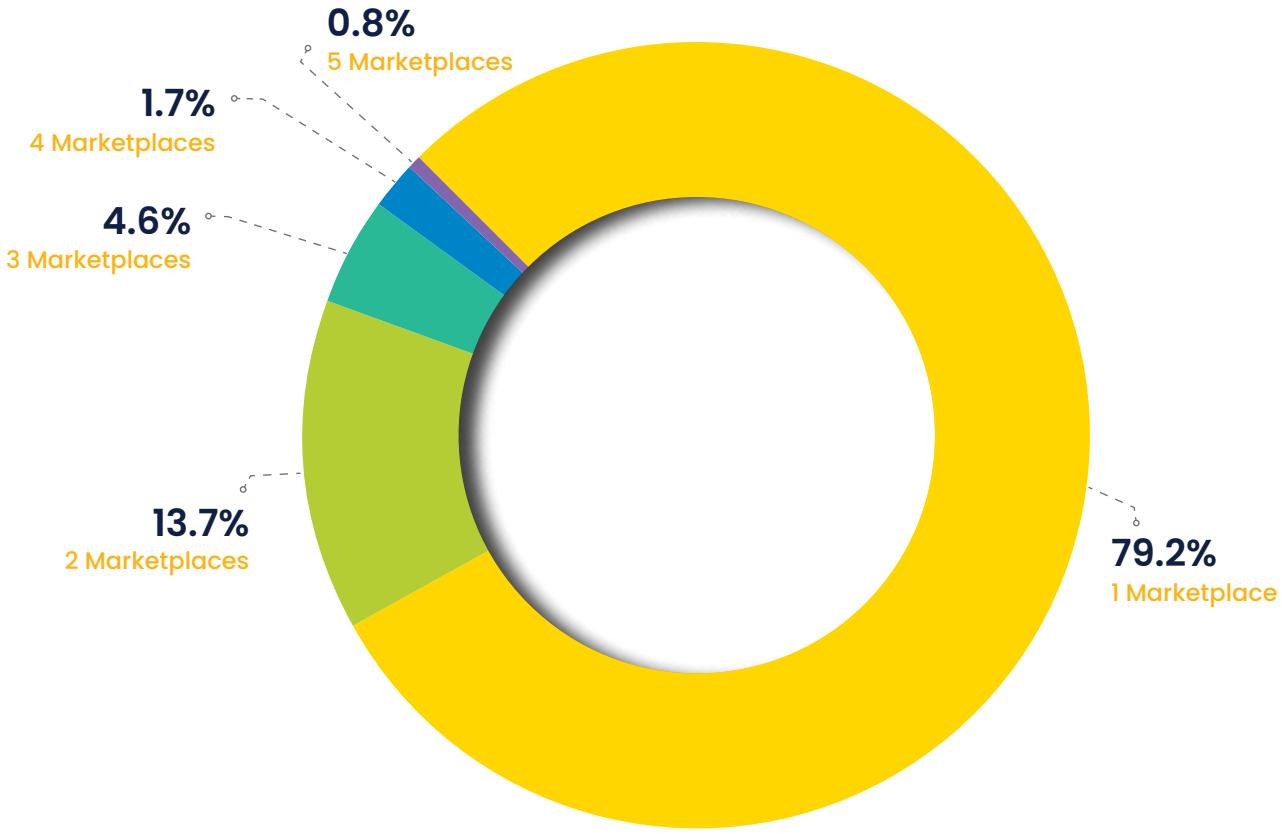
Graph 36. Distribution of E-Commerce Businesses by Industry (%, 2025)

Graph 36 shows the distribution of businesses operating in the e-commerce ecosystem by sector. When this distribution is examined, it can be seen that the food delivery sector has the highest share, at **20.3%**. The clothing, shoes and accessories sector ranks second with **13.8%**. This sector is followed by electronics with **11.9%** and home, garden, furniture and decoration with **10.5%**. These areas stand out in e-commerce as sectors that both see high consumer demand and offer high accessibility for entrepreneurs.

It is observed that sectors that include more niche products or require specialization in terms of product range, such as medical, personal care and cosmetics; food and supermarket; white goods and small appliances; and games, toys and hobbies, remain at around the **5% level**.

A smaller share of businesses operates in the construction, building materials and real estate; motorized and non-motorized vehicles, services, spare parts and accessories; and sports and outdoor sectors.

Distribution of Businesses by Number of Marketplaces They Operate In (Excluding the Food Delivery Sector)



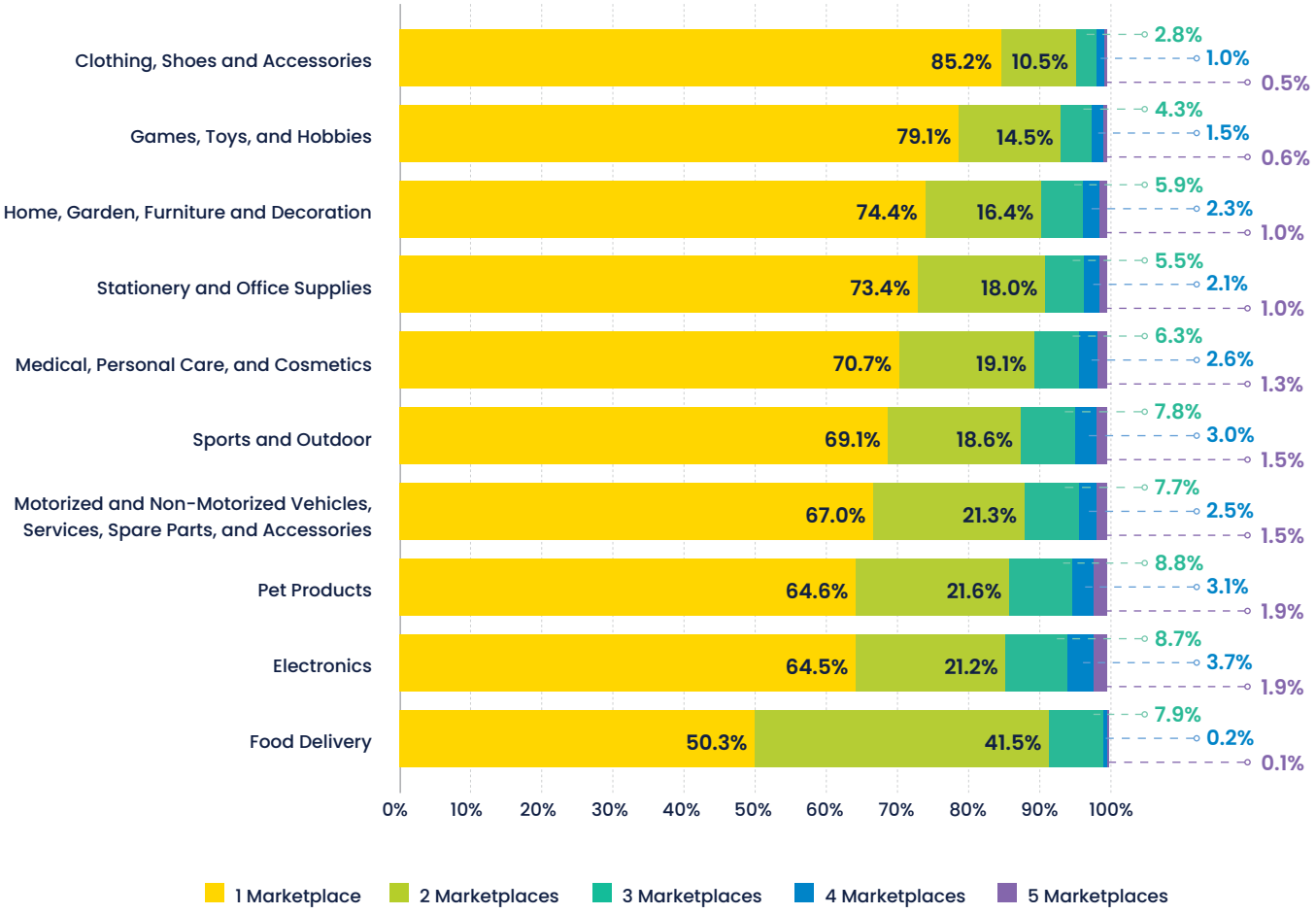
Graph 37. Distribution of Businesses Engaged in E-Commerce Through Marketplaces by Number of Marketplaces in Which They Operate (%, 2025; excluding the food delivery sector)

According to Graph 37, **79.2%** of businesses engaged in e-commerce on marketplaces operate on a single marketplace.

It is believed that sellers' preference for focusing on the marketplace with the highest traffic (network effect) based on their respective sectors, and their desire to work with a single marketplace whose rules they are familiar with, plays a significant role in this behavior.

The percentage of businesses selling at two marketplaces is **13.7%**, at three marketplaces is **4.6%**, at four marketplaces it is **1.7%**, and at five marketplaces it is **0.8%.**

Businesses Marketplace Usage Habits by Industry



Graph 38. Distribution of Businesses Operating in Marketplaces by Sector (%, 2025)

Graph 38 provides a comparative overview of the marketplace usage habits of businesses operating in different sectors within the e-commerce ecosystem.

An examination of the graph reveals that a significant portion of businesses across all sectors operate through a single marketplace. However, it is evident that the distribution of marketplace usage varies across sectors.

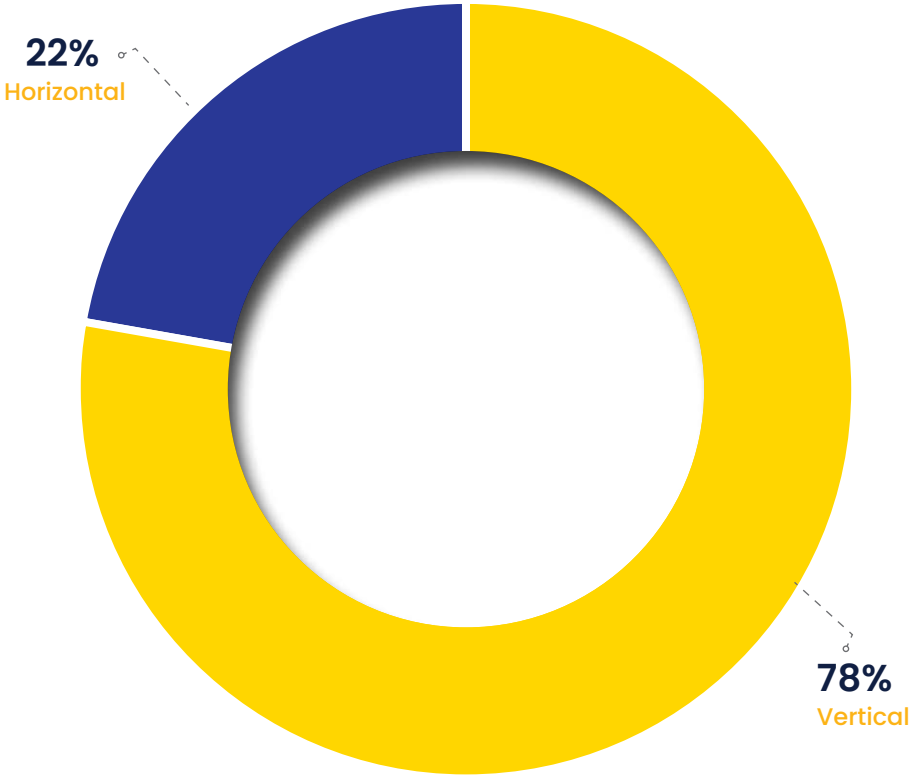
Although the ratio of businesses operating in a single marketplace varies by sector, it reaches its highest level in the clothing, shoes and accessories sector at **85.2%**, while in the food delivery sector it stands at a lower level compared to other sectors, at **50.3%**.

It is observed that the ratio of businesses operating in two marketplaces is significantly higher, particularly in the food delivery sector, at **41.5%**, while it remains at more limited levels in other sectors.

It is understood that the ratios of businesses operating in three or more marketplaces remain at relatively low levels across all sectors, generally staying below **10%**.

The Level of Specialization Among Businesses by Industry

When 2025 e-commerce data is examined, it is observed that a significant share of businesses operating in the e-commerce ecosystem is concentrated in a specific sector. In the classification used to analyze the level of specialization of businesses, cases where the majority of an e-commerce business's total transaction volume comes from a single sector are defined as ***vertical***[8] activity, while cases where it is distributed across different sectors are defined as ***horizontal***[8] activity.



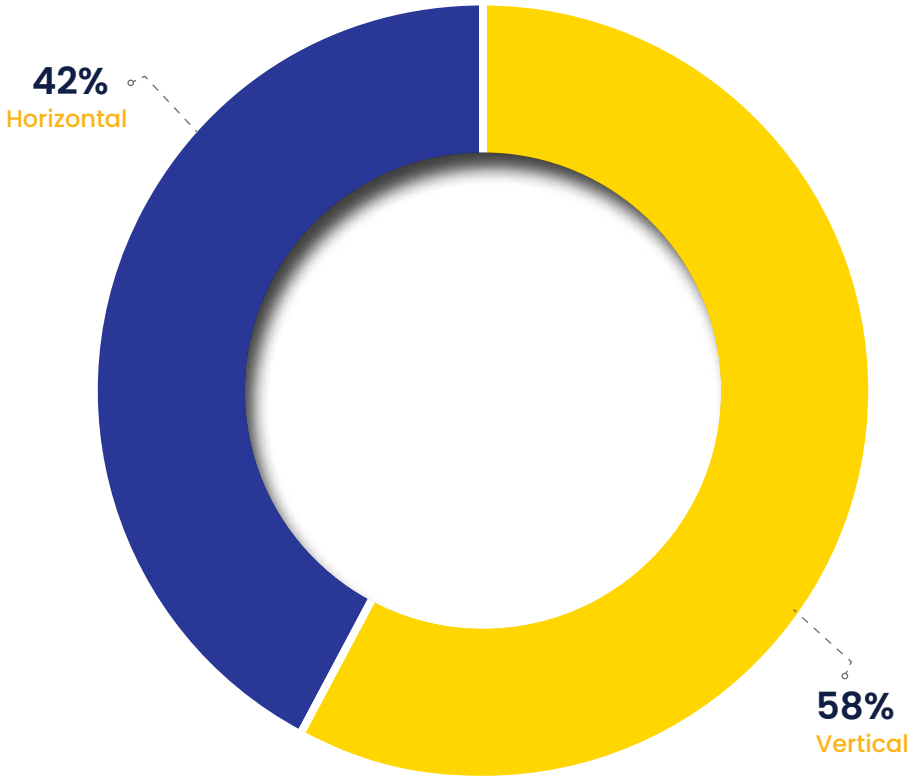
Graph 39. Distribution of Businesses by Level of Specialization (%, 2025; marketplaces)

As a result of the analysis carried out within this scope, it is understood that **78%** of businesses operate vertically, while **22%** operate horizontally. This indicates that businesses in the e-commerce ecosystem operate to a significant extent by concentrating on a specific product or service category.

8 In this study, sector shares within total e-commerce transaction volume were taken as the basis when determining the activity structure of businesses. If a business generated at least 95% of its total transaction volume from a single sector, that business was classified as "vertical." Businesses below this threshold, whose transaction volume was distributed more evenly across more than one sector, were classified as "horizontal." The 95% threshold was set at a high level to indicate that the business has a clear level of specialization, and to ensure that limited secondary activities do not affect the classification. The analysis was conducted based on sellers operating in marketplaces.

Distribution of E-Commerce Volume by Business Specialization Level

When the number of businesses is considered alongside volume, a significant disparity emerges. Although **%78** of businesses operate vertically, vertical businesses account for **%58** of total e-commerce volume, while horizontal businesses account for **%42**.

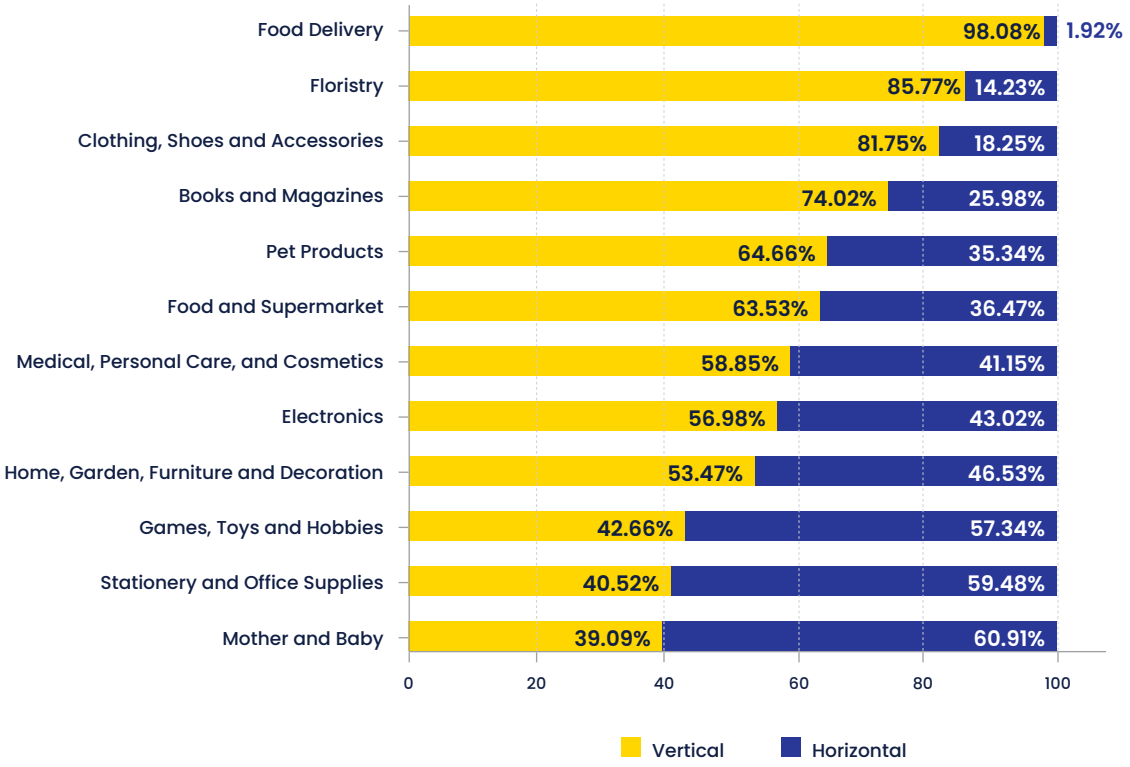


Graph 40. Distribution of E-Commerce Volume by Business Specialization Level (%, 2025; marketplaces)

This shows that businesses operating horizontally are able to reach higher transaction volumes thanks to a wider product variety. In other words, horizontal sellers, which have a more limited share in terms of the number of businesses, create a greater impact in terms of economic size.

Level of Specialization Among Businesses by Industry

An analysis by sector reveals that the level of specialization among businesses varies significantly across sectors.

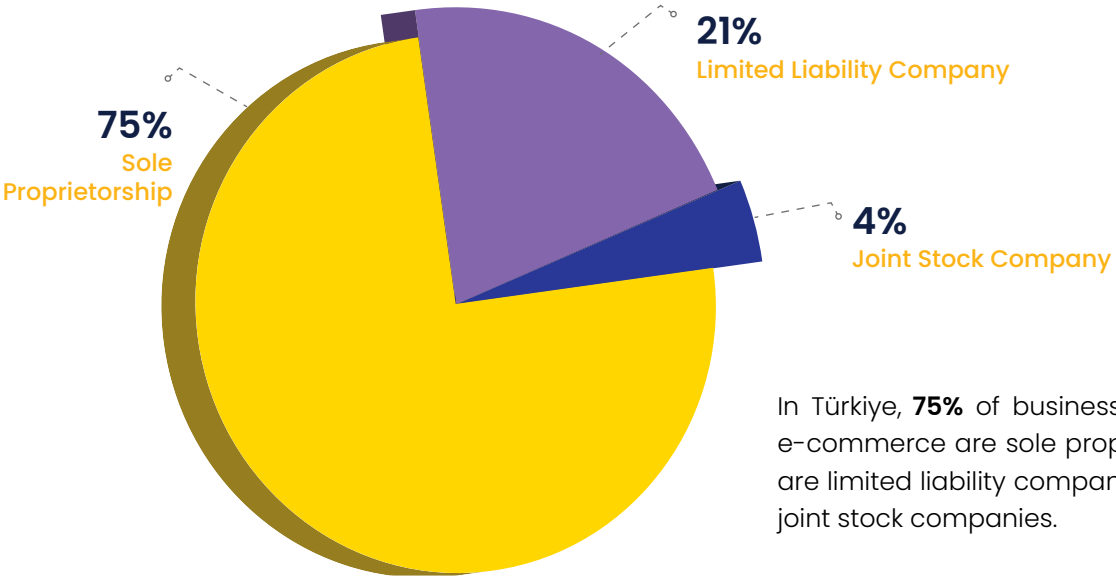


Graph 41. Level of Specialization Among Businesses by Sector (%, 2025; marketplaces)

Verticalization rates are particularly high in the food delivery (**98%**), floristry (**86%**), and clothing, shoes and accessories (**82%)** sectors, while horizontal activity is more common in the mother and baby, stationery and office supplies, and games, toys and hobbies sectors.

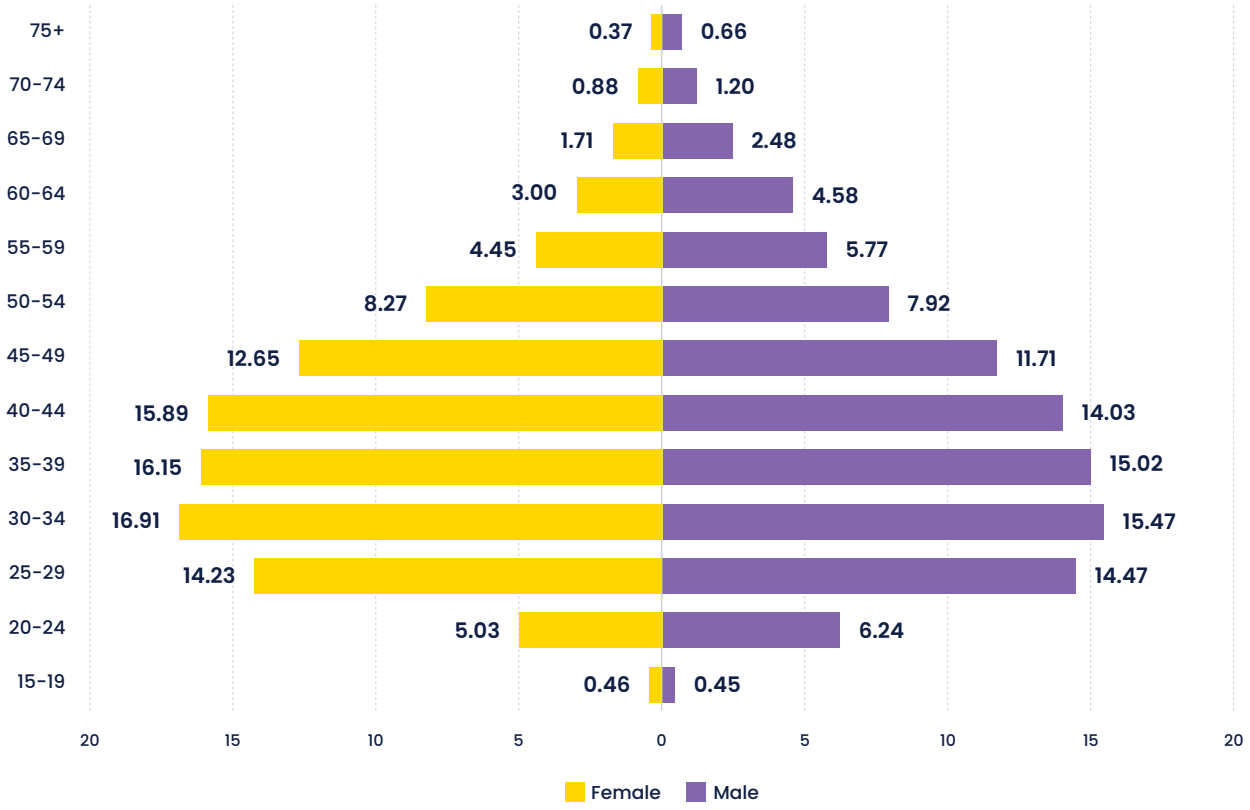
This situation demonstrates that while some industries, by their very nature, encourage specialization, others are better suited to a multi-category sales structure.

The findings reveal that seller behavior within the e-commerce ecosystem is not homogeneous but rather exhibits a structure that varies by sector.



In Türkiye, **75%** of businesses engaged in e-commerce are sole proprietorships, **21%** are limited liability companies, and **4%** are joint stock companies.

Graph 42. Distribution of Businesses Engaged in E-Commerce by Type (%, 2025)



Graph 43. Distribution of Tradesmen Engaged in E-Commerce by Gender and Age (%, 2025)

In Türkiye, **72%** of tradesmen engaged in e-commerce activities are male, while **28%** are female. When Graph 43 is examined, it is understood that the majority of both male and female business owners are in the 30–34 age range.


TÜRKİYE CUMHURİYETİ
TİCARET BAKANLIĞI
TÜRKİYE
e-TİCARET
HAFTASI
TÜRKİYE E-COMMERCE WEEK

E-COMMERCE ADAPTATION INDEX AND PROVINCIAL STATISTICS

CHAPTER 8

E-Commerce Adaptation Index and Provincial Statistics

E-Commerce Adaptation Index

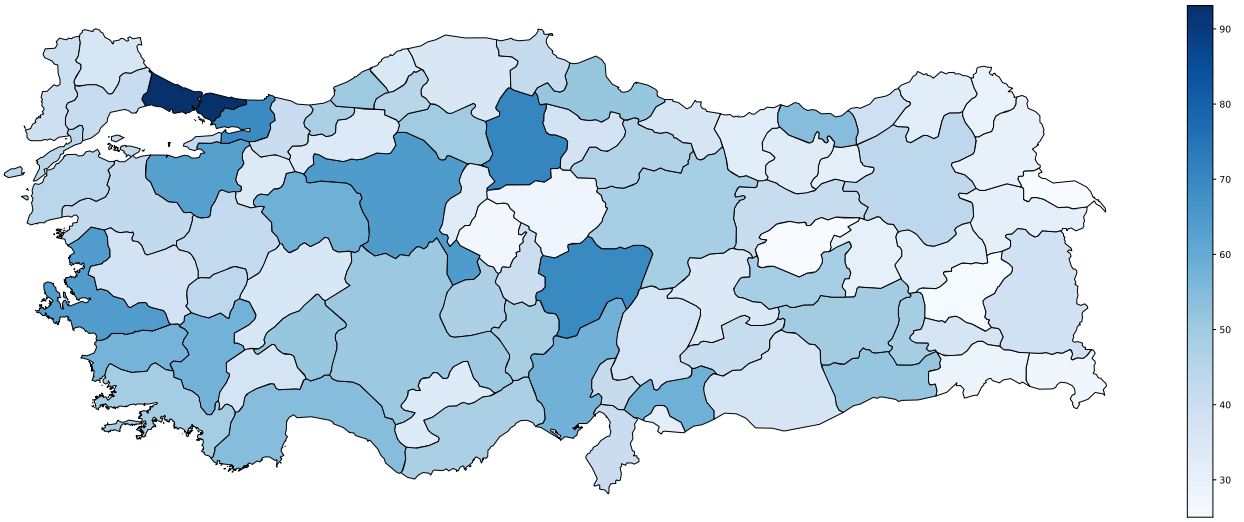
Table 8. E-Commerce Adaptation Index of Provinces (2025)

Rank	Province	Domestic E-Commerce/ GDP	E-Commerce Businesses/ Number of Businesses in the Province	Sales-to-Purchases Ratio (Sales/ Purchases)	E-Commerce Volume Per Business (million TL)	E-Commerce Adaptation Index
1	**İstanbul**	15.49%	22.43%	177.38%	10.50	93.10
2	**Çorum**	8.64%	7.21%	180.96%	11.17	71.03
3	**Kayseri**	6.23%	14.76%	125.71%	4.76	69.62
4	**Kocaeli**	4.83%	14.84%	124.99%	7.03	69.38
5	**Ankara**	4.51%	13.18%	94.05%	6.06	64.90
6	**İzmir**	5.04%	14.69%	86.07%	4.10	64.49
7	**Bursa**	4.56%	14.69%	87.67%	3.80	63.35
8	**Gaziantep**	3.88%	10.82%	82.72%	4.12	58.52
9	**Eskişehir**	2.93%	13.19%	75.80%	4.44	58.51
10	**Adana**	3.90%	12.07%	70.79%	3.53	58.01
11	**Denizli**	4.15%	12.20%	75.31%	2.99	57.81
12	**Aydın**	4.40%	8.54%	80.58%	4.49	57.31
13	**Trabzon**	3.89%	8.71%	60.55%	4.18	54.45
14	**Antalya**	3.48%	10.00%	60.59%	3.57	54.34
15	**Mardin**	2.85%	9.88%	55.42%	3.69	51.90
16	**Isparta**	3.08%	11.58%	54.23%	2.73	51.86
17	**Samsun**	3.09%	10.84%	52.86%	2.96	51.82
18	**Konya**	2.89%	10.79%	58.22%	2.72	51.02
19	**Zonguldak**	3.14%	7.44%	54.62%	4.79	50.78

Rank	Province	Domestic E-Commerce/ GDP	E-Commerce Businesses/ Number of Businesses in the Province	Sales-to-Purchases Ratio (Sales/ Purchases)	E-Commerce Volume Per Business (million TL)	E-Commerce Adaptation Index
20	**Çankırı**	2.43%	7.63%	62.84%	5.16	50.10
21	**Diyarbakır**	3.14%	7.15%	44.94%	5.66	49.63
22	**Muğla**	3.24%	7.66%	49.47%	3.80	49.30
23	**Batman**	2.57%	11.90%	41.44%	2.72	49.02
24	**Sivas**	2.49%	9.22%	50.61%	3.38	48.92
25	**Elazığ**	2.71%	7.39%	56.08%	4.22	48.91
26	**Niğde**	2.51%	7.85%	60.29%	3.54	48.50
27	**Düzce**	2.34%	10.50%	50.19%	2.70	47.72
28	**Mersin**	2.27%	9.96%	51.80%	2.89	47.65
29	**Aksaray**	2.41%	7.98%	55.97%	3.43	47.49
30	**Tokat**	2.66%	7.82%	50.02%	3.04	46.33
31	**Karabük**	2.41%	8.86%	40.44%	2.79	45.04
32	**Çanakkale**	2.30%	9.10%	42.70%	2.63	44.77
33	**Uşak**	2.22%	8.56%	50.05%	2.52	44.15
34	**Erzurum**	2.05%	8.40%	40.45%	3.23	44.11
35	**Balıkesir**	2.07%	8.92%	40.14%	2.60	43.07
36	**Yalova**	2.02%	10.27%	38.35%	2.38	42.91
37	**Kütahya**	1.94%	9.11%	40.79%	2.57	42.54
38	**Osmaniye**	2.00%	6.47%	48.60%	3.48	42.01
39	**Sinop**	2.25%	7.08%	39.69%	3.09	41.83
40	**Tekirdağ**	1.60%	10.88%	39.29%	2.38	41.73
41	**Erzincan**	1.81%	8.27%	40.43%	2.93	41.43
42	**Adıyaman**	1.88%	4.87%	45.78%	5.08	41.15
43	**Hatay**	1.82%	7.00%	42.01%	3.49	40.92
44	**Sakarya**	1.79%	10.98%	37.30%	2.05	40.87
45	**Nevşehir**	2.15%	7.95%	40.02%	2.30	40.50
46	**Edirne**	2.02%	7.81%	34.91%	2.53	39.47
47	**Rize**	1.95%	9.25%	32.33%	2.08	39.27
48	**Van**	1.98%	6.70%	33.24%	3.28	39.05
49	**Manisa**	1.58%	8.10%	37.72%	2.41	37.73
50	**Amasya**	1.89%	7.04%	36.80%	2.59	37.67

Rank	Province	Domestic E-Commerce/ GDP	E-Commerce Businesses/ Number of Businesses in the Province	Sales-to-Purchases Ratio (Sales/ Purchases)	E-Commerce Volume Per Business (million TL)	E-Commerce Adaptation Index
51	**Burdur**	1.87%	7.65%	36.73%	2.26	37.25
52	**Kahramanmaraş**	1.53%	6.31%	38.57%	3.23	37.17
53	**Şanlıurfa**	1.77%	5.54%	37.87%	3.12	36.87
54	**Ordu**	1.91%	6.95%	33.89%	2.49	36.75
55	**Siirt**	1.30%	8.79%	27.59%	2.68	36.53
56	**Kırklareli**	1.47%	8.40%	33.56%	2.34	36.39
57	**Afyonkarahisar**	1.75%	6.71%	36.37%	2.50	35.78
58	**Kastamonu**	1.53%	5.98%	38.82%	2.81	35.63
59	**Bartın**	1.72%	8.05%	28.92%	2.11	35.35
60	**Malatya**	1.40%	7.64%	32.14%	2.47	34.84
61	**Bolu**	1.14%	10.13%	29.02%	1.83	34.38
62	**Bilecik**	1.18%	8.43%	29.60%	2.36	34.33
63	**Karaman**	1.25%	7.77%	35.86%	2.10	33.97
64	**Gümüşhane**	1.46%	6.03%	29.33%	2.75	33.28
65	**Kırıkkale**	1.21%	8.27%	28.18%	2.19	33.20
66	**Artvin**	1.49%	5.02%	29.59%	2.84	32.74
67	**Muş**	1.23%	4.95%	27.26%	3.57	32.61
68	**Giresun**	1.56%	6.91%	28.56%	2.13	32.59
69	**Kilis**	1.22%	7.32%	30.44%	2.07	31.85
70	**Bayburt**	1.28%	7.19%	25.30%	2.16	31.47
71	**Ağrı**	1.23%	5.67%	22.11%	2.94	31.19
72	**Bingöl**	1.20%	6.08%	26.63%	2.67	30.94
73	**Kars**	1.14%	5.36%	23.84%	2.98	30.23
74	**Ardahan**	0.87%	3.69%	24.43%	3.66	29.51
75	**Şırnak**	0.73%	6.34%	21.68%	2.69	29.00
76	**Yozgat**	1.21%	5.00%	23.82%	2.32	28.10
77	**Hakkâri**	0.70%	4.50%	17.35%	3.25	27.72
78	**Kırşehir**	1.11%	5.43%	21.94%	2.27	27.38
79	**Bitlis**	0.91%	4.02%	17.66%	2.48	25.73
80	**Tunceli**	0.58%	3.52%	15.95%	2.75	25.06
81	**Iğdır**	0.85%	5.46%	15.72%	2.01	25.03

In the table above, an e-commerce adaptation index has been created on a provincial basis. The e-commerce adaptation index is calculated using the weighted average of four main variables in order to measure the level of e-commerce adaptation of provinces in Türkiye. The criteria included in this index, on a provincial basis, consist of the ratio of sales to purchases, e-GDP, e-commerce volume per business, and the ratio of the number of e-commerce businesses to the total number of businesses. According to the index scores, the top 5 provinces with the highest scores, and therefore the highest level of e-commerce adaptation, are **İstanbul, Çorum, Kayseri, Kocaeli,** and **Ankara,** respectively, while the 5 provinces with the lowest scores are **Iğdır, Tunceli, Bitlis, Kırşehir,** and **Hakkâri,** respectively.[9]



Map 1. Provincial E-Commerce Adaptation Index (2025)

9 An analysis of the index results reveals that some provinces rank highly regardless of their overall economic size. This is because the index is based on ratio- and efficiency-based indicators rather than absolute volumes. In particular, a high ratio of sales to purchases, an e-commerce volume per business above the average, and a relatively high share of e-commerce businesses within the total number of businesses enable these provinces to rank highly in the index. In this context, provinces with strong production and logistics capacity, access to foreign markets, and a limited number of high-performing businesses can achieve a high adaptation score even if their total volumes are not large.

Table 9. Distribution of E-Commerce Purchases and Sales Amounts and Businesses by Province (2025)

Province	Sales (billion TL)	Purchases (billion TL)	Number of Businesses Engaged in E-Commerce
Adana	47.00	66.39	13,314
Adıyaman	5.34	11.67	1,052
Afyonkarahisar	6.14	16.88	2,458
Ağrı	1.66	7.50	564
Aksaray	5.92	10.58	1,726
Amasya	3.06	8.31	1,179
Ankara	288.79	307.07	47,646
Antalya	74.33	122.67	20,799
Ardahan	0.42	1.74	116
Artvin	1.39	4.70	490
Aydın	27.62	34.28	6,156
Balıkesir	16.69	41.56	6,408
Bartın	1.56	5.38	737
Batman	5.53	13.34	2,032
Bayburt	0.50	1.96	230
Bilecik	1.97	6.65	832
Bingöl	1.30	4.87	485
Bitlis	1.05	5.93	422
Bolu	2.84	9.78	1,553
Burdur	2.86	7.79	1,264
Bursa	105.25	120.05	27,667
Çanakkale	8.72	20.42	3,319
Çankırı	2.93	4.66	567
Çorum	20.51	11.33	1,835
Denizli	25.42	33.75	8,489
Diyarbakır	19.49	43.38	3,446
Düzce	5.96	11.86	2,205
Edirne	4.86	13.92	1,919
Elazığ	8.06	14.37	1,908
Erzincan	2.37	5.86	808
Erzurum	6.75	16.69	2,090

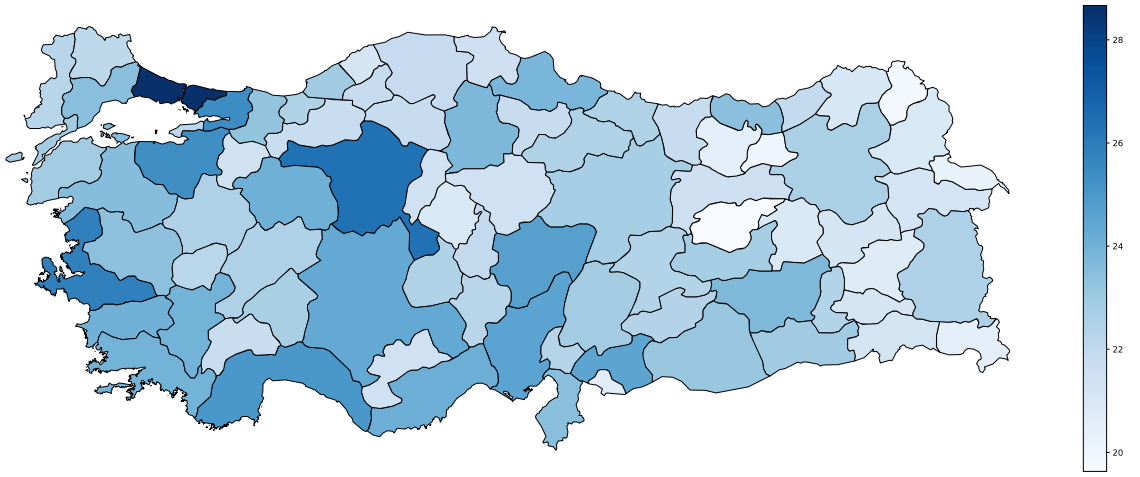
Province	Sales (billion TL)	Purchases (billion TL)	Number of Businesses Engaged in E-Commerce
Eskişehir	27.96	36.88	6,295
Gaziantep	44.32	53.58	10,750
Giresun	3.02	10.58	1,422
Gümüşhane	0.83	2.85	304
Hakkâri	0.83	4.76	254
Hatay	15.76	37.52	4,521
Iğdır	0.65	4.13	323
Isparta	7.48	13.79	2,736
İstanbul	2,813.09	1,585.94	267,934
İzmir	178.28	207.13	43,529
Kahramanmaraş	8.78	22.76	2,716
Karabük	3.12	7.71	1,120
Karaman	2.12	5.92	1,011
Kars	1.30	5.44	436
Kastamonu	3.22	8.30	1,148
Kayseri	52.73	41.94	11,083
Kırıkkale	2.09	7.43	954
Kırklareli	4.06	12.09	1,731
Kırşehir	1.31	5.95	574
Kilis	0.96	3.15	464
Kocaeli	113.14	90.52	16,101
Konya	37.73	64.80	13,853
Kütahya	6.24	15.30	2,427
Malatya	5.50	17.10	2,224
Manisa	14.67	38.90	6,077
Mardin	9.18	16.56	2,486
Mersin	29.90	57.72	10,346
Muğla	25.69	51.92	6,768
Muş	1.55	5.67	433
Nevşehir	3.65	9.13	1,590
Niğde	4.78	7.92	1,350
Ordu	5.97	17.62	2,394

Province	Sales (billion TL)	Purchases (billion TL)	Number of Businesses Engaged in E-Commerce
Osmaniye	5.21	10.71	1,495
Rize	3.34	10.34	1,609
Sakarya	13.18	35.33	6,419
Samsun	21.73	41.10	7,333
Siirt	1.61	5.83	602
Sinop	2.26	5.68	730
Sivas	7.79	15.38	2,306
Şanlıurfa	11.39	30.07	3,655
Şırnak	1.76	8.12	655
Tekirdağ	15.79	40.17	6,641
Tokat	5.92	11.83	1,946
Trabzon	15.28	25.24	3,654
Tunceli	0.34	2.10	122
Uşak	4.60	9.19	1,827
Van	6.19	18.62	1,885
Yalova	4.29	11.18	1,805
Yozgat	2.13	8.96	922
Zonguldak	9.28	16.99	1,938

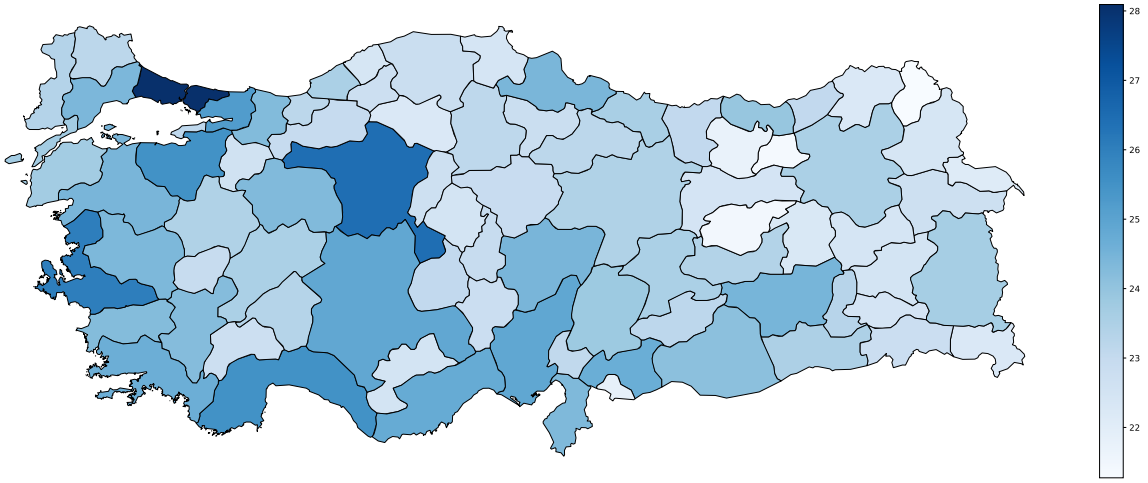
According to Table 9, the top five provinces with the highest e-commerce sales are, in order, **İstanbul**, **Ankara**, **İzmir**, **Kocaeli**, and **Bursa**. The provinces with the lowest e-commerce sales are **Tunceli**, **Ardahan**, **Bayburt**, **Iğdır**, and **Hakkâri**.

The top five provinces with the highest e-commerce purchases are **İstanbul**, **Ankara**, **İzmir**, **Antalya**, and **Bursa**. The provinces with the lowest e-commerce purchases are, in order, **Ardahan**, **Bayburt**, **Tunceli**, **Gümüşhane**, and **Kilis**.

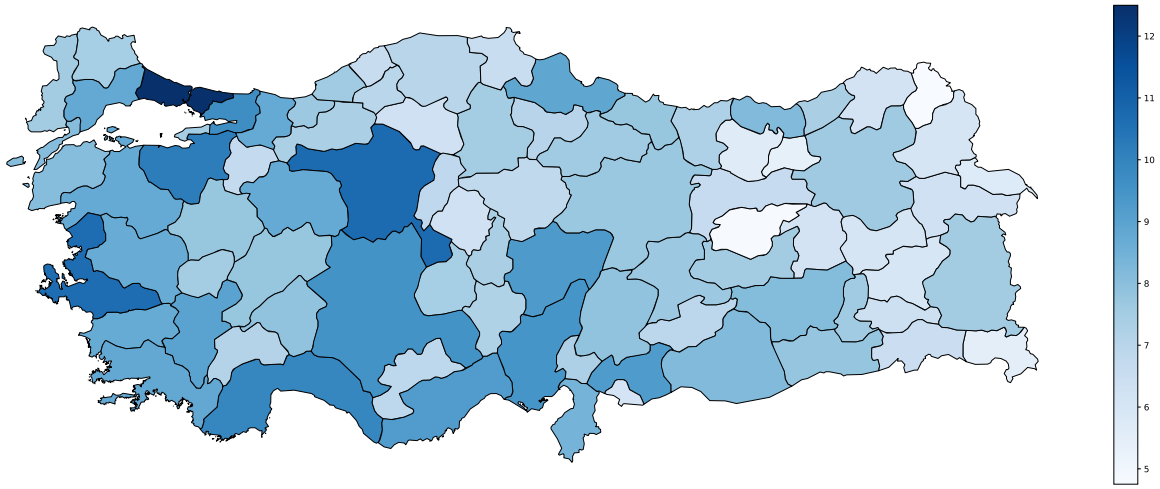
The top five provinces with the highest number of businesses engaged in e-commerce are, in order, **İstanbul**, **Ankara**, **İzmir, Bursa**, and **Antalya**, while the provinces with the fewest such businesses are **Ardahan**, **Tunceli**, **Bayburt**, **Hakkâri**, and **Gümüşhane**.



Map 2. Distribution of E-Commerce Sales by Province (billion TL, 2025)



Map 3. Distribution of E-Commerce Spendings by Province (billion TL, 2025)



Map 4. Distribution of Businesses Engaged in E-Commerce by Province (number, 2025)

Q-COMMERCE

CHAPTER 9

Q-Commerce

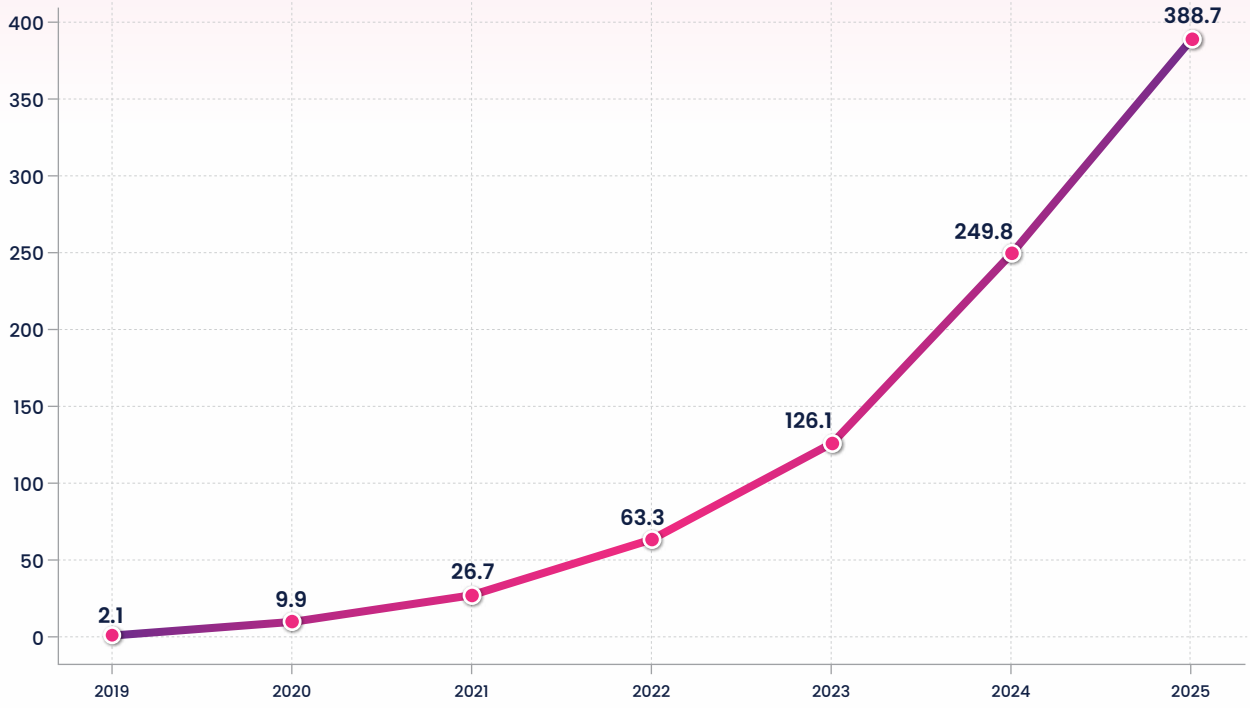
Developments in Türkiye's e-commerce ecosystem are driving consumers' expectations for speed, accessibility, flexibility, and product variety higher every day. In this context, q-commerce is emerging as one of the most effective e-commerce models for meeting these expectations by delivering ordered products to consumers in a very short time.

Q-commerce is experiencing strong growth, particularly in the food, supermarket, and food delivery sectors, thanks to dark stores, local partnerships, and advanced logistics infrastructure. As traditional retailers adapt to this model, scheduled orders are expanding product variety and volume—which were previously limited by the storage capacity of dark stores and delivery vans—thereby broadening the range of products available to consumers day by day. In the scheduled delivery model, large-volume orders are fulfilled on the date and at the time pre-selected by the consumer significantly reducing the need to visit a physical store.

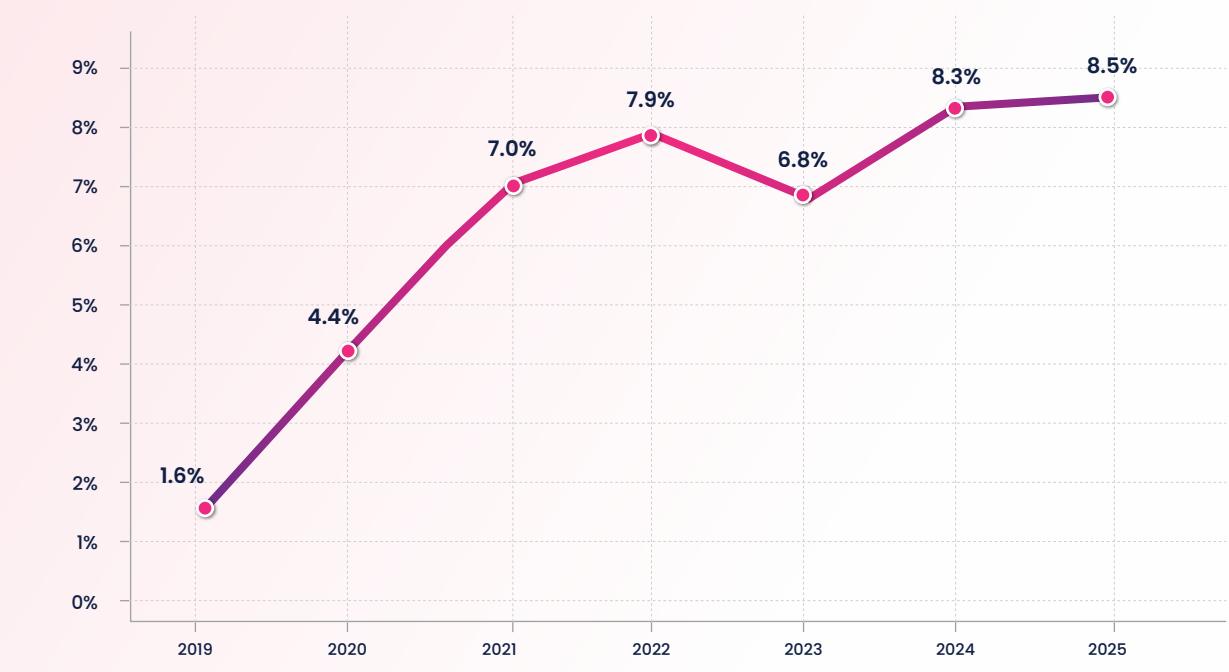
This section analyzes the size of q-commerce activities in our country as of 2025, their sectoral distribution, their share in the food and supermarket sectors, their ratio to businesses' physical sales, and their geographical concentration. It also examines the distribution of q-commerce activities by product groups and identifies key trends in consumer behavior.

Volume of Q-Commerce

As of 2025, the volume of q-commerce, which includes both instant and scheduled deliveries, increased by **55.6%** compared to the previous year, reaching **388.7 billion TL**. The compound annual growth rate (CAGR) of the q-commerce volume between 2019 and 2025 was **138.7%**.



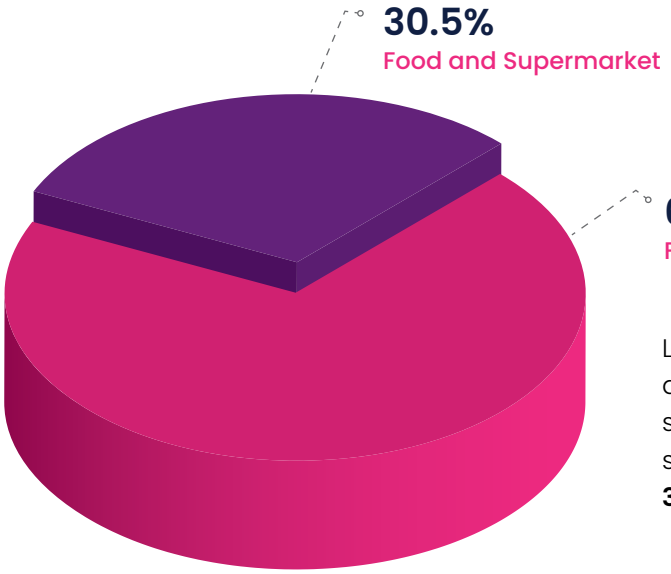
Graph 44. Distribution of Q-Commerce Volume by Year (in billions of TL)



Graph 45. The Share of Q-Commerce in E-Commerce (%)

The share of q-commerce in the **e-commerce**[10] **volume** was **1.6%** in 2019, rising to **8.5%** by 2025. This clearly demonstrates that q-commerce has assumed an increasingly significant role within the e-commerce ecosystem, while also indicating a growing expectation among consumers for speed and instant access.

10 The volume of e-commerce in 2025 is 4.57 trillion Turkish lira.



Looking at the sectoral breakdown of q-commerce in 2025, the food delivery sector accounts for **69.5%**, while the food and supermarket sector makes up the remaining **30.5%**.

Graph 46. Sectoral Breakdown of Q-Commerce (%, 2025)

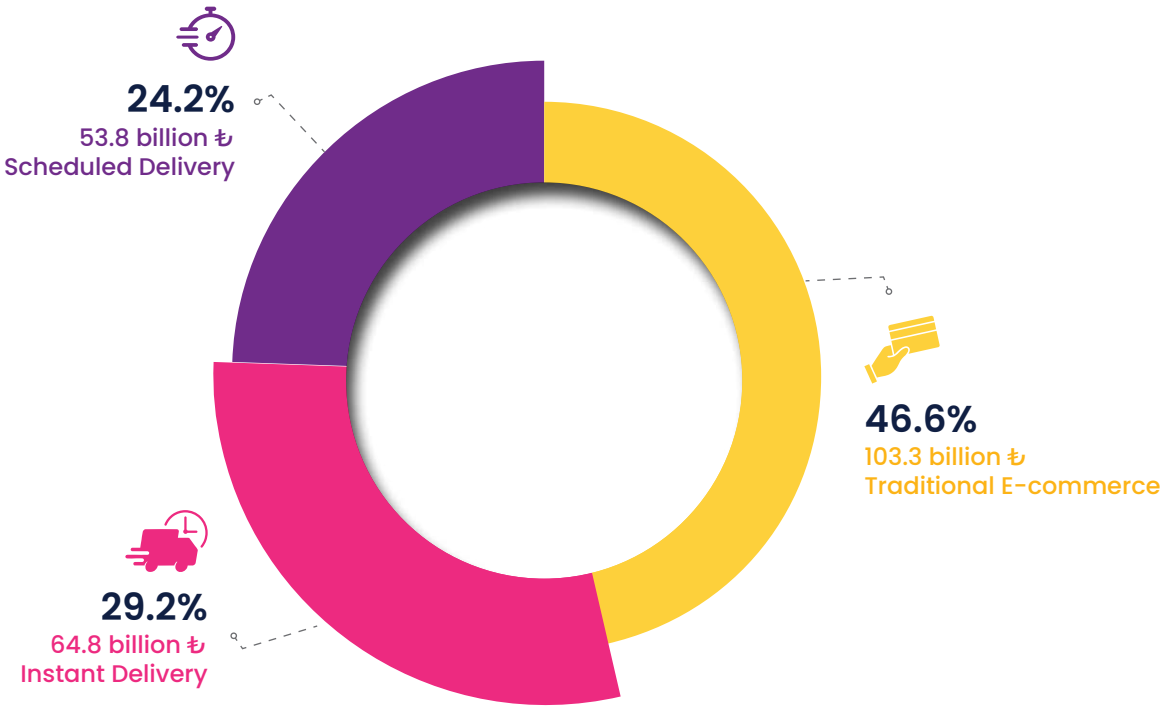
Distribution by Delivery Model in the Food and Supermarket Sector

In the report, the food and supermarket sectors has been classified into three distinct models instant delivery, scheduled delivery, and traditional e-commerce—to enable a more detailed assessment of the sector's market size as of this year:

Instant delivery refers to a speed-focused delivery model in which consumers typically receive the products they order within an hour or less, usually via motorized couriers.

Scheduled delivery is a delivery model in which consumers receive their orders within a pre-determined date and time window, with a planned interval between the order and delivery, and the delivery is organized according to the consumer's preferred time slot. As part of the operation, deliveries are carried out using motorized couriers or light commercial vehicles, depending on the need.

Traditional e-commerce refers to the conventional online sales model in the food and supermarket sectors, where orders are delivered via shipping. In this model, delivery times typically exceed one day, and consumers cannot specify the delivery time. Because deliveries are made via shipping, this model **is not classified as q-commerce**.



Graph 47. Distribution of the Food and Supermarket Sector by Delivery Model (%, TL, 2025)

In 2025, the total volume of q-commerce and traditional e-commerce in the food and supermarket sector reached **221.9 billion TL**. When this graph is broken down by delivery model:

- **Traditional e-commerce** took the top spot with a volume of **103.3 billion** TL and a **46.6%** market share,

As for q-commerce,

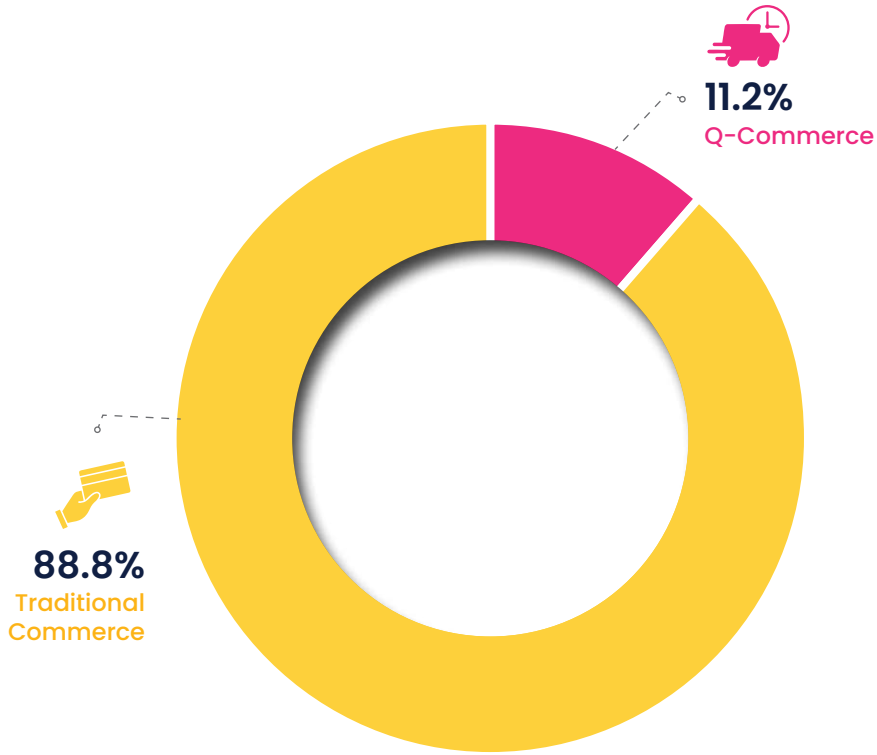
- With a volume of **64.8 billion TL** and a **29.2%** market share, instant delivery ranked second,
- With a volume of **53.8 billion TL** and a **24.2%** share, **scheduled delivery** ranks third.

This distribution shows that, despite the fact that instant delivery involves low-value and small-volume orders, it holds a significant share of the market.

Distribution of Businesses' Sales Volumes by Traditional and E-Commerce Channels

Businesses with physical stores are adopting a multichannel structure by diversifying their sales channels to adapt to changing consumer behavior. Businesses currently operating physically are increasing the number of consumers they reach by offering services through q-commerce channels without incurring any additional costs.

Under this heading, data from businesses engaged in both traditional trade and q-commerce activities were analyzed. Businesses engaged solely in q-commerce activities were excluded from the scope of this analysis.



Q-commerce accounts for **11.2%** of the total sales volume of businesses that engage in q-commerce and operate physical stores. Although this represents a limited share, it indicates that the sector has significant growth potential, driven by rising consumer demand and digital transformation.

Graph 48. Distribution of Businesses' Sales Volumes by Traditional and Q-commerce Channels (%, 2025)

Distribution of Q-Commerce by Province

While q-commerce is widespread throughout the country, a significant portion of the transaction volume and number of transactions is concentrated in major cities. İstanbul accounts for **55.4%** of the q-commerce volume and **57.7%** of the number of products. İstanbul is followed by Ankara, İzmir, Bursa, and Antalya, in that order.

Table 10. Distribution of Q-Commerce Volume and Number of Products by Province (%, 2025)

Provinces	Volume	Number of Products
İstanbul	55.4%	57.7%
Ankara	8.1%	7.4%
İzmir	7.0%	6.6%
Bursa	3.7%	3.3%
Antalya	3.0%	2.9%
Kocaeli	2.0%	2.2%
Adana	1.5%	1.4%
Mersin	1.5%	1.3%
Eskişehir	1.2%	1.2%
Muğla	1.0%	1.0%

Distribution of Q-Commerce by Product Category

Top Selling Product Groups in the Food and Supermarket Sector

The food and supermarket sector plays a significant role in the q-commerce due to its wide product range and pattern of regular consumption. The growing demand for quick and easy access to daily necessities is driving consumers toward this channel, while retail businesses with physical stores are able to expand their reach by adapting to the q-commerce.

Table 11. Top-Selling Product Groups by Volume in the Food and Supermarket Sector in Q-Commerce (2025)

Rank	Product Group	Total Unit (billion TL)	Number of Product Varieties
1	Chocolate, Wafers, and Cookies	4.64	649
2	Cleaning and Home Care	3.96	356
3	Chicken, Turkey, and Poultry Products	3.46	264
4	Meatballs and Processed Meat	3.43	284
6	Milk	3.01	293
7	Bottled Water	2.88	129
8	Eggs	2.81	115
9	Sunflower Oil	2.50	79
10	Carbonated Beverages	2.39	193
11	Yogurt	2.28	220
12	Cheddar Cheese	2.17	101
13	Ground Beef	2.13	74
14	Bottled Water	2.09	45
15	Cream Cheese and Soft Cheese	2.05	235
16	White Cheese and Other Cheeses	1.91	149
17	Mineral Water	1.51	92
18	Ice Cream	1.44	130
19	Beef	1.35	111
20	Bananas	1.29	46
21	Bread and Baked Goods	1.24	129
22	Lemons	1.23	137
23	Butter and Margarine	1.22	129
24	Tomatoes	1.19	74
25	Olive Oil	1.02	84

According to Table 11, in q-commerce, the top-selling product group by total sales volume is chocolate, wafers, and biscuits, with **4.64 billion TL.** This group is followed by cleaning and home care products at **3.96 billion TL**, and chicken, turkey, and poultry products at **3.46 billion TL.**

Table 12. Top Selling Product Groups by Unit in the Food and Supermarket Sector in Q-Commerce (2025)

Rank	Product Group	Total Unit (million)	Number of Product Varieties
1	Chocolate, Wafers, and Cookies	80.91	649
2	Potato Chips, Snacks, and Nuts	52.76	544
3	Milk	46.03	293
4	Bottled Water	44.94	129
5	Bread and Baked Goods	34.76	129
6	Cream Cheese and Soft Cheese	30.50	235
7	Mineral Water	30.09	92
8	Yogurt	29.98	220
9	Carbonated Beverages	27.53	193
10	Tomatoes	25.62	74
11	Meatballs and Processed Meat	23.64	284
12	Cleaning and Household Care	22.31	356
13	Chicken, Turkey, and Poultry Products	22.12	264
14	Eggs	22.12	115
15	Potatoes	19.51	65
16	Green Vegetables	18.60	34
17	Lemons	17.54	137
18	Cucumbers	17.54	48
19	Onions	17.33	74
20	Peppers	16.84	145
21	Bananas	16.61	46
22	White Cheese and Other Cheeses	13.70	149
23	Ice Cream	13.67	130
24	Bottled Water	12.61	45
25	Cheddar Cheese	10.07	101

According to Table 12, in q-commerce the product group with the highest total sales by unit is chocolate, wafers, and biscuits, with **80.91 million units**. This group is followed by chips, snacks, and nuts, as well as dairy products.

The Most Popular Meals in Food Delivery Sector

As shown in Graph 46, the food delivery sector accounts for **69.5%** of q-commerce volume, making it the main component of the q-commerce. With the fast-paced nature of modern life, consumers' eating habits are changing; the demands of consumers seeking quicker access to food are being met much more easily as businesses in the food delivery sector adapt to q-commerce trends. In this way, businesses in the food delivery sector also gain the opportunity to expand their customer base.

According to 2025 ETBIS data, an analysis of sales in the food delivery sector conducted via q-commerce reveals that transaction volume is concentrated around certain product groups.

Table 13. The Most Ordered Meal in Food Delivery Sector by Volume in Q-Commerce (2025)

Rank	Product Group	Total Unit (billion TL)	Number of Product Varieties
1	Hamburger	26.74	1,014
2	Pizza	17.03	583
3	Chicken Döner	12.56	625
4	Lahmacun	6.67	117
5	Grilled Meatballs and Meat Dishes	5.08	237
6	Çiğ Köfte	4.18	173
7	Toast and Sandwiches	3.90	306
8	Pide	3.63	123
9	Meat Döner	3.57	133
10	Tantuni (Beef and Chicken)	2.83	86
11	Coffee (Hot and Cold)	2.69	123
12	Adana and Urfa Kebab	2.68	33
13	Carbonated Beverages	2.65	153
14	Soup	2.64	84
15	Rice	2.11	150
16	Chicken Shish and Grilled Chicken	2.06	60
17	Ayran	2.05	128
18	Börek and Pastries	1.89	145
19	Bowls and Noodles	1.65	106
20	Home-Style Meals	1.63	48
21	Kunefe and Baklava	1.32	146
22	French Fries	1.11	62

Rank	Product Group	Total Unit (billion TL)	Number of Product Varieties
23	Waffles	1.10	115
24	Profiteroles and Soufflé	0.83	43
25	Salad, Cacık, and Meze	0.78	71
26	Milk Puddings	0.75	29
27	Döner with Rice	0.70	33
28	Kokoreç	0.63	51

According to the table, the most frequently ordered meal in food delivery sector, based on sales volume, is the hamburger, at **26.74 billion TL**. This is followed by pizza at **17.03 billion TL**, chicken doner at **12.56 billion TL**, and lahmacun at **6.67 billion TL**.

Table 14. The Most Ordered Meal in Food Delivery Sector by Unit in Q-Commerce (2025)

Rank	Product Group	Total Unit (million)	Number of Product Varieties
1	Hamburger	97.85	1,014
2	Chicken Doner	56.64	625
3	Pizza	44.12	583
4	Ayran	43.63	128
5	Carbonated Beverages	35.03	153
6	Lahmacun	33.16	117
7	Sauces (Ketchup, Mayonnaise, etc.)	26.23	117
8	Börek and Pastries	23.09	145
9	Çiğ Köfte	21.64	173
10	Toast and Sandwiches	18.27	306
11	Coffee (Hot and Cold)	18.03	123
12	Grilled Meatballs and Meat Dishes	16.85	237
13	Soup	15.84	84
14	French Fries	13.71	62
15	Pide	13.07	123
16	Tantuni (Beef and Chicken)	12.59	86
17	Rice	11.21	150

Rank	Product Group	Total Unit (million)	Number of Product Varieties
18	Adana and Urfa Kebab	8.61	33
19	Meat Döner	8.11	133
20	Water	7.62	27
21	Simit	7.53	53
22	Chicken Shish and Grilled Chicken	6.06	60
23	Home-Style Meals	5.33	48
24	Salad, Cacık, and Meze	5.08	71
25	Milk Puddings	4.69	29
26	Bowls and Noodles	4.66	106
27	Pide	4.16	27
28	Profiteroles and Soufflé	3.89	43

According to the table, the most frequently ordered meal in q-commerce, based on total unit, is the hamburger with **97.85 million units**, followed by chicken doner with **56.64 million units** and pizza with **44.12 million units**.

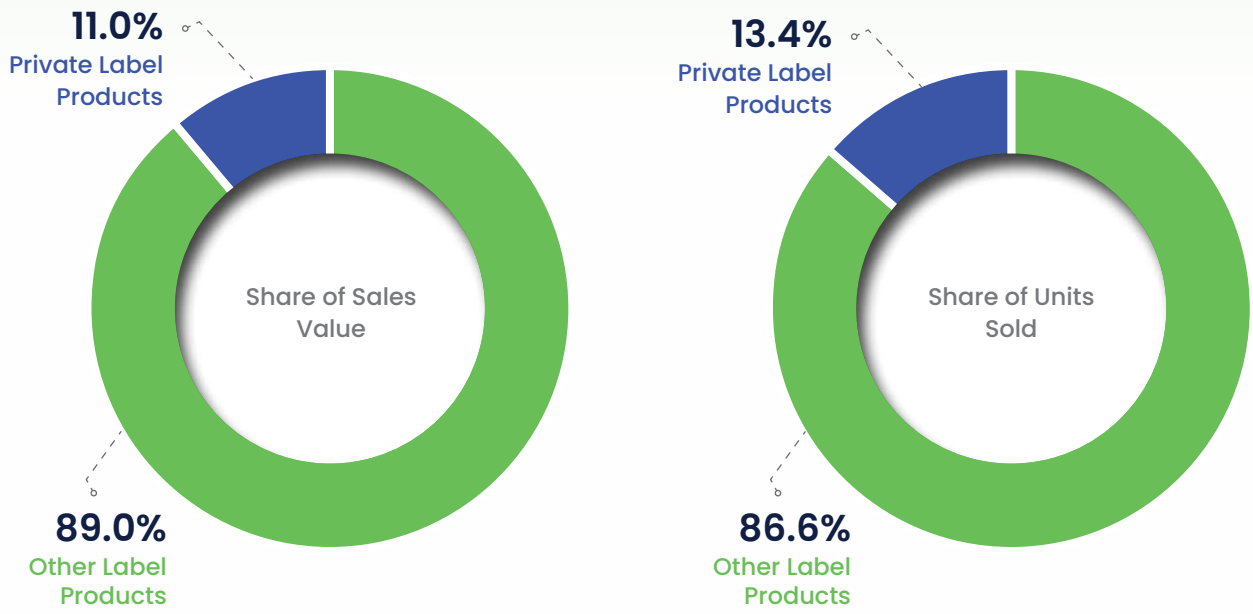
PRIVATE-LABEL PRODUCTS IN FOOD RETAIL

CHAPTER 10

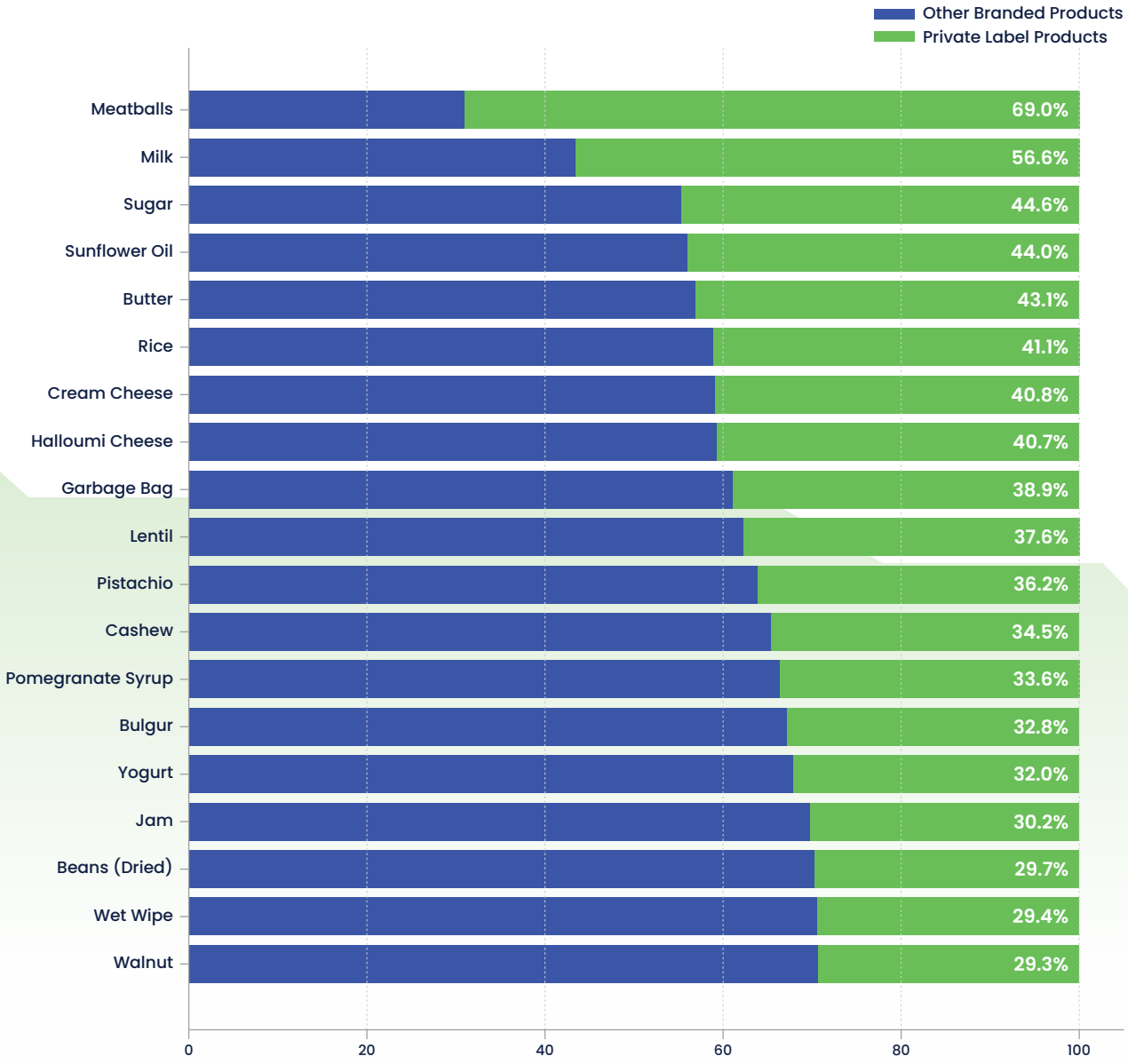
Private-Label Products in Food Retail

Private-label products refer to items that retail stores have manufactured by third parties, sell under their own name or brand at their stores, and over which they retain control regarding pricing, packaging, or promotion. These products are marketed under the retail store's brand identity and are positioned as alternatives to other branded products.

According to ETBIS data, private-label products account for **11%** of the total sales value in e-commerce sales made through food and supermarket service providers. Private-Label products also account for **13.4%** of the total number of items sold.



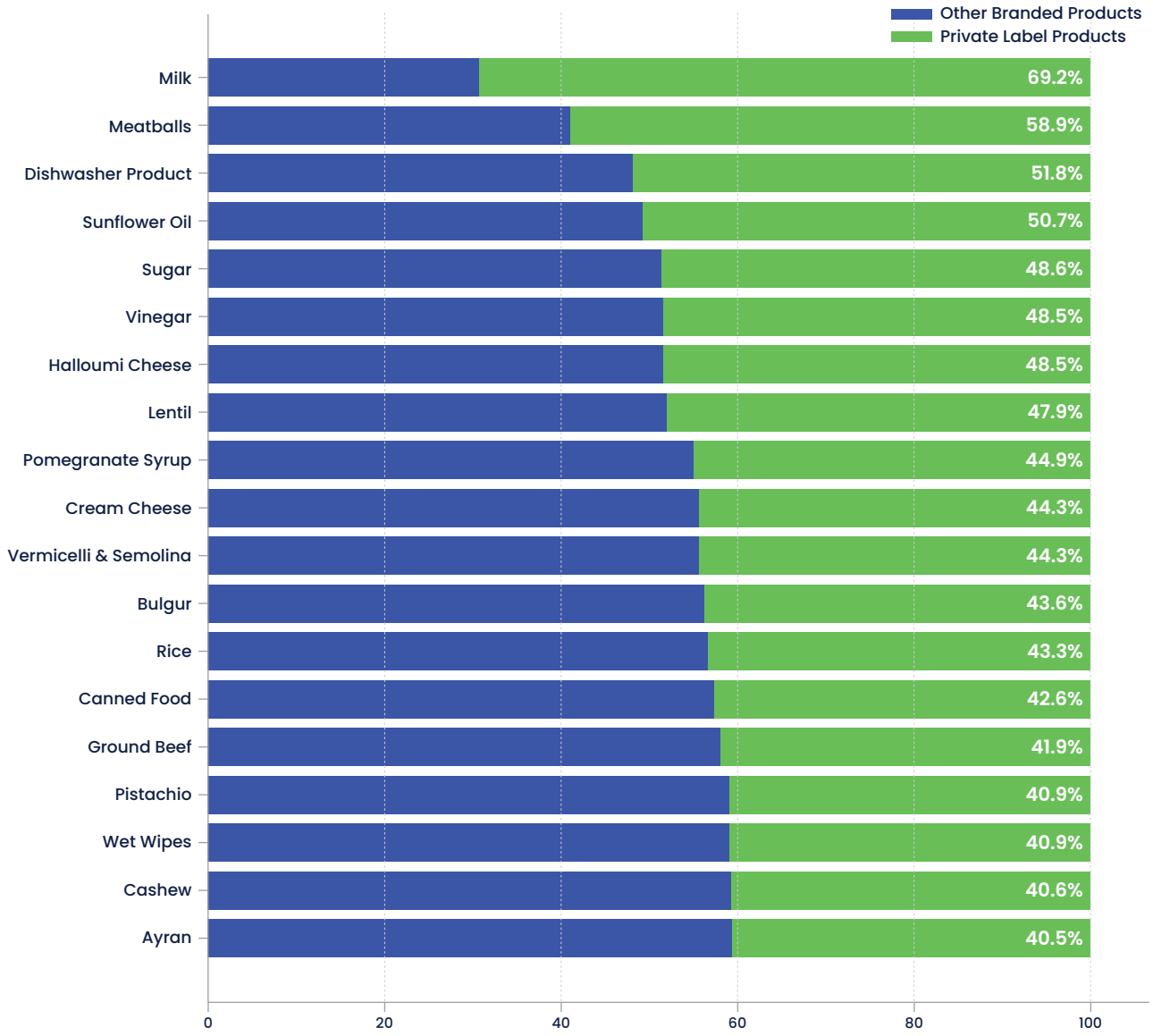
Graph 49. Distribution of Private-Label Products (%, 2025; food and supermarket service providers)



Graph 50. Share of Private-Label Products by Value (%, 2025; food and supermarket service providers)

An examination of the graph reveals that private-label products account for varying shares across different product categories in terms of value. The highest share, at **69%**, is found in the meatballs product category, followed by milk at **56.6%**. It is evident that private-label products stand out significantly in these two product categories.

It is observed that the share of private-label products in staple food items such as sugar **(44.6%)**, sunflower oil **(44%)**, and butter **(43.1%)** is concentrated in the 40–45% range. Similarly, it is evident that private-label products hold a significant share in product groups such as legumes, cheese varieties, and nuts.

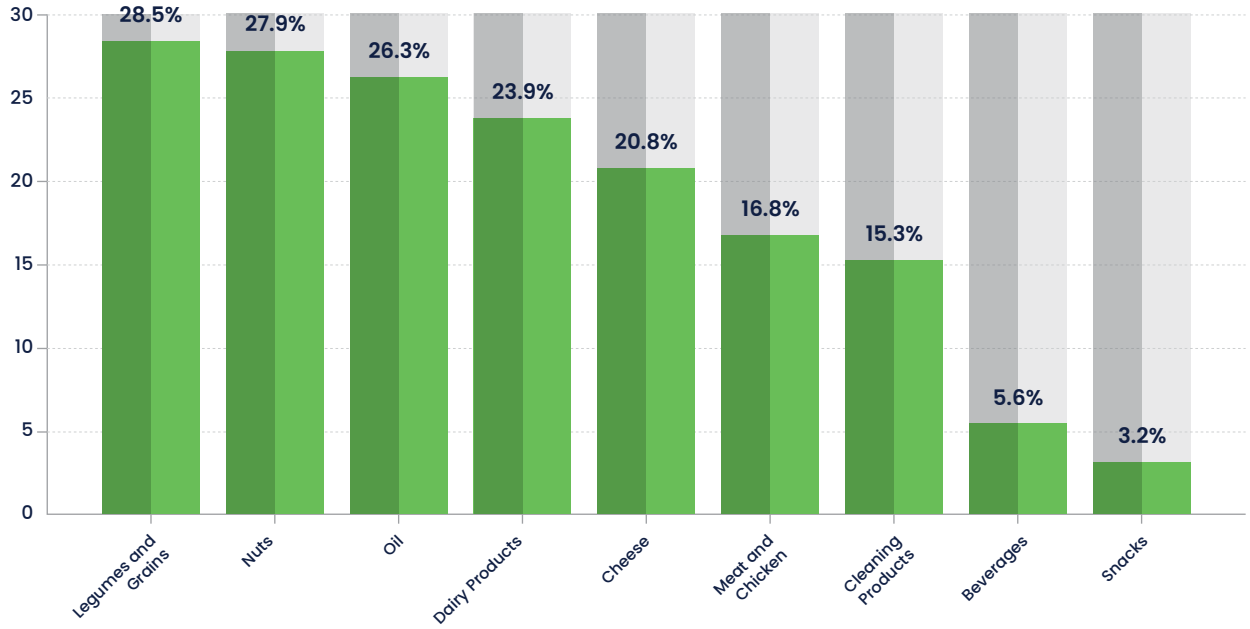


Graph 51. Share of Private Label Products by Unit (%, 2025; food and supermarket service providers)

An examination of the graph reveals that private-label products account for a significant share of sales by unit across many product categories. In particular, private-label products account for a high percentage of sales in the milk (**69.2%**) and meatballs **(58.9%**) categories. In product categories such as dishwasher detergents **(51.8%**) and sunflower oil **(50.7%**), the share of private-label products is seen to be quite close to that of other branded products.

In other product categories, the share of private-label products is generally observed to be concentrated in the 40–50% range. While private-label products have established a significant presence in product categories such as sugar, vinegar, cheese varieties, legumes, and nuts, it is evident that competition with other branded products remains balanced.

Overall, it is evident that private-label products hold a strong market share in many product categories and have even achieved a leading position in some.



Graph 52. Volume-Based Distribution of Private-Label Products Across Major Product Categories (%, 2025; food and supermarket service providers)

An examination of the graph reveals that the distribution of private-label products varies across the major product groups. It is evident that the highest share is in the legumes and grains product group (**28.5%**), followed by the nuts **(27.9%**) and oils (**26.3%**) product groups. It appears that private-label products are adopted at a higher level by consumers in these product groups.

While the share of private-label products is relatively high in the dairy products (**23.9%**), cheese (**20.8%**), meat and poultry (**16.8%**), and cleaning supplies **(15.3%**) categories, the adoption rate is more limited compared to the first category.

In contrast, the share of private-label products in the beverage (**5.6%**) and snack (**3.2%**) categories is quite low.

USED CAR SALES IN E-COMMERCE

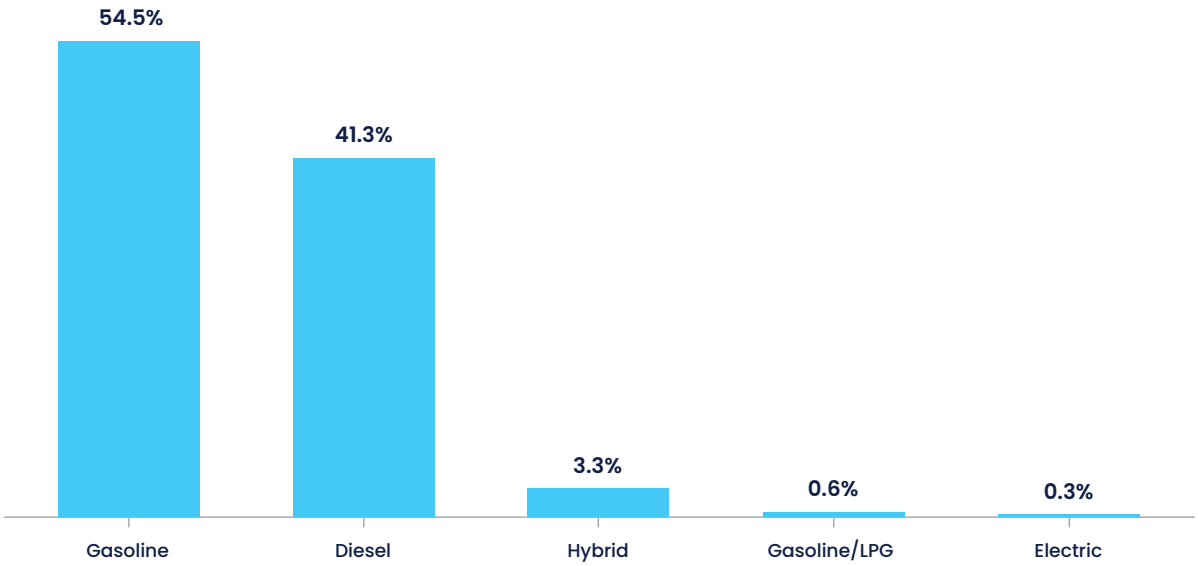
CHAPTER 11

Used Car Sales in E-Commerce

The motor vehicle market in Türkiye plays a significant role in economic activity due to its size and transaction volume. According to TÜİK Motor Vehicle data, as of 2025, the number of vehicles registered for traffic in Türkiye stands at **33,612,650**, of which **17,457,542** are passenger cars. During the year, a total of **11,213,405** vehicle transfers were recorded, with **7,572,528** of these transactions involving passenger cars. These figures demonstrate a very high turnover rate in the passenger car market and indicate that the used car market has an extremely active structure.

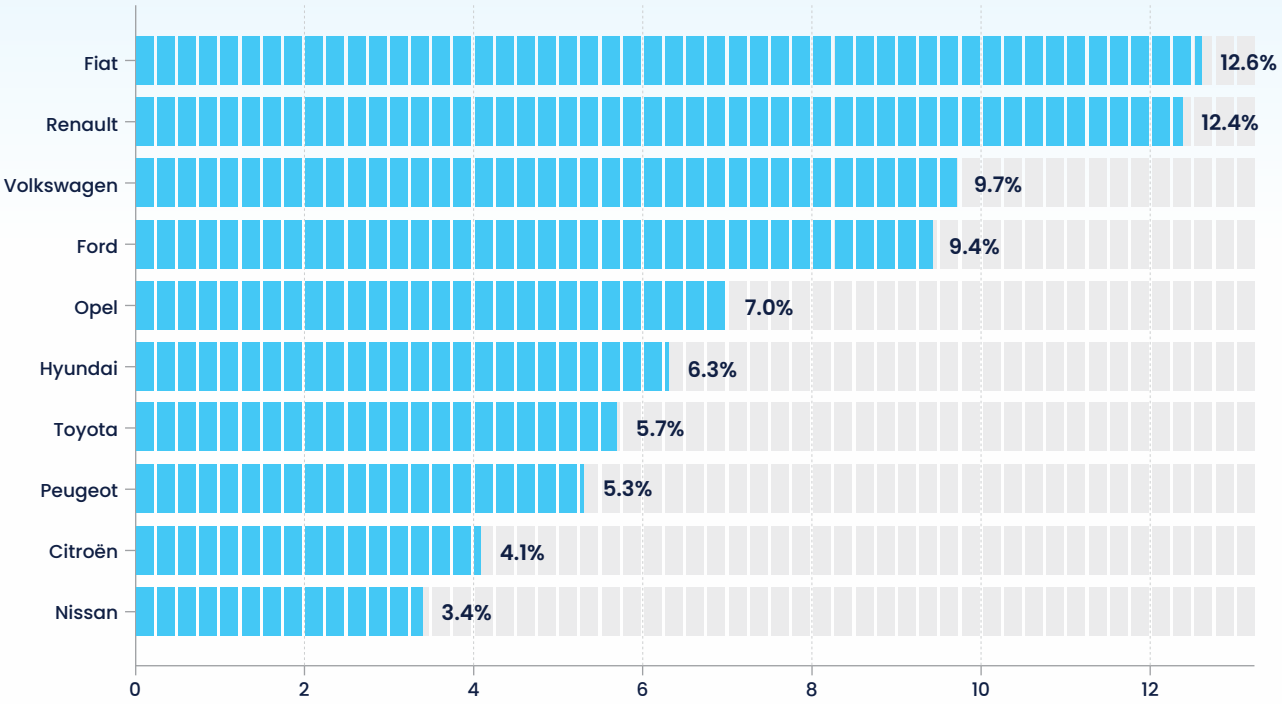
This high volume of transactions is not limited to physical markets but is also strongly reflected in digital platforms. In particular, with the development of e-commerce infrastructure in recent years, a significant portion of used vehicle buying and selling processes has shifted to online platforms. In this context, analyzing the overview and dynamics of this intense activity in the used car market on e-commerce platforms is of critical importance for understanding the sector's current structure and direction of transformation.

In this context, to highlight the specific characteristics of the used car market in e-commerce, **statistics on transactions conducted within the e-commerce sector** are examined in detail in this section, broken down by fuel type, brand and model, transmission type, trim level, engine displacement, and age.



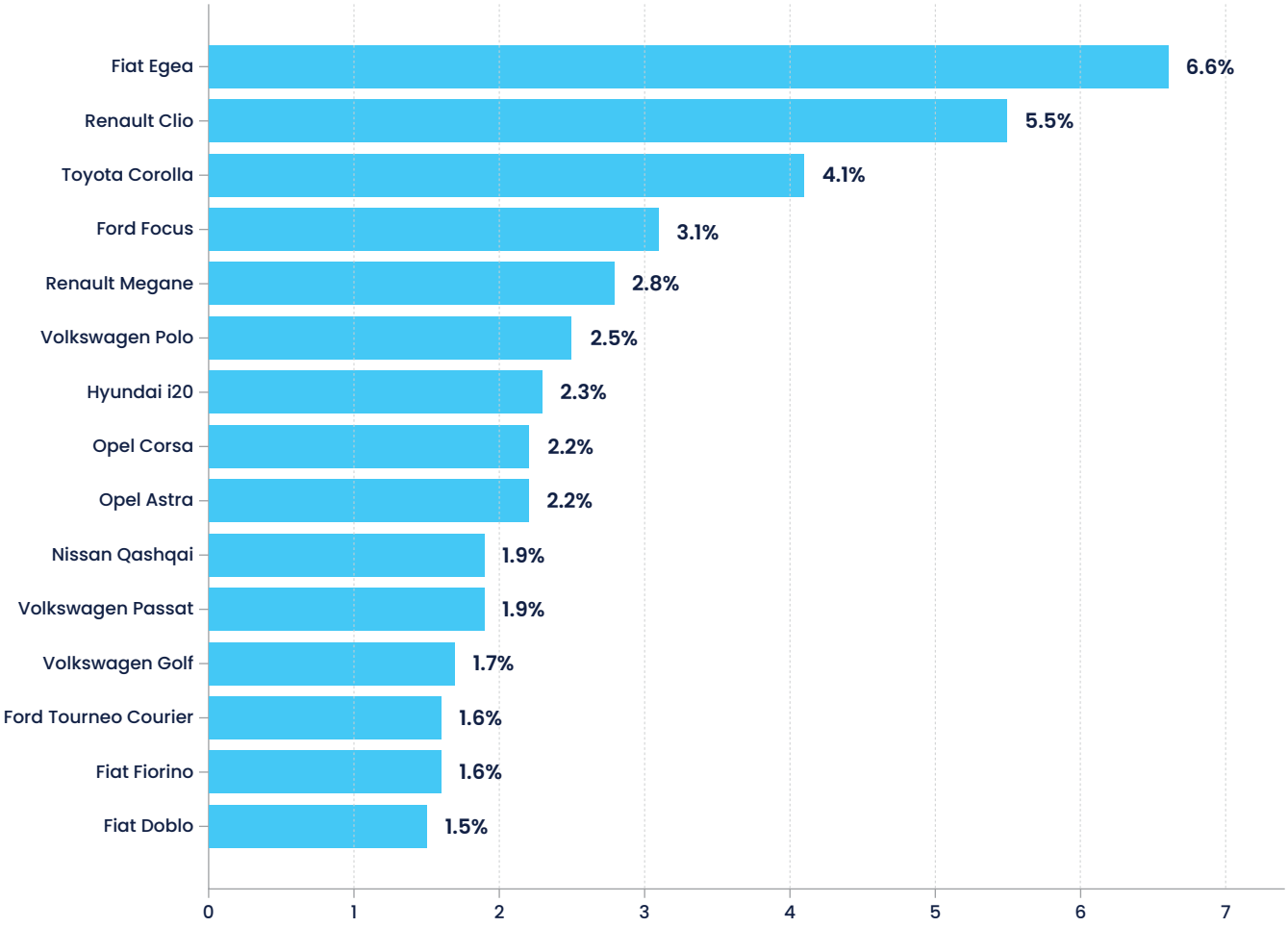
Graph 53. Distribution of Used Car Sales in E-Commerce by Fuel Type (%, 2025)

In the online used car market, gasoline-powered vehicles account for the largest share at **54.5%**, while diesel vehicles rank second at **41.3%**. Hybrid vehicles follow with a **3.3%** share[11]



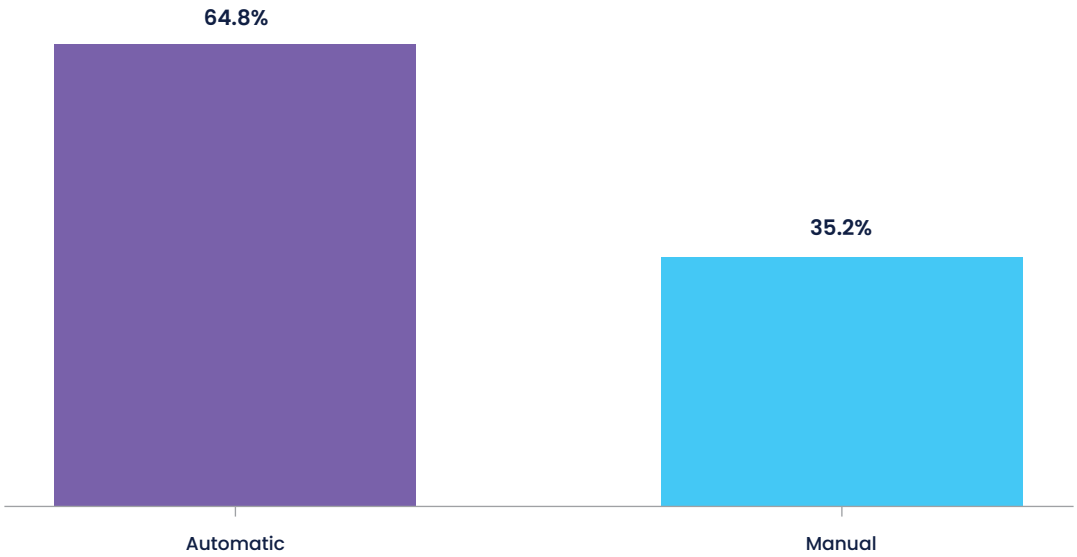
Graph 54. Distribution of Used Car Sales in E-Commerce by Brand (%, 2025)

11 The analyze presented in this section are based on data from businesses that have been reported to ETBIS, and the analyze are based on sales volume.



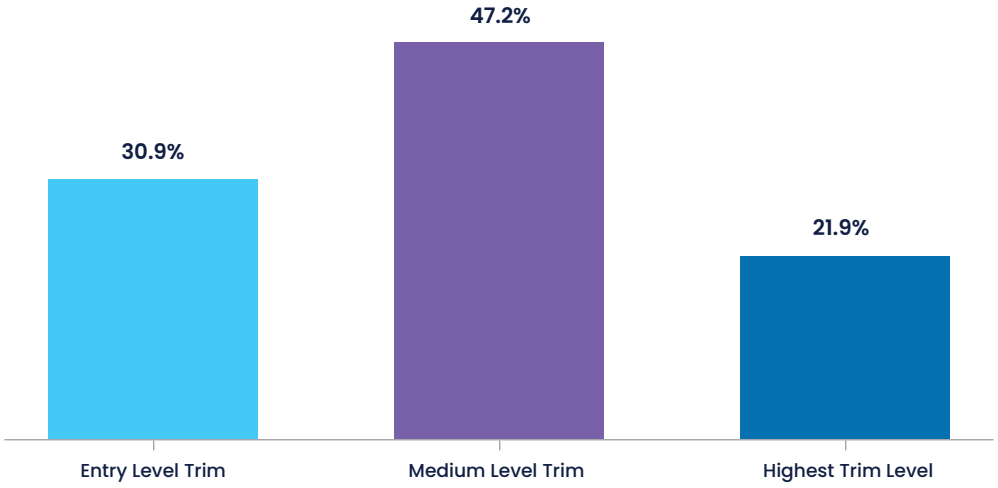
Graph 55. Distribution of Used Car Sales in E-Commerce by Model (%, 2025)

An examination of Graphs 54 and 55 reveals that the top ten brands account for **75.9%** of total sales in the e-commerce sector. Among these brands, Fiat and Renault rank first and second with **12.6%** and **12.4%**, respectively. When viewed by model, the top fifteen models account for **41.5%** of total sales in the e-commerce sector. The top three models, Fiat Egea, Renault Clio, and Toyota Corolla—account for **16.2%** of total e-commerce sales.



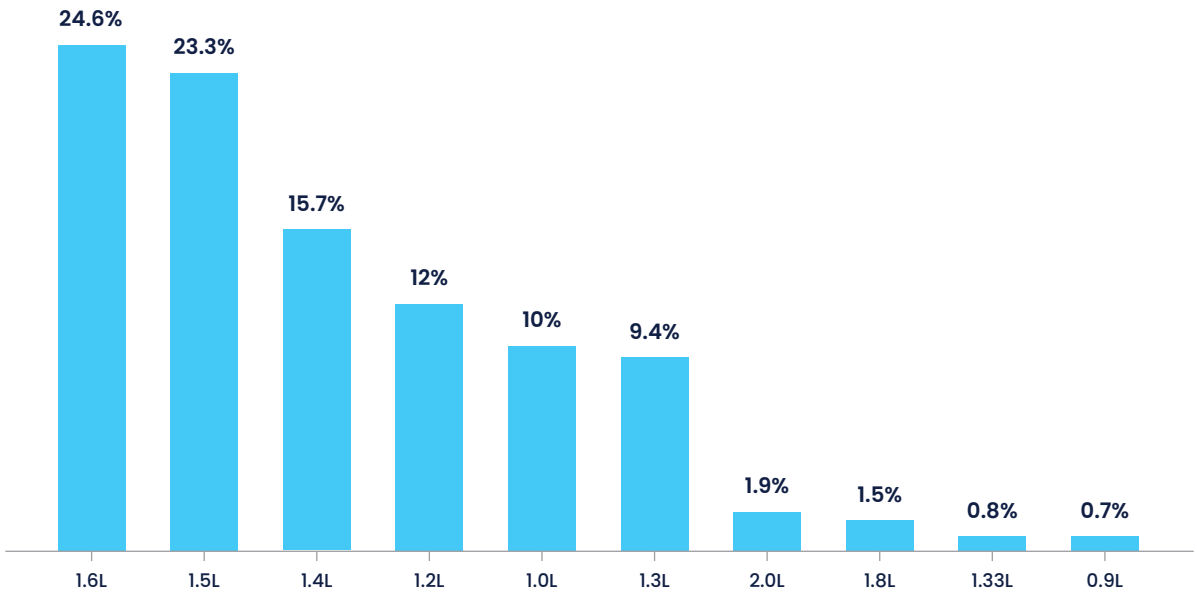
Graph 56. Distribution of Used Car Sales in E-Commerce by Transmission (%, 2025)

In 2025, **64.8%** of vehicles sold were equipped with automatic transmissions, while **35.2%** were equipped with manual transmissions



Graph 57. Distribution of Used Car Sales in the E-Commerce Sector by Trim Level (%, 2025)

According to the results of the analysis conducted by trim level, it appears that consumers prefer medium trim levels the most. In this context, vehicles with medium trim levels account for the highest share at **47.2%**, while entry level trims account for **30.9%** and highest level trims account for **21.9%**.

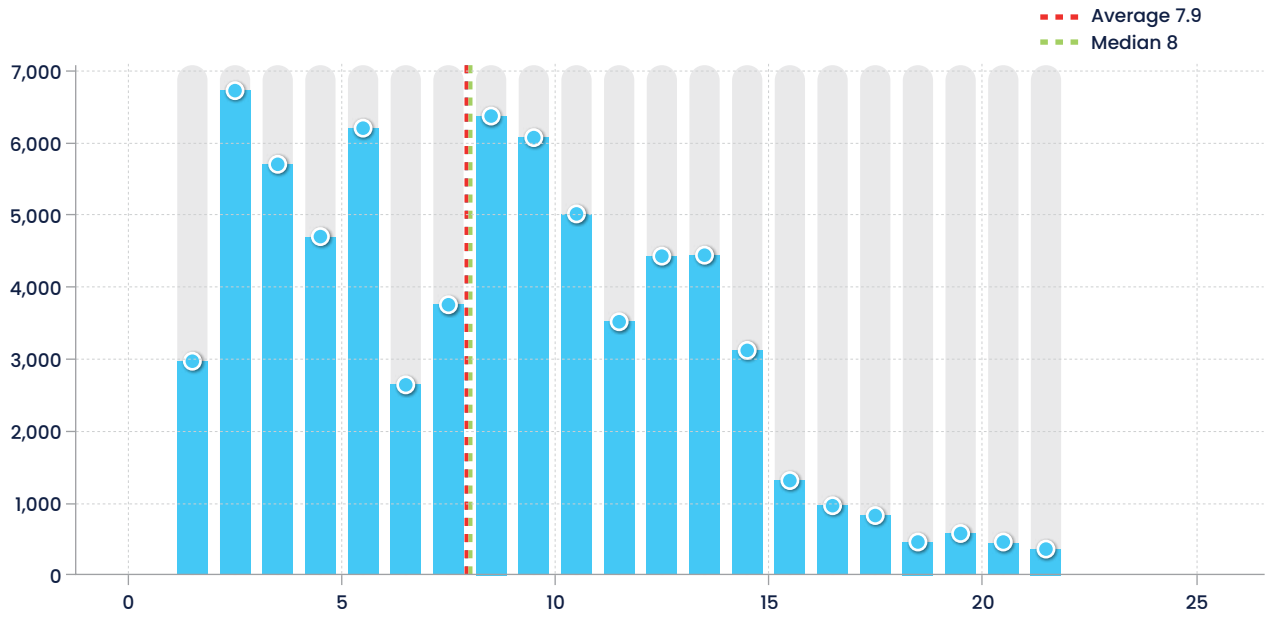


Graph 58. Distribution of Used Car Sales in E-Commerce by Engine Size (%, 2025)

When examining the sales distribution by engine size, it is evident that the 1.6L engine size holds the largest share at **24.6%**, followed by the 1.5L engine size at **23.3%**. When these two engine sizes are considered together, they account for approximately half of the total market.

On the other hand, while the 1.4L engine size ranks third with a **15.7%** share, the 1.2L, 1.0L, and 1.3L engine options also hold significant shares of **12%**, **10%**, and **9.4%**, respectively. In this context, vehicles with engine size ranging from 1.0L to 1.6L account for a combined **95%** of the market, representing nearly the entire market.

Vehicles with 2.0-liter engines account for **1.9%** of total sales, while those with 1.8-liter, 1.33-liter, and 0.9-liter engines account for a very small share.



Graph 59. Distribution of Used Car Sales in E-Commerce by Age (units, 2025)

Graph 59 shows that a large portion of used car sales occurs in the **2–14** age range. Beyond this range, as the age of the vehicles increases, their share of total sales decreases significantly.

SUSTAINABLE E-COMMERCE

CHAPTER 12

Sustainable E-Commerce

21.8 billion TL

E-commerce volume
as of 2025

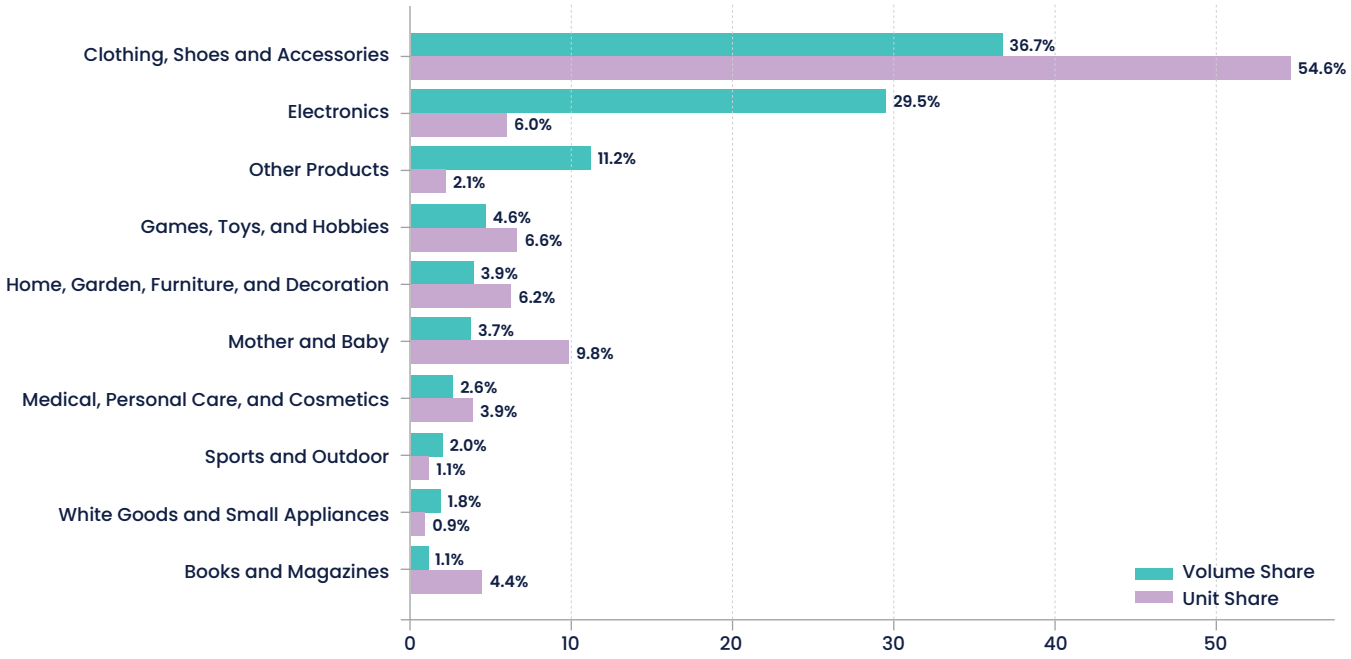
23.6 million units

Number of products
as of 2025

The concept of sustainability has become one of the most significant areas of transformation in the e-commerce ecosystem in recent years. While the environmental impacts of traditional commerce and e-commerce continue to be debated across various dimensions—such as production, logistics, packaging, and waste management, the contribution of the consumer-to-consumer (C2C) e-commerce model to this field is particularly noteworthy. The resale of previously used products extends the product lifecycle, optimizes resource use, and helps reduce waste. In this regard, sustainable e-commerce stands out as a digitized and scalable form of eco-conscious consumption.

One of the most tangible indicators of this transformation in e-commerce is the rapid growth in the volume of sustainable e-commerce transactions. Indeed, while the volume of sustainable e-commerce reached **9.8 billion TL** and the number of transactions stood at **17.5 million** in 2024, by 2025, the volume of sustainable e-commerce had reached **21.8 billion** TL, and the number of products sold had reached **23.6 million**[12]

12 The 2025 data were compiled using a broader scope of platforms compared to the previous year; this should be taken into account when making year-over-year comparisons.



Graph 60. Volume and Transaction Count Distribution of the Top 10 Sectors in Sustainable E-Commerce (%, 2025; marketplaces)

The clothing, shoes and accessories sector ranks first in terms of both unit sales and volume. The high demand for secondhand clothing reflects the sector's advantages in terms of both accessibility and reusability.

In the **electronics** sector, while the number of units sold is low, the total volume is quite high. This is due to the fact that the prices of products in the electronics sector are higher than those in other sectors.

In the sectors of **games, toys, and hobbies, as well as home, garden, furniture, and decoration**, it is observed that the unit market share is higher than the value market share.

Table 15. Top-Selling Product Categories in the Second-Hand E-Commerce Sector (excluding refurbished products)

Rank	Product Group	Total Volume (million TL)	Volume Share (%)	Total Unit	Unit Share (%)
1	Cell Phones	594.17	5.9%	92,790	1.0%
2	Jackets and Coats	524.22	5.2%	515,771	5.3%
3	Dresses and Evening Gowns	460.68	4.6%	681,697	7.1%
4	Handbags	424.71	4.2%	341,064	3.5%
5	Shoes	390.34	3.9%	443,242	4.6%
6	Luxury Branded Products	293.84	2.9%	81,878	0.8%
7	Wristwatches	280.10	2.8%	98,087	1.0%
8	Shirts and Tops	279.99	2.8%	751,294	7.8%
9	Pants	234.64	2.3%	564,906	5.9%
10	Jewelry	208.30	2.1%	162,254	1.7%
11	Laptops	193.25	1.9%	36,379	0.4%
12	Sports Shoes and Apparel	186.58	1.9%	142,560	1.5%
13	White Goods	153.53	1.5%	45,005	0.5%
14	Game Consoles	128.30	1.3%	23,347	0.2%
15	Desktop Computer Hardware	126.58	1.3%	51,447	0.5%

An analysis of the data in Table[13] reveals that the volume of second-hand e-commerce is concentrated in specific categories by product group. **The mobile phones** category, which ranks first in terms of total volume, stands out with a **5.9%** volume share, while it holds a **1%** share in terms of units. **The jackets and coats** category exhibits a balanced distribution with a **5.2%** volume share and a **5.3%**-unit share, whereas the **dresses and evening wear** category has a **4.6%** volume share but a **7.1%**-unit share.

Another key issue in the context of sustainable e-commerce is products sold under the ***"refurbished"*** label. The sale of refurbished products, particularly electronic goods, extends the product's lifespan, thereby creating economic value and directly contributing to environmental sustainability. The resale of used products by established and authorized companies, following technical inspections, maintenance, and part replacements, emerge as a factor that builds trust.

Table 16. Refurbished Product **Sales in Sustainable E-Commerce**

Rank	Product Category	Total Volume (million TL)	Volume Share (%)	Total Unit	Unit Share (%)
1	2021 Model 128 GB Smartphone	664.11	16.3%	25,972	8.7%
2	2019 Model 64 GB Smartphone	536.01	13.2%	44,607	14.9%
3	2019 Model 128 GB Smartphone	426.18	10.5%	30,000	10.0%
4	2022 Model 128 GB Smartphone	393.15	9.7%	11,203	3.7%
5	2023 Model 256 GB Smartphone	285.16	7.0%	5,885	2.0%
6	2022 Model 256 GB Smartphone	216.46	5.3%	4,460	1.5%
7	2020 Model 128 GB Smartphone	186.80	4.6%	9,744	3.3%
8	2023 Model 128 GB Smartphone	165.16	4.1%	4,352	1.5%
9	2021 Model 256 GB Smartphone	127.85	3.1%	3,614	1.2%
10	2024 Model 512 GB and Above Smartphone	27.49	0.7%	500	0.2%
11	2018 Model 64 GB Smartphone	26.41	0.6%	2,820	0.9%
12	Laptop	20.45	0.5%	23,318	7.8%
13	2024 Model 128 GB Smartphone	20.21	0.5%	554	0.2%
14	2022 Model Unknown GB Smartphone	19.68	0.5%	864	0.3%
15	2021 Model 512 GB and Above Smartphone	18.69	0.5%	505	0.2%

A review of the table[13] reveals that the market for refurbished **products is heavily concentrated around mobile phones**. A significant portion of the products in the top ranks consist of mobile phones with different models and storage options. In particular, **2021 model 128 GB mobile phones** (16.3% volume share) and **2019 model 64 GB mobile phones** (13.2% volume share) are the products generating the highest volume. In terms of unit volume, **2019 model 64 GB mobile phones** (14.9%-unit share) have the highest transaction count, followed by other phones in the same segment.

Although newer models and high-capacity devices (such as the 2023 model with 256 GB or more) generate high sales volume, they account for a small share of total units sold. In contrast, older and lower-capacity models reach a broader user base at a lower unit price.

While products other than cell phones are quite limited, items such as laptops, with their high sales volume, demonstrate that the refurbished product market is not limited to cell phones alone.

13 Most of the products in the table are mobile phones. Some products of a similar nature have been excluded. The percentage values shown in Tables 15 and 16 were calculated based on the top 100 best-selling products..

Businesses' Perspectives on Sustainability

In a survey conducted by the Ministry of Trade to assess the current status of sustainability practices among businesses operating in e-commerce, the businesses' practices and approaches in the area of environmental sustainability were examined.

Eight different sustainability practices surveyed among **718** businesses engaged in e-commerce that responded to the sustainability module of the survey (reducing paper consumption through digitalization, use of electric vehicles, energy-efficient equipment, water conservation, renewable energy, environmental awareness training, eco-friendly packaging, and working with environmentally responsible suppliers) were assessed with "yes/no" responses.

Based on the survey results, percentage distributions were calculated; a comparative analysis was conducted using cross-tables and graphs organized by sales channel, number of employees, annual net sales revenue, and industry.

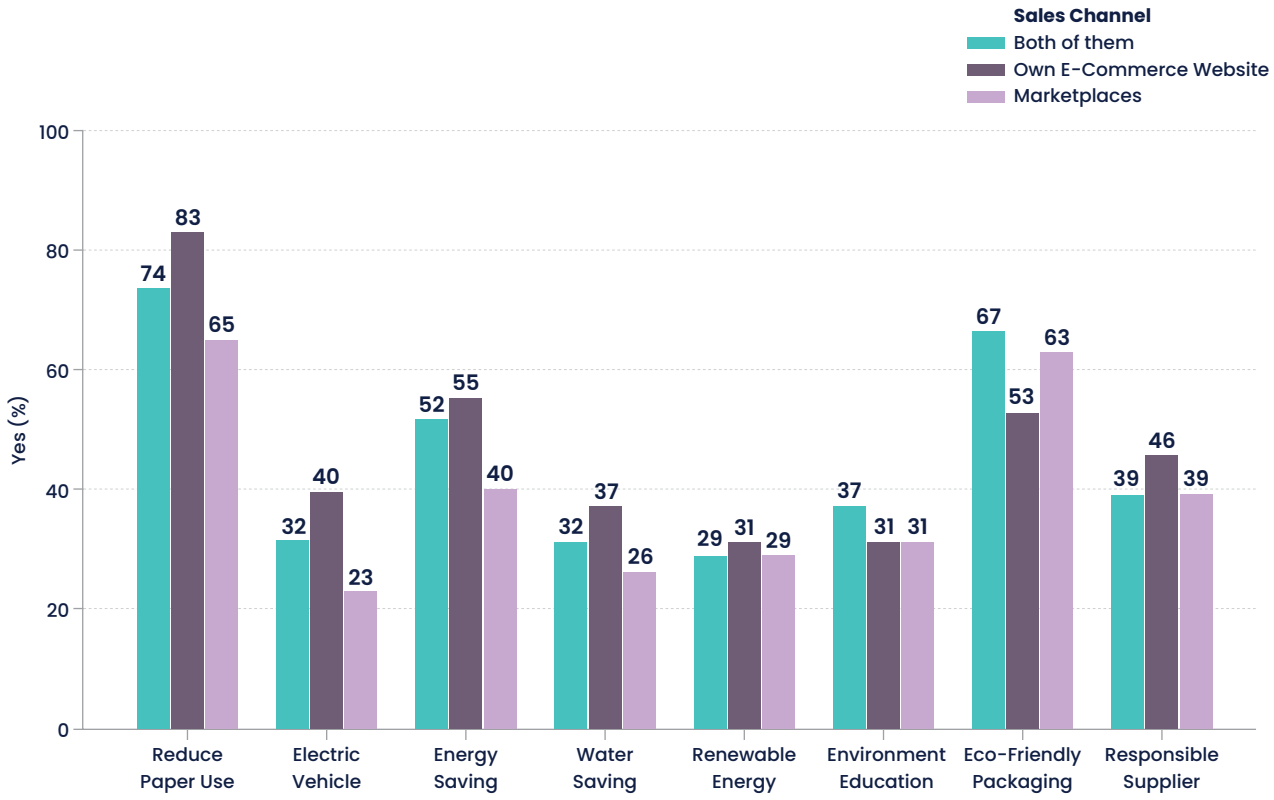
Table 17. Percentage Breakdown of Sustainability Practices

Sustainability Practices	Yes	No
Reducing paper consumption through digitalization	**71.7%**	28.3%
Use of electric/low-emission vehicles	**29.4%**	70.6%
Use of energy-efficient equipment and lighting	**48.1%**	51.9%
Use of water-saving systems	**30.2%**	69.8%
Utilization of renewable energy sources	**29.5%**	70.5%
Providing environmental awareness training to employees	**34.3%**	65.7%
Environmentally friendly packaging and recycling practices	**63.6%**	36.4%
Working with environmentally responsible suppliers	**40.0%**	60.0%

Table 17 shows the percentage distribution of businesses' responses for each sustainability practice. According to the table, the most common practice is reducing paper consumption through digitalization, at **71.7%**. This finding indicates that the inherently digital nature of e-commerce facilitates the transition to a paperless operational infrastructure. In second place, with **63.6%**, are eco-friendly packaging and recycling practices. On the other hand, practices requiring high investment—such as the use of electric/low-emission vehicles, renewable energy, and water conservation—have low adoption rates.

Distribution by Sales Channel

This section examines the relationship between the sales channels used by businesses—such as marketplaces, their own e-commerce sites, or both—and their adoption of sustainability practices.

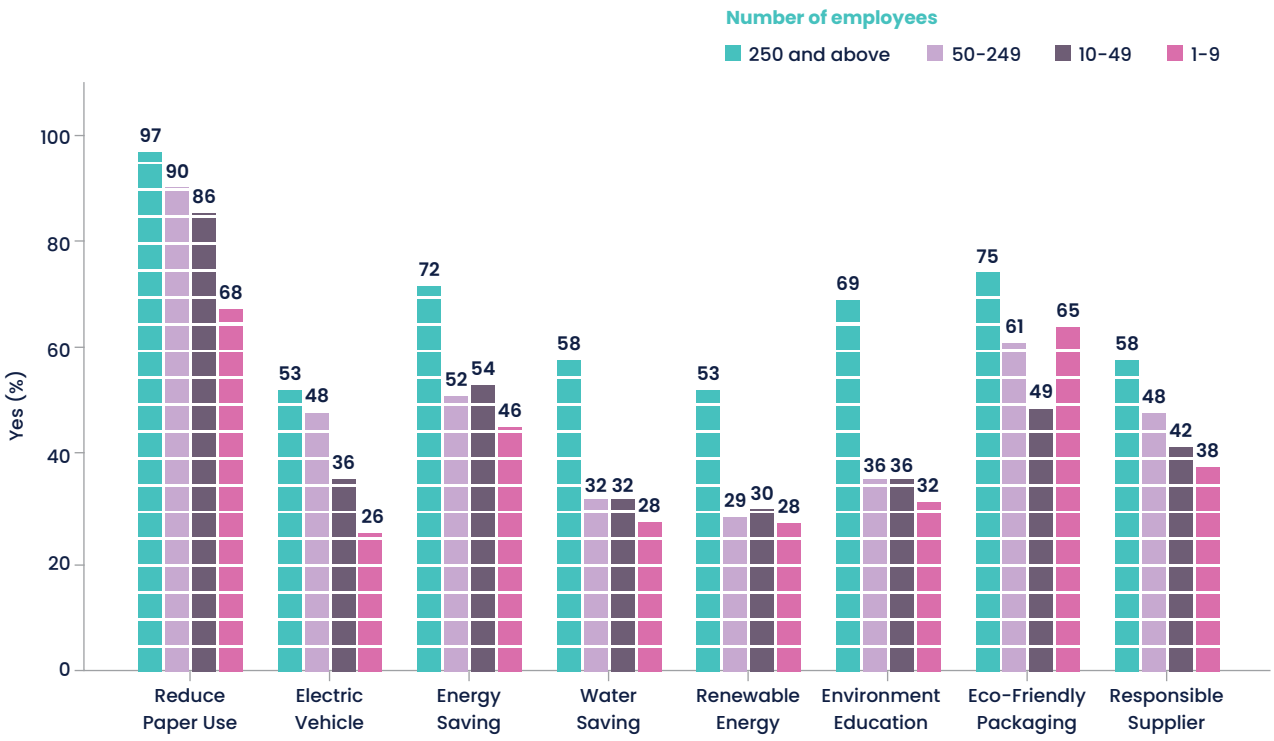


Graph 61. Sustainability Practices by Sales Channel (%)

Businesses that operate their own e-commerce sites have the highest adoption rates across nearly all applications, particularly in digitalization and the use of electric vehicles. This can be attributed to the fact that businesses managing their own infrastructure have greater control over operational processes and can independently implement sustainability strategies. Businesses that operate through marketplaces, however, lag significantly behind in areas such as digitalization, energy savings, and electric vehicles. Businesses that use both channels generally fall in the middle. This group represents a balance between the advantages of scale and dependence on marketplaces.

Distribution by Number of Employees

This section provides a comparative overview of how businesses adopt sustainability practices based on their number of employees.

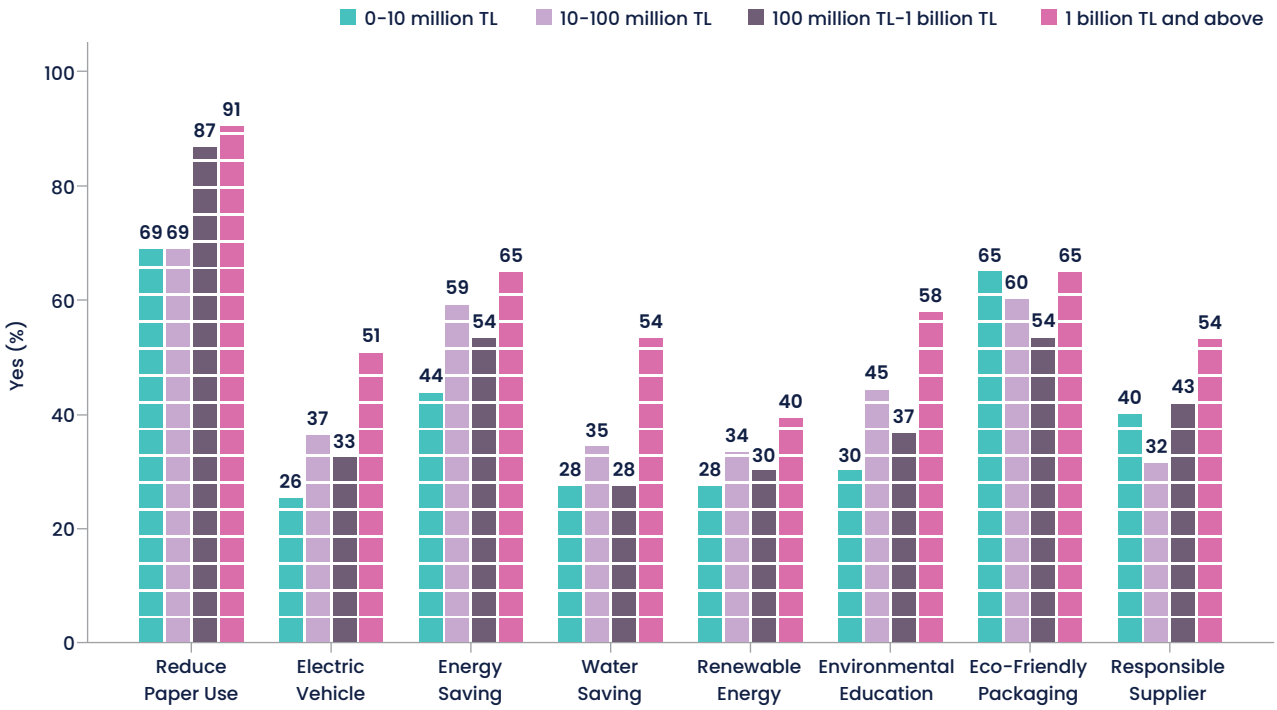


Graph 62. Sustainability Practices by Number of Employees (%)

As the number of employees increases, the adoption rate of sustainability practices rises significantly. In large businesses with 250 or more employees, the digitalization rate reaches **97.2%**, while environmental awareness training stands at **69.4%**—more than double that of micro-enterprises. Another notable finding is that micro-enterprises with 1–9 employees lead businesses with **10–49** employees in eco-friendly packaging, at **64.6%**. This indicates that micro-scale e-commerce businesses are able to offer flexible packaging solutions by responding to customer expectations.

Distribution by Annual Trading Volume

This section presents the adoption of sustainability practices by businesses based on their annual transaction volume.

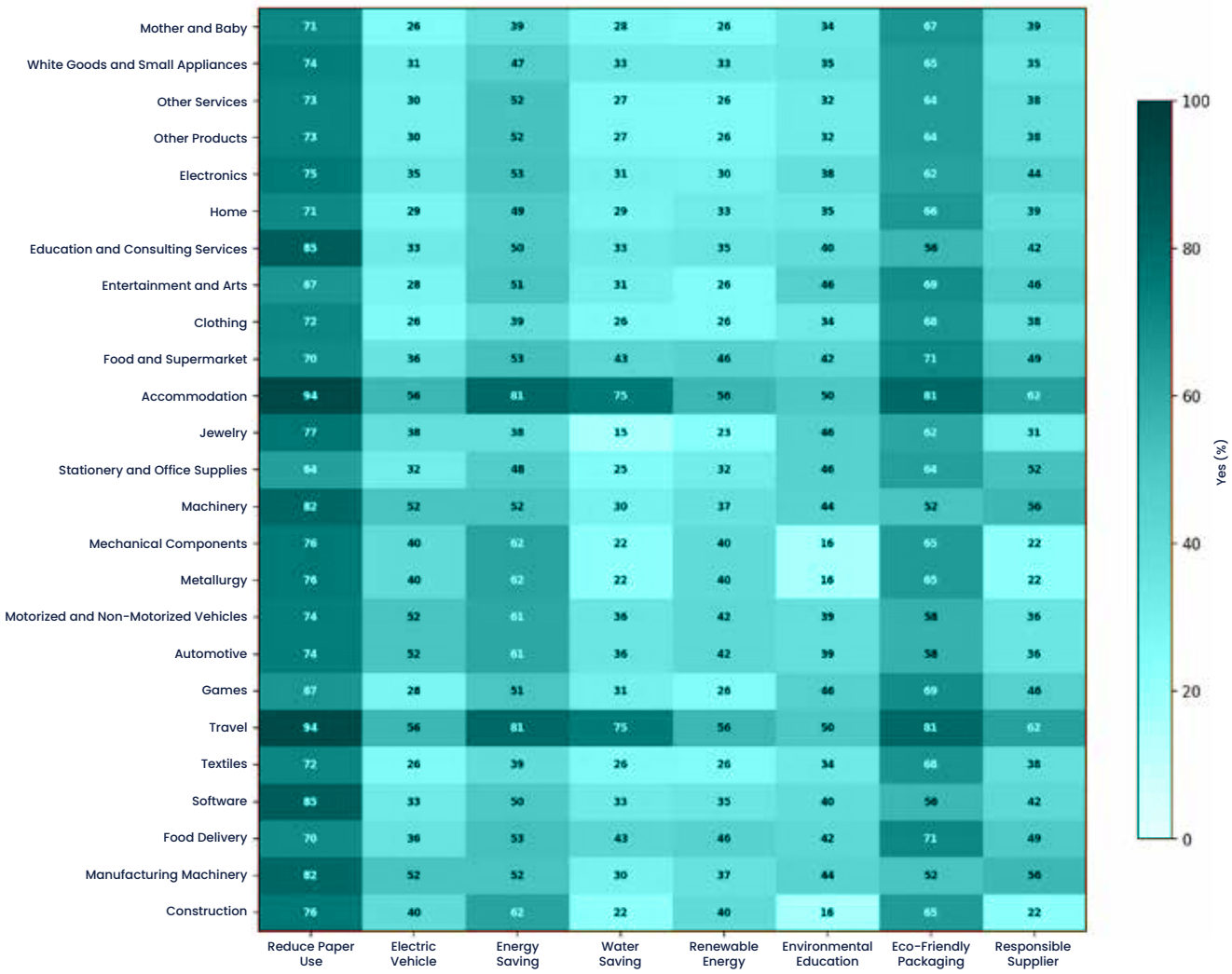


Graph 63. Sustainability Practices by Transaction Volume (%)

A strong positive correlation has been observed between transaction volume and sustainability. Among businesses with a transaction volume of **1 billion TL or more**, digitalization stands at **90.7%**, electric vehicle usage at **51.2%**, and water conservation at **53.5%**, the highest levels recorded. In businesses with a transaction volume of **0–10 million TL**, these figures stand at **69.3%**, **25.5%**, and **27.8%**, respectively. However, businesses in the smallest volume group **share the same rate as those** in the largest volume group regarding eco-friendly packaging. This indicates that packaging is a top priority for all e-commerce businesses, regardless of transaction volume. On the other hand, businesses with a transaction volume of **100 million TL to 1 billion TL** lag behind those with a transaction volume of **10 million TL to 100 million TL** in certain sustainability practices.

Breakdown by Sector

This section examines the adoption rates of sustainability practices among **businesses by the sectors in which they operate**.



Graph 64. Sustainability Practices Heat Map by Sector

The accomodation and travel sector has the most comprehensive sustainability performance across all sectors. In this sector, digitalization stands at **94%**, energy savings at **81%**, water savings at **75%**, and electric vehicle usage at **56%** above the overall average. In the food and supermarket, and food delivery sector, water savings are at **43%**, renewable energy usage at **46%**, and eco-friendly packaging at **71%**—significantly above the overall average.

SHIPPING STATISTICS

CHAPTER 13

Shipping Statistics

In the shipping and logistics sector—one of the most important stakeholders in e-commerce—an analysis of delivery times reveals that while the average delivery time across Türkiye was **46.2 hours** in 2023, this figure had decreased to **42.2 hours** by 2025.

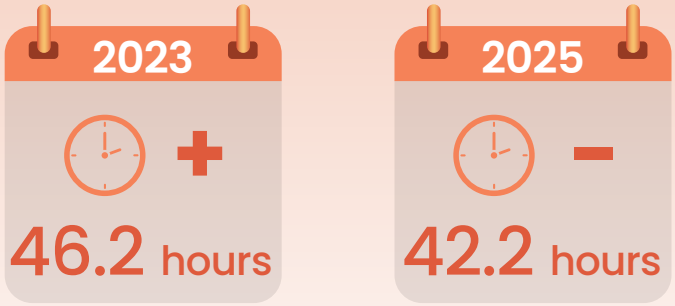
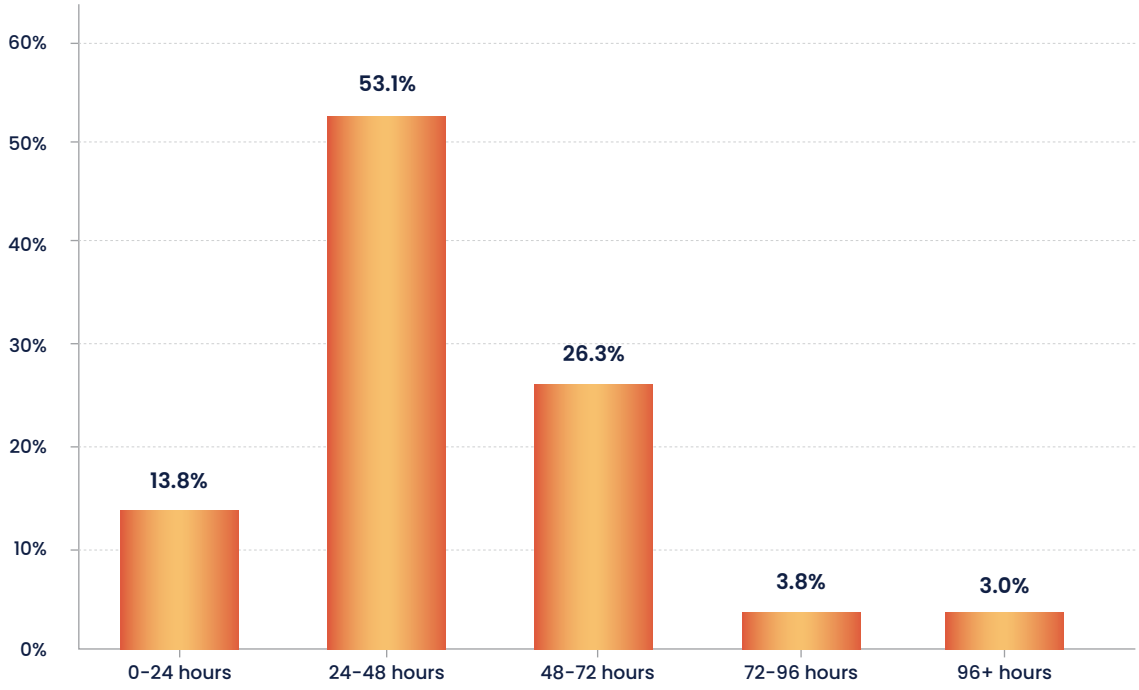


Figure 1. Average Shipping Delivery Time



Graph 65. Distribution of Delivery Times by Time Interval (%, 2025)

Upon examining Graph 65:

It is observed that **13.8%** of deliveries are completed within **0–24 hours**.

It is evident that the majority of deliveries are made within a **24-48 hours** timeframe, with this timeframe accounting for the highest share at **53.1%.**

26.3% of deliveries are made within **48–72 hours**.

It is observed that the proportion of longer delivery times is relatively low, with deliveries within the **72-96 hours range accounting for 3.8% and those of 96 hours or more remaining at 3%**.

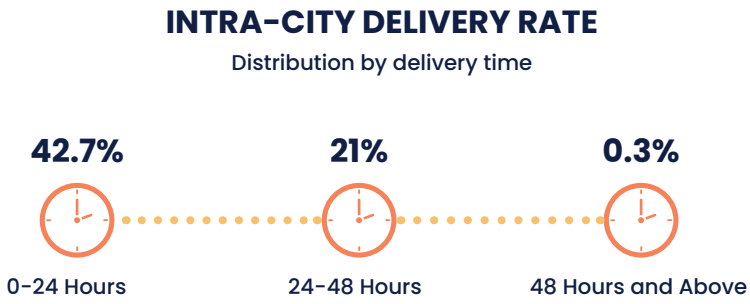
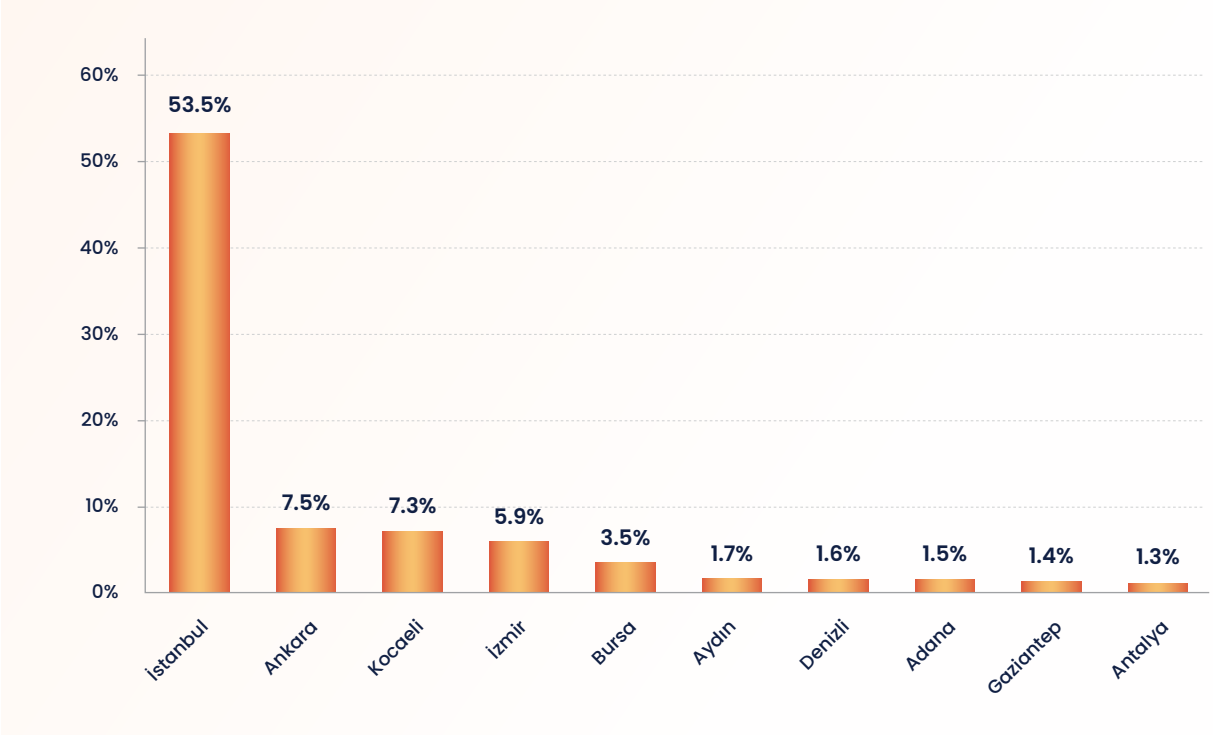


Figure 2. Intra-City Delivery Rate by Delivery Time (%, 2025)

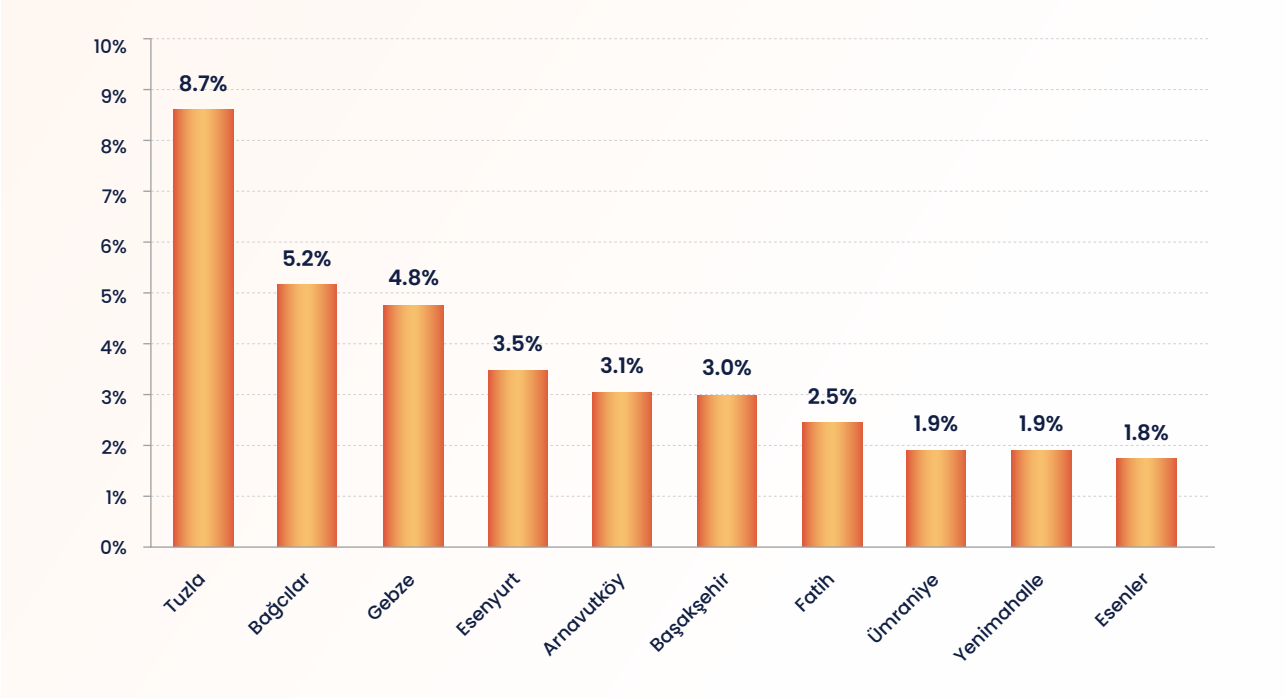
When examining the proportion of intra-city deliveries by delivery time, it is evident that intra-city shipments account for a higher share of deliveries completed within a short timeframe.

For deliveries made within the 0–24-hour window, the proportion of intra-city deliveries stands at **42.7%**, while this figure drops to **21%** for the 24–48-hour window. For longer delivery times, the share of intra-city shipments is seen to decline to very low levels.



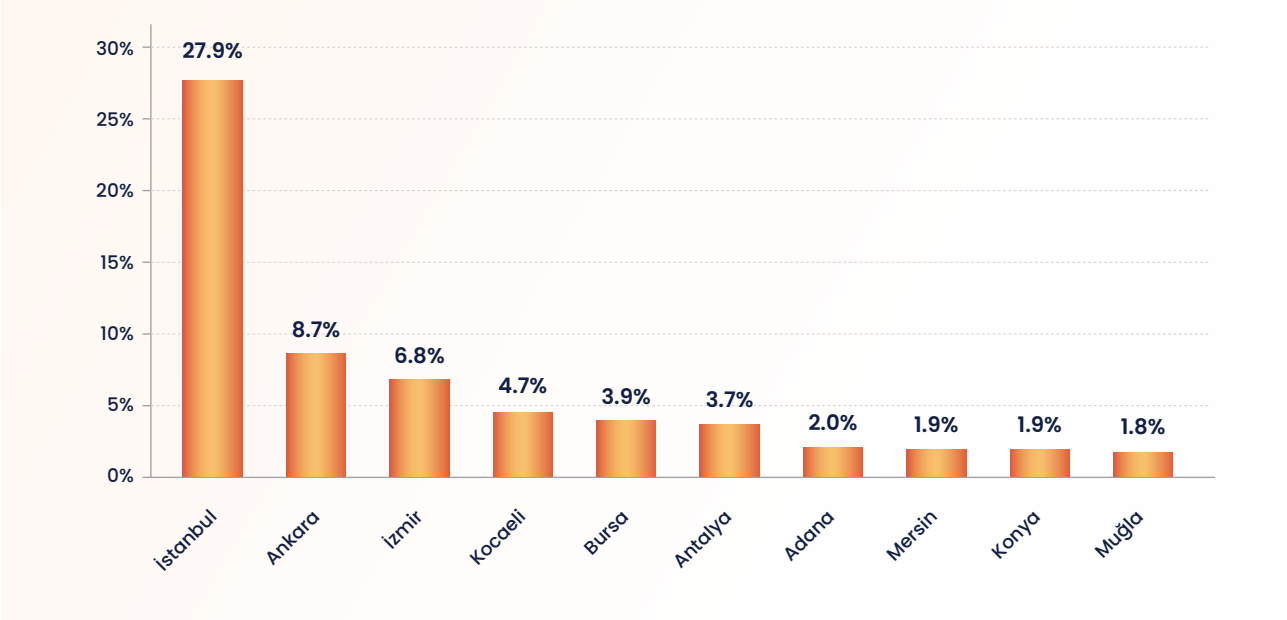
Graph 66. Provinces with the Highest Number of Shipments (%, 2025)

İstanbul tops the list of provinces with the highest number of shipments, accounting for **53.5%**. It is followed by Ankara, Kocaeli, İzmir, and Bursa, in that order.



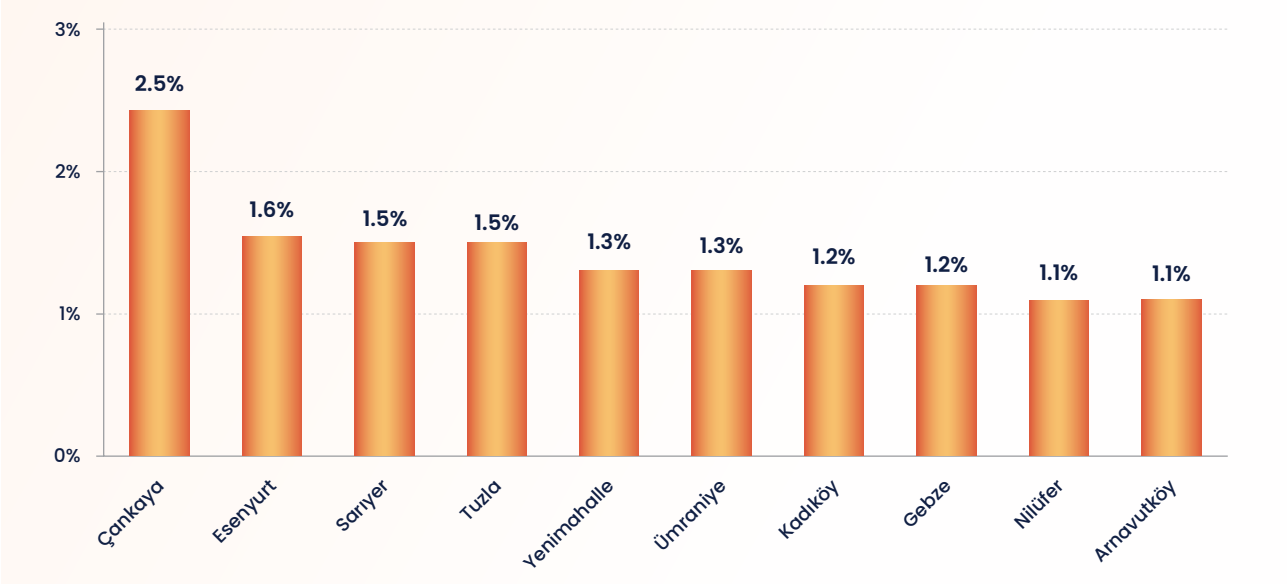
Graph 67. Districts with the Highest Number of Shipments (%, 2025)

When looking at the districts with the highest volume of shipments, Tuzla ranks first. The list continues with the districts of Bağcılar, Gebze, Esenyurt, and Arnavutköy.



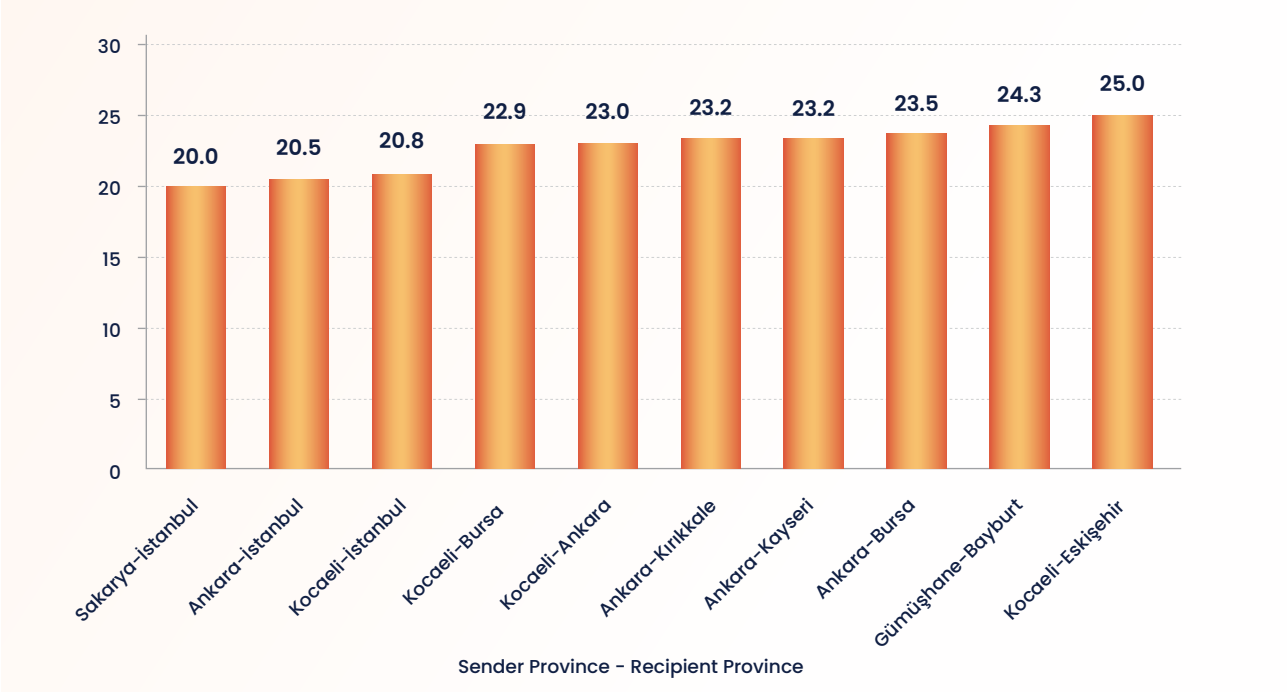
Graph 68. Provinces Receiving the Highest Number of Shipments (%, 2025)

Once again, İstanbul tops the list of provinces receiving the highest number of shipments, accounting for **27.9%**. Ankara, İzmir, Kocaeli, Bursa, and Antalya follow İstanbul.



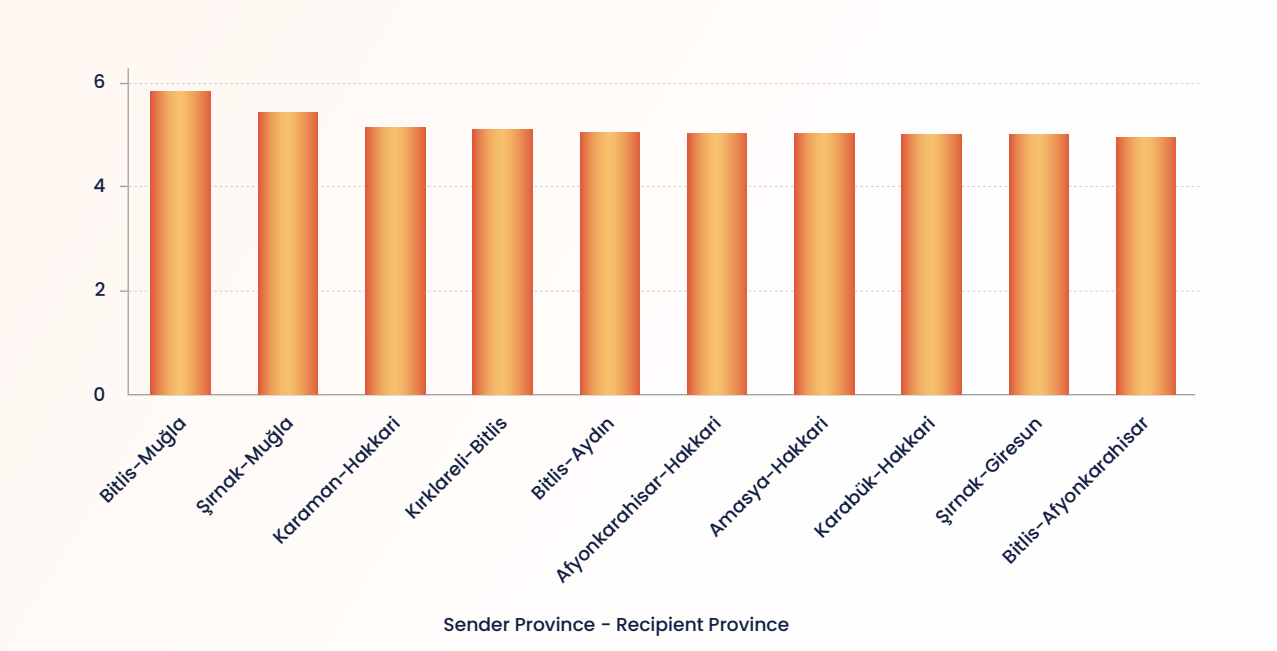
Graph 69. Districts Receiving the Highest Number of Shipments (%, 2025)

When looking at the districts with the highest number of package shipments, however, Çankaya ranks first—a departure from the trend shown in the graph above. Following Çankaya are the districts of Esenyurt, Sarıyer, Tuzla, and Yenimahalle.



Graph 70. Shortest Shipping Times Between Two Provinces (hours, 2025)

The provinces with the shortest average delivery times, measured in hours, are Sakarya to İstanbul, Ankara to İstanbul, Kocaeli to İstanbul, Kocaeli to Bursa, and Kocaeli to Ankara, in that order.

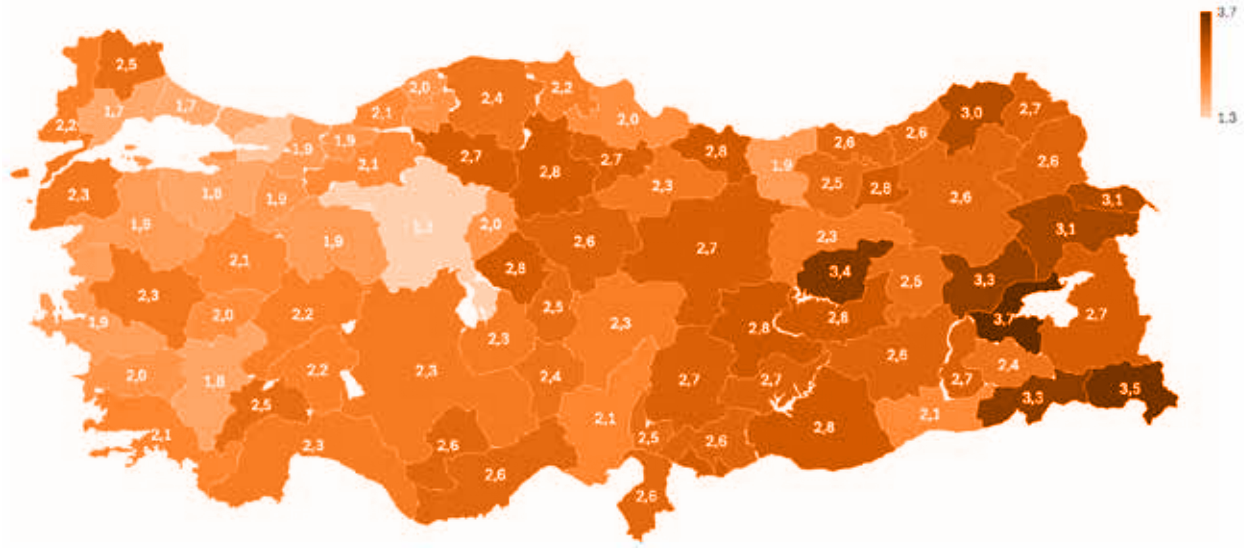


Graph 71. Longest Shipping Times Between Two Provinces (days, 2025)

The provinces with the longest delivery times on a daily basis are, in order, Bitlis-Muğla, Şırnak-Muğla, and Karaman-Hakkâri.

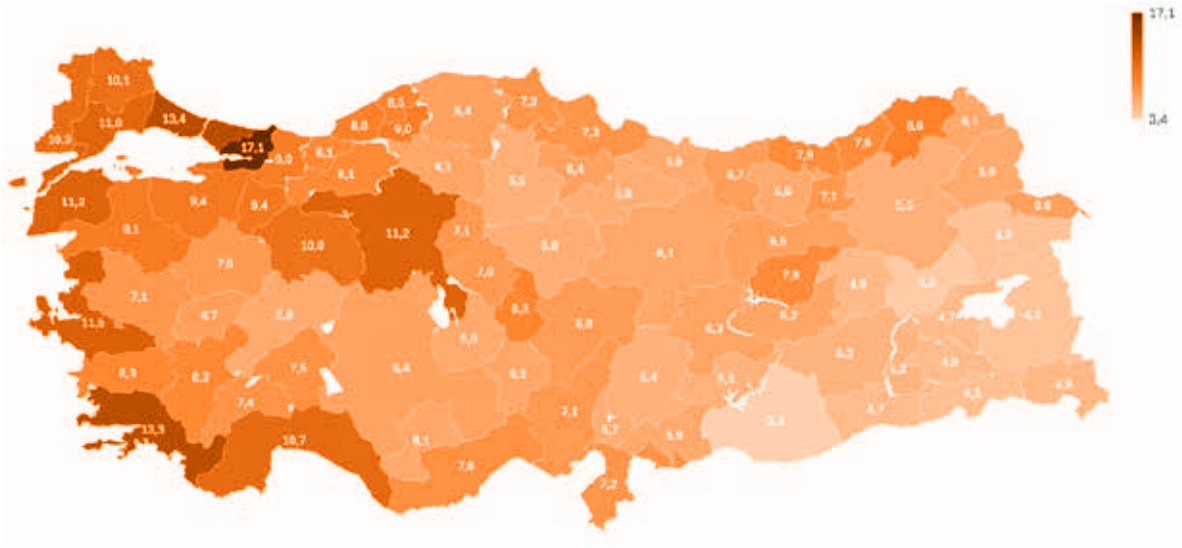
Map 5. Average Delivery Time for Shipments Reaching Provinces (days, 2025)

Map 5 shows the average delivery times for packages reaching the provinces. Based on this map, it is evident that, due to geographical conditions, packages are generally delivered to the Eastern Anatolia Region in a longer time compared to other regions.



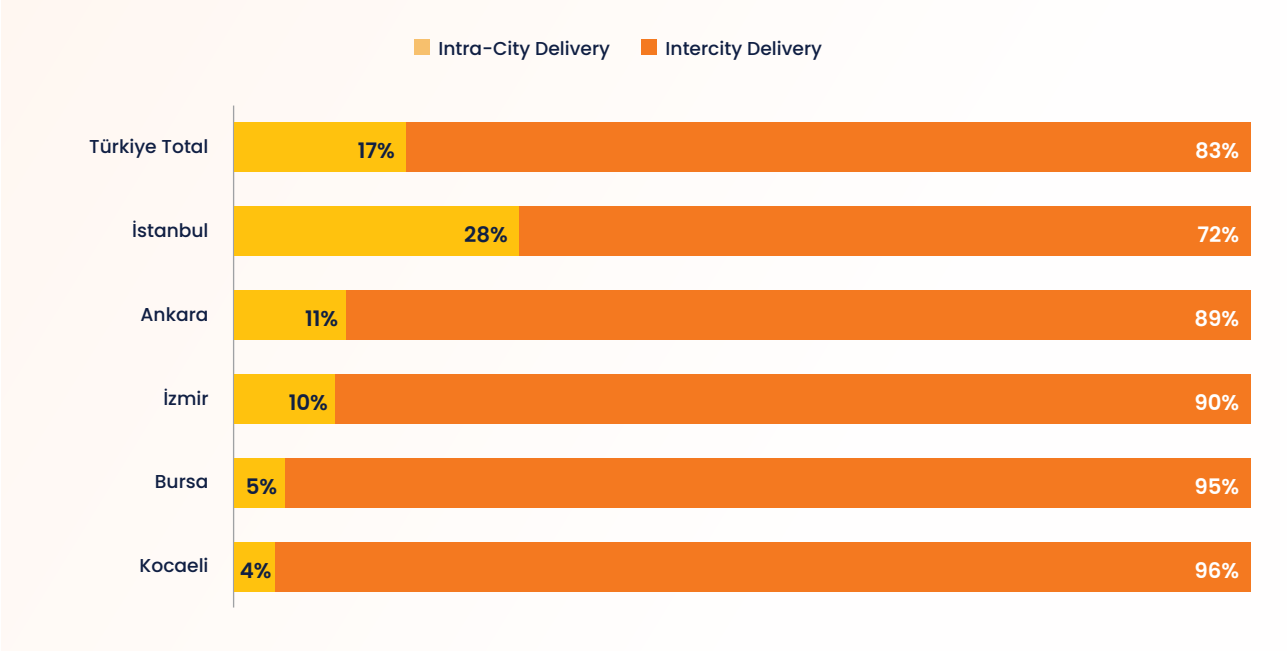
Map 6. Average Delivery Time for Shipments Sent from Provinces (days, 2025)

Map 6 shows the delivery times for shipments sent from various provinces to consumers. Upon examining the map, it can be observed that, again as a result of geographical conditions, shipments from sellers in the Eastern Anatolia Region take longer to be delivered compared to those from sellers in other provinces.



Map 7. Average Number of Shipping Packages Per Person

Map 7 shows the average number of cargo packages per person. Upon examining the map, it can be seen that the average number of cargo packages per person in the Marmara, Aegean, Mediterranean, and Central Anatolia regions is higher than in other regions.



Graph 72. Delivery Rates for Intra-City and Intercity Shipments Across Türkiye and in Certain Provinces (%, 2025)

Graph 72 shows that **17%** of e-commerce shipments across Türkiye are **delivered within the same city,** while **83%** are **delivered between cities**.

When looking at intra-city delivery rates, İstanbul ranks first, followed by Ankara, İzmir, Bursa, and Kocaeli.

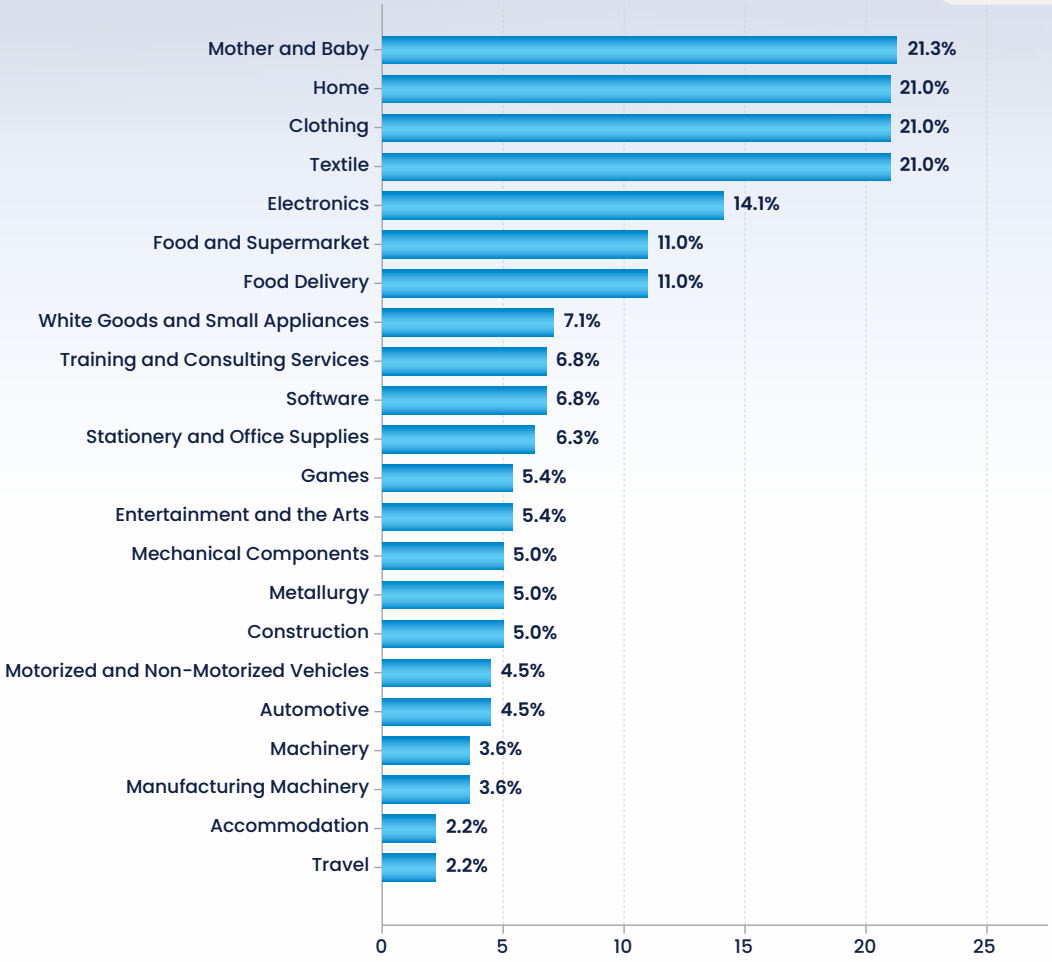
THE USE OF ARTIFICIAL INTELLIGENCE IN E-COMMERCE BUSINESSES

CHAPTER 14

The Use of Artificial Intelligence in E-Commerce Businesses

Businesses' Perspective on Artificial Intelligence

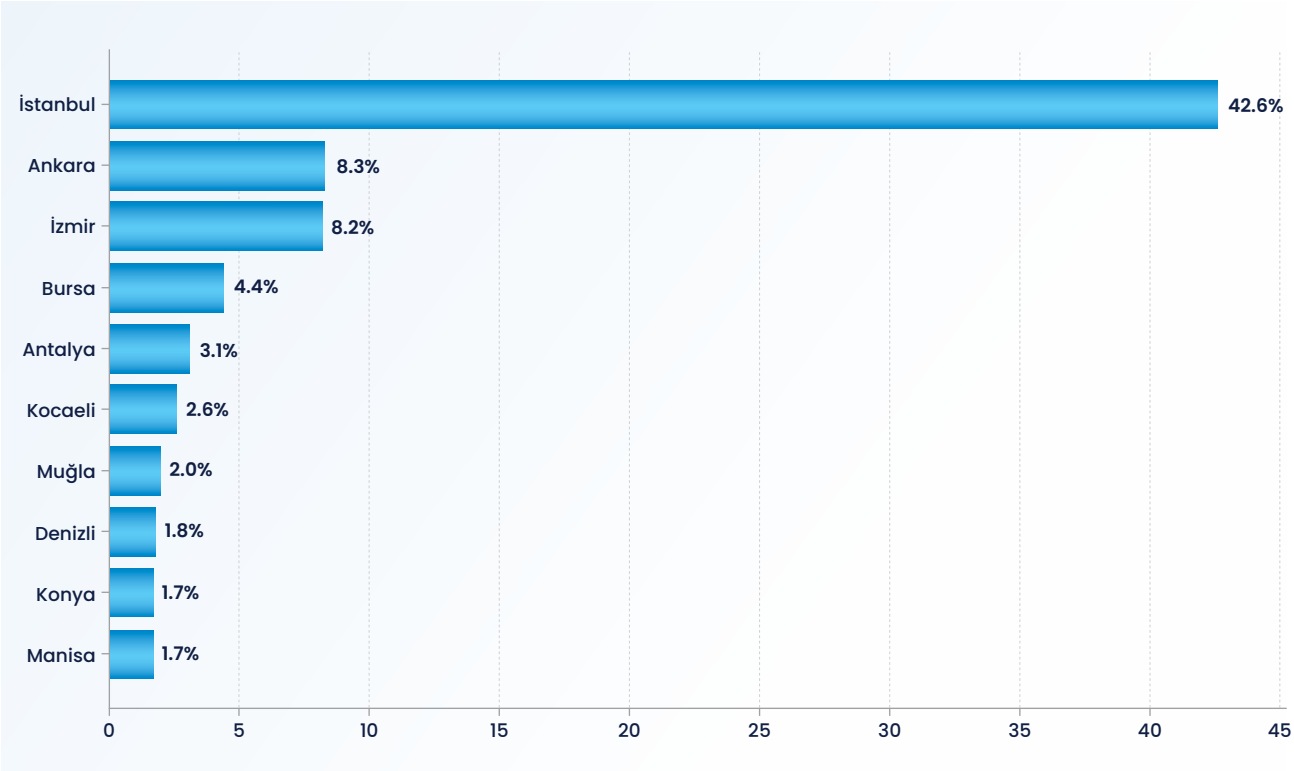
The Ministry of Trade conducted a survey of **781** businesses to analyze their current status, level of knowledge, and future expectations regarding the use of artificial intelligence in their e-commerce activities. The survey questionnaire was administered to businesses operating across various scales and sectors. The survey measured businesses' levels of AI usage, areas of application, organizational infrastructure, investment trends, and the challenges they face, as well as their knowledge levels and perceptions regarding AI. Additionally, the survey assessed businesses' future intentions regarding AI usage and their approaches to digital transformation processes. The findings shed light on the perspectives of businesses operating within Türkiye's e-commerce ecosystem regarding AI from various angles and provide significant insights into the current state of transformation in this field.



Graph 73. Distribution of Sectors in Which Surveyed Businesses Operate (%, multiple selections allowed)[14]

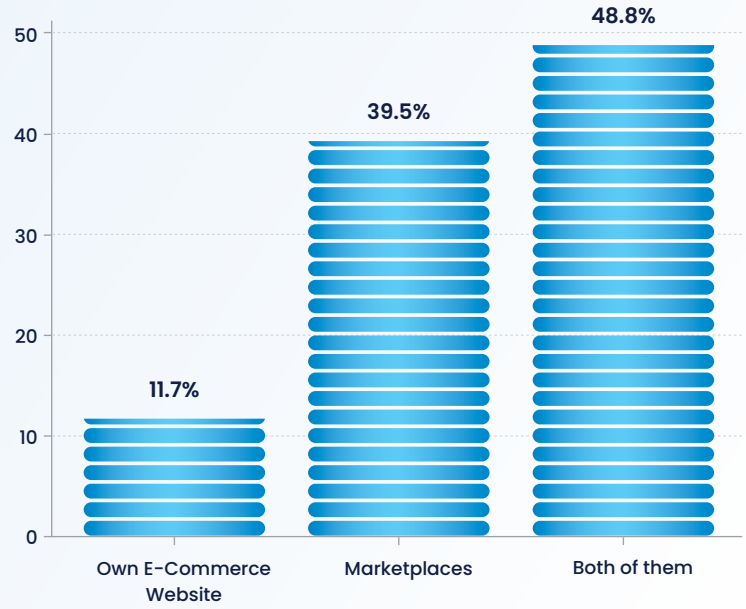
14 Since participants can select more than one option, the total of the percentages may exceed 100%.

An analysis of the sectoral distribution of the businesses participating in the survey reveals that, despite a concentration in certain areas, the sample encompasses a wide range of sectors. The sectors with the highest shares are maternal and infant products **21.3%**, home, garden, furniture, and decoration **21%**, and clothing, shoes, accessories, and textiles. This indicates that the survey resonated more strongly among businesses engaged in retail-focused e-commerce activities.



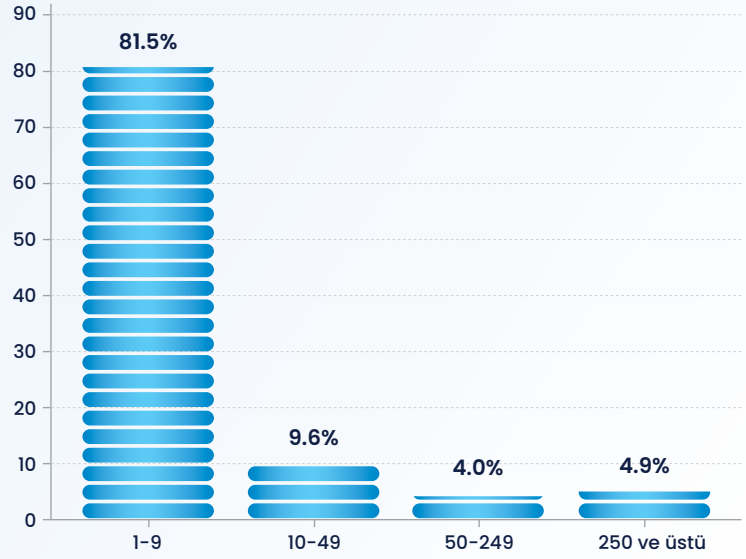
Graph 74. Provincial Distribution of Businesses Participating in the Survey: Top 10 Provinces (%)

When examining the distribution of participating businesses by province, it is evident that participation is heavily concentrated in major cities. **İstanbul** accounts for the highest share at **42.6%**, followed by **Ankara and İzmir**. However, cities with strong industrial and commercial sectors, such as **Bursa, Antalya, and Kocaeli**, also account for a significant share.



An analysis of the sales channel preferences of businesses participating in the survey reveals that a multi-channel approach has now become the norm in e-commerce. While **48.8%** of businesses use both their own e-commerce websites and marketplaces, **39.5%** sell exclusively through marketplaces. On the other hand, the percentage of businesses that sell exclusively through their own e-commerce websites stands at **11.7%**.

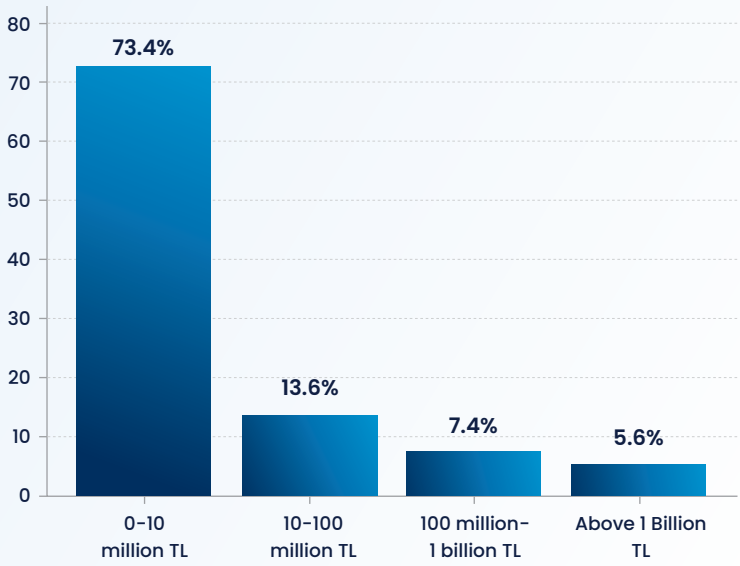
Graph 75. Sales Channels Preferred by Survey Participants (%)



When the distribution of the number of employees in the surveyed businesses is examined, it is observed that a significant portion of the businesses **consists of micro-sized enterprises**. According to Graph 76, the proportion of micro-enterprises with 1–9 employees is **81.5%**.

While small-scale businesses with 10–49 employees account for **9.6%**, medium-scale businesses with 50–249 employees account for **4%**, and large-scale businesses with 250 or more employees account for **4.9%**.

Graph 76. Distribution of Employee Counts Among Surveyed Businesses (%)

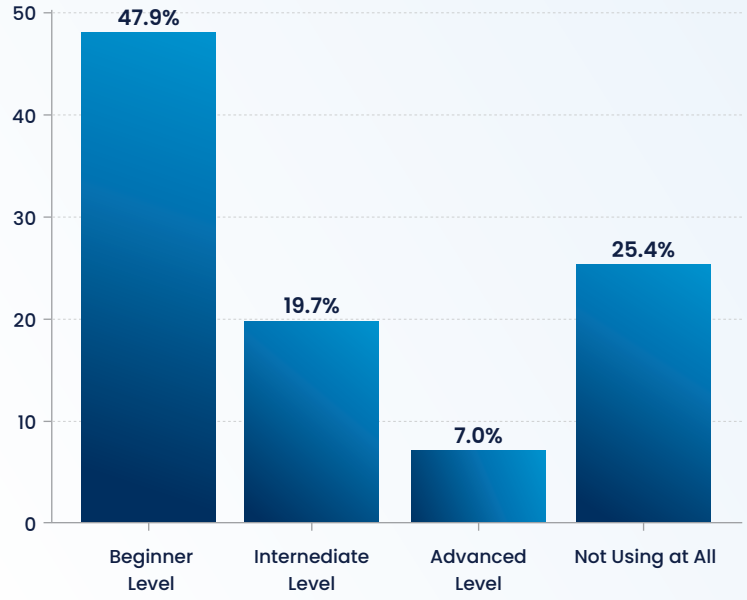


An analysis of the 2025 transaction volumes of the businesses participating in the survey reveals that **73.4%** of them have a transaction volume in the range of 0–10 million TL.

Businesses with a transaction volume between 10 million TL and 100 million TL rank second at **13.6%**, while those with a transaction volume between 100 million TL and 1 billion TL account for **7.4%**. Businesses with a transaction volume exceeding 1 billion TL—which can be classified as large-scale—account for **5.6%**.

Graph 77. Transaction Volume of Surveyed Businesses in 2025 (%)

When examining the level of AI adoption in businesses, **47.9%** of e-commerce businesses reported using AI at a basic level, while **19.7%** reported using it at an intermediate level. The rate of advanced-level adoption stands at **7%,** while **25.4%** of businesses reported that they do not yet use AI.



Graph 78. Level of Artificial Intelligence Adoption Among Surveyed Businesses (%)

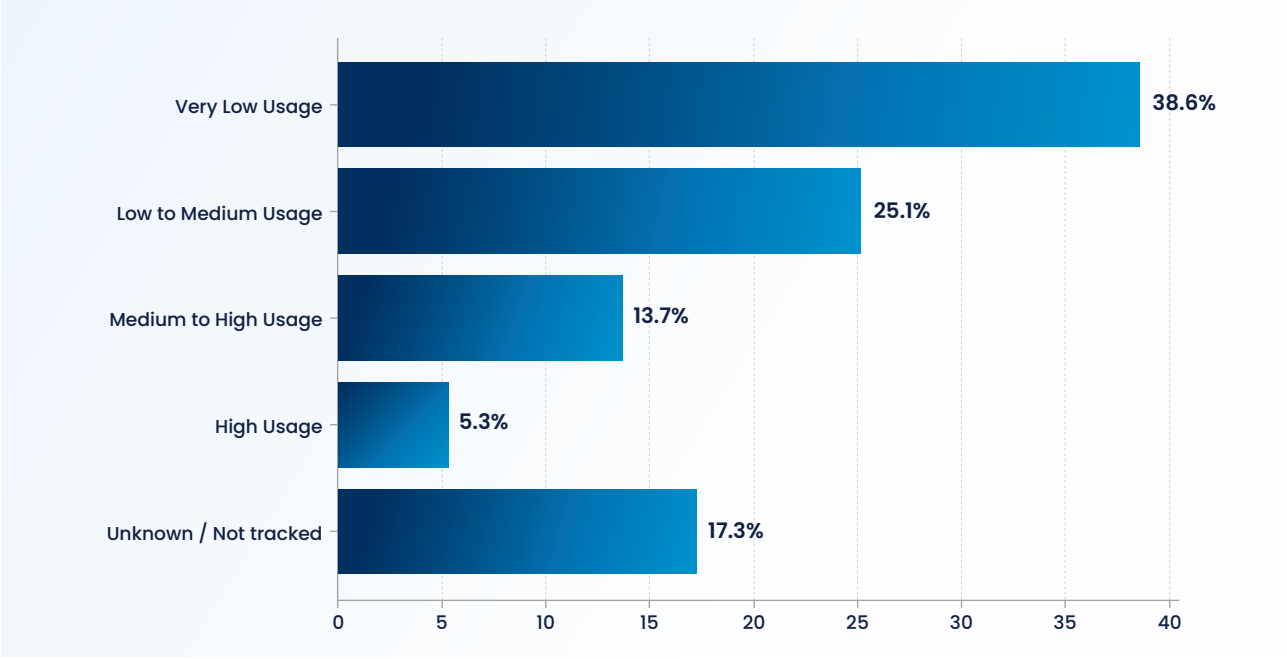
Table 18. Participants' Awareness of Artificial Intelligence

Question	Question Content	Correct Answer	Percentage of Businesses That Answered the Question Correctly (%)
Question 1	Artificial intelligence thinks and makes decisions consciously	No	66.5
Question 2	Artificial intelligence always produces accurate information	No	94.8
Question 3	Biased data produces biased results	Yes	86.6
Question 4	You must know how to code to use artificial intelligence	No	90.5
Question 5	Legal liabilities related to artificial intelligence are clearly defined in every country	No	77.3

In Table 18, five "yes/no" questions were asked to measure survey participants' awareness of artificial intelligence. Upon examining the table, it is evident that participants possess a very high level of awareness regarding artificial intelligence. The highest correct response rate, at **94.8%**, was observed for the statement "artificial intelligence does not always produce accurate information." Similarly, a large portion of the participants correctly noted that using artificial intelligence does not require coding knowledge.

On the other hand, the percentage of respondents who correctly answered that "**artificial intelligence makes decisions through conscious thought**" was **66.5%**, which is lower than for the other statements. Additionally, **77.3%** of participants correctly stated that legal liabilities regarding artificial intelligence have not yet been fully clarified.

The findings presented so far outline the general profile of all businesses that participated in the survey. The analysis in this section, however, will focus specifically on businesses that use artificial intelligence in their business processes.

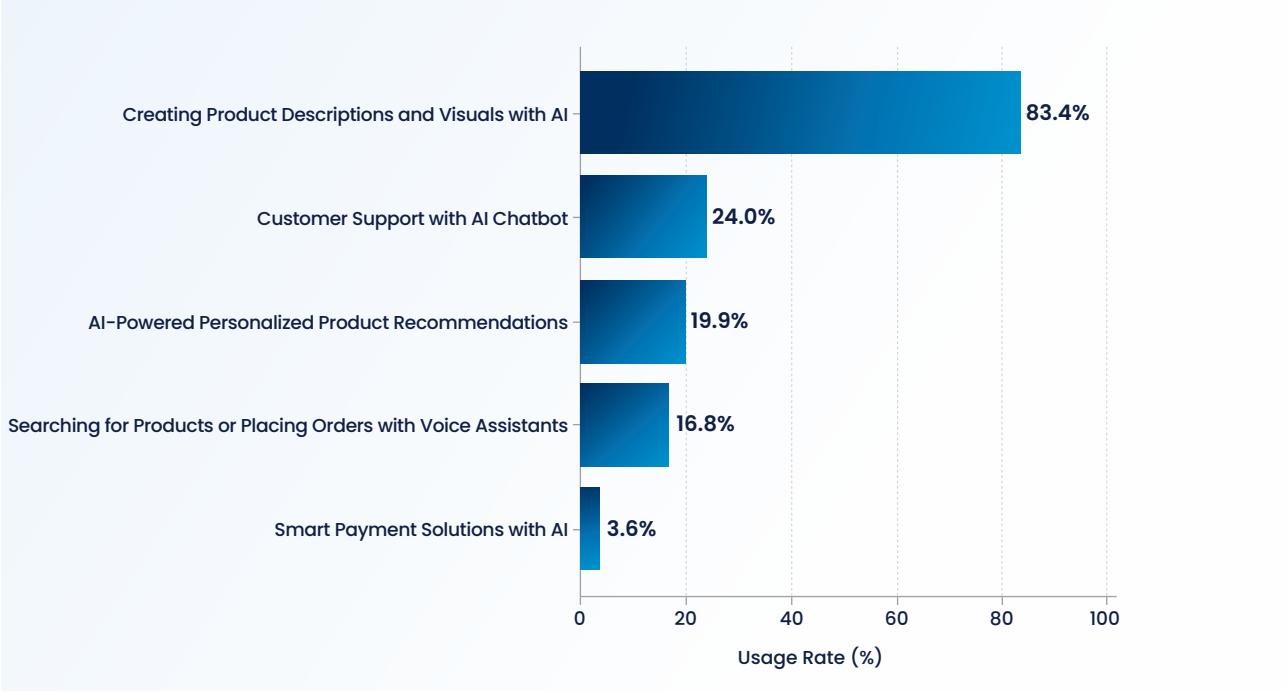


Graph 79. The Intensity of Artificial Intelligence Use in Businesses (%)

An analysis of the intensity of artificial intelligence usage reveals that a significant portion of businesses are still in the early stages of adopting this technology and are using it to a limited extent.

While **38.6%** of businesses use artificial intelligence at a very low level (for testing purposes), **25.1%** use it at a low-to-medium level. In contrast, the rate of medium-to-high usage stands at **13.7%**, while the rate of high usage is only **5.3%**.

Another notable finding is that **17.3%** of businesses do **not measure or track** their use of artificial intelligence. This indicates that the use of this technology is not yet managed in a systematic and data-driven manner. Meanwhile, **1.3%** of participants did not answer this question.

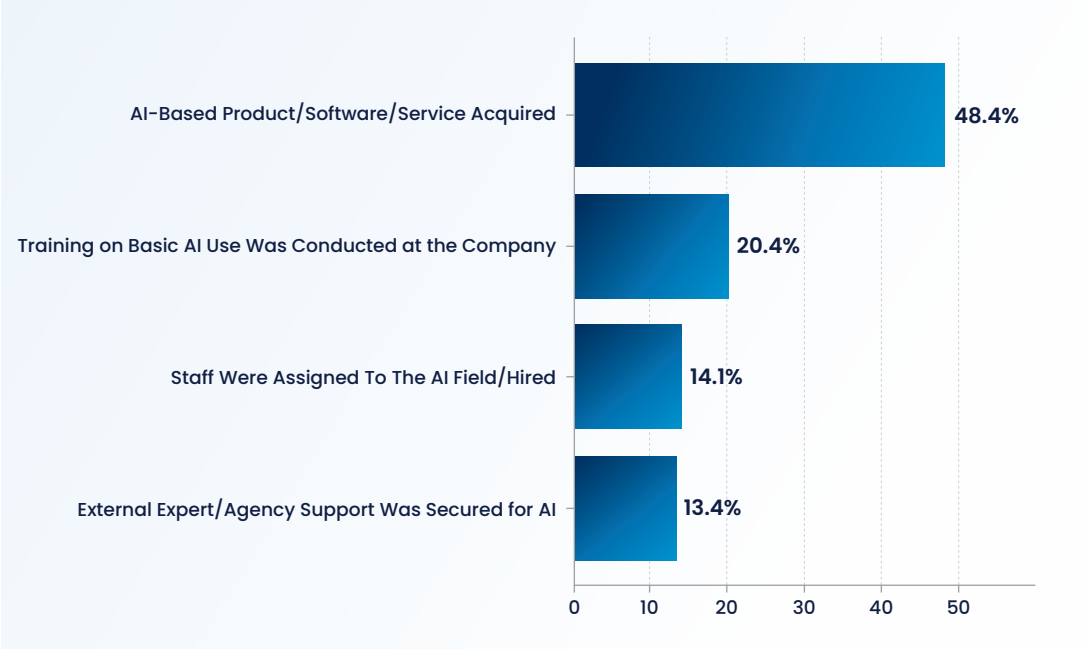


Graph 80. **Artificial Intelligence Applications Used by Businesses (%, multiple choices)**

An analysis of the AI applications used by businesses over the past 12 months clearly shows that their use is largely **focused on content creation. 83.4%** of businesses use AI to generate product descriptions and visuals.

On the other hand, it is evident that the scope of applications based on customer interaction remains quite limited. AI-powered chatbots account for **24%** of customer support, personalized product recommendations for **19.9%**, and product searches or order placement via voice assistants for **16.8%**.

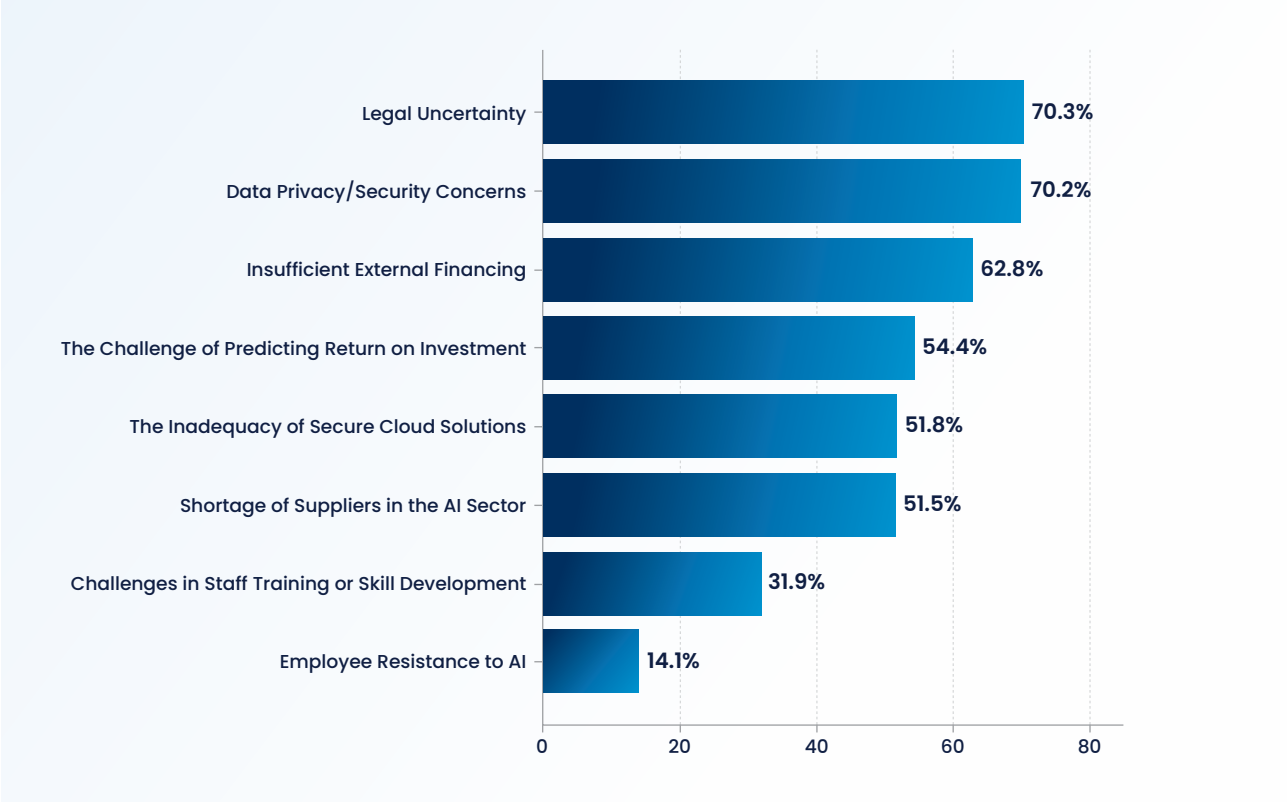
The lowest adoption rate, at **3.6%**, is for smart AI-powered payment solutions.



Graph 81. Percentage of Steps Businesses Have Taken to Use Artificial Intelligence (%, multiple choices)

An analysis of businesses' AI-related initiatives over the past 12 months reveals that the process has primarily **involved the purchase of off-shelf solutions**. In this context, it is evident that **48.4%** of businesses have opted to purchase AI-based products, software, or services, and that this approach stands out significantly compared to other methods.

However, while only **20.4%** of businesses provide their employees with basic AI training, **14.1%** have assigned staff to this field or hired personnel in this area. The proportion of businesses receiving support from external experts or agencies also remains low at **13.4%**.



Graph 82. Barriers Limiting Businesses' Use of Artificial Intelligence (%, multiple choice)

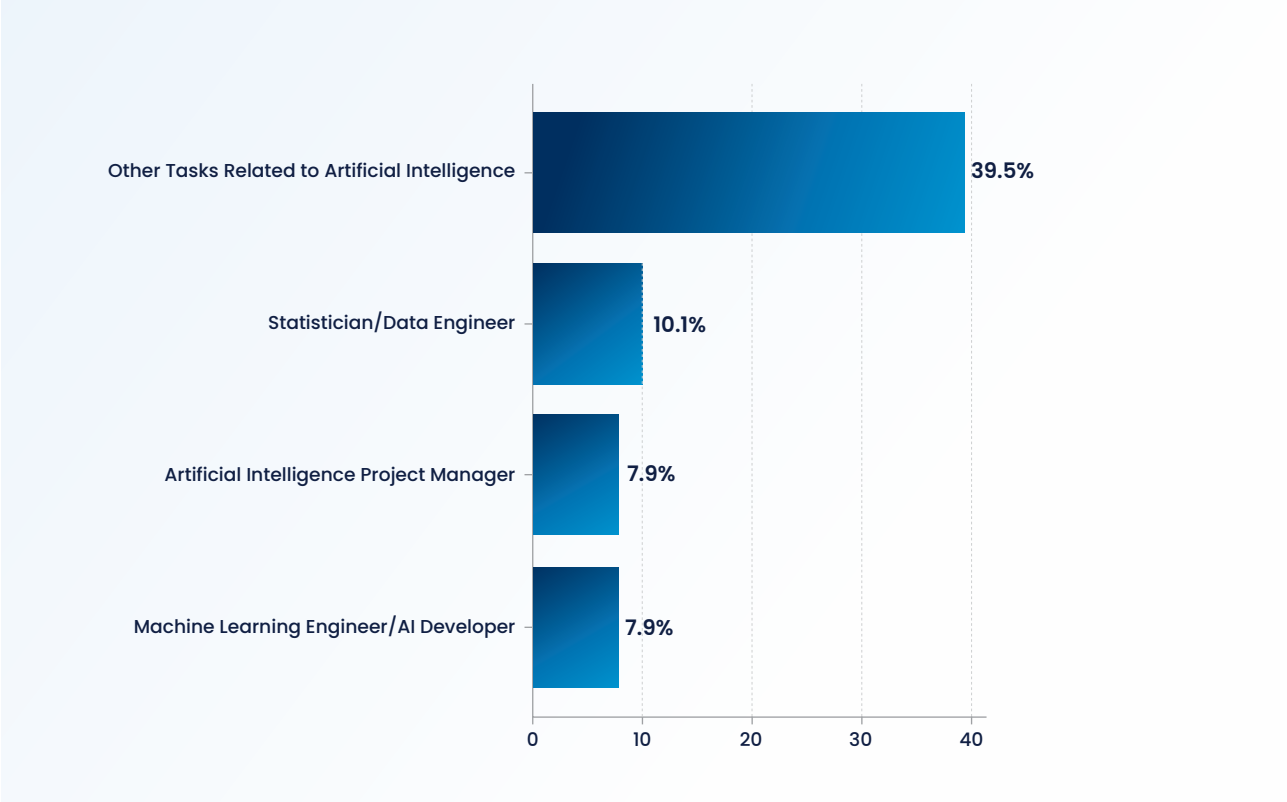
When examining the barriers to the use of artificial intelligence, it becomes clear that the primary challenges faced by businesses largely revolve around **uncertainty, security, and financing**.

The most common barriers faced by businesses are legal uncertainty **70.3%** and data privacy/security concerns **70.2%**. The fact that these two barriers are cited at such high rates indicates that businesses are more **concerned about risks** than technical challenges when it comes to using artificial intelligence.

This is followed by insufficient external financing of **62.8%** and the difficulty of predicting investment returns to **54.4%**. This situation demonstrates that investments in artificial intelligence also **involve economic uncertainty**.

Infrastructure and ecosystem-related issues are also among businesses' primary concerns. The fact that **51.8%** of businesses cite a lack of secure cloud solutions and **51.5%** cite a shortage of AI providers indicates that businesses are struggling to find suitable and reliable solutions.

On the other hand, barriers related to human resources are relatively lower. While challenges related to staff training and skill development stand at **31.9%**, employee resistance to artificial intelligence stand out as the lowest barrier at **14.1%**.



Graph 83. **Artificial Intelligence and Data-Driven Roles in Businesses (%, multiple choice)**

When examining artificial intelligence and data-driven roles within **businesses**, it becomes evident that the structure in this field is largely driven by **dispersed and undefined roles rather than formal, specialized positions**.

Here, the highest percentage—**39.5%**—belongs to the category of other AI-related tasks. This indicates that AI-related activities in businesses are primarily carried out by various employees as additional tasks, rather than being tied to a specific position.

In contrast, while the proportion of statisticians/data engineers remains at **10.1%**, the positions of AI project manager and machine learning engineer/AI developer each account for **7.9%**.

Table 19. Ethical Criteria for Artificial Intelligence in Businesses

Artificial Intelligence Ethical Criteria (1=Lowest, 5=Highest)							
Question	**1**	**2**	**3**	**4**	**5**	**Average**	**Standard Deviation**
Protection of customer data	3%	2%	5%	3%	87%	4.69	0.89
Informing customers about the AI process	8%	4%	20%	15%	53%	4.01	1.27
Maintaining AI Decision Records	8%	3%	18%	14%	57%	4.09	1.25

According to Table 19, businesses generally place a high level of importance on ethical criteria in the use of artificial intelligence. In this context, the protection of customer data has the highest average score. This is followed by the practice of maintaining records of AI decisions and informing customers about the AI process.

The findings indicate that data security is the primary ethical concern, while transparency and accountability come second.

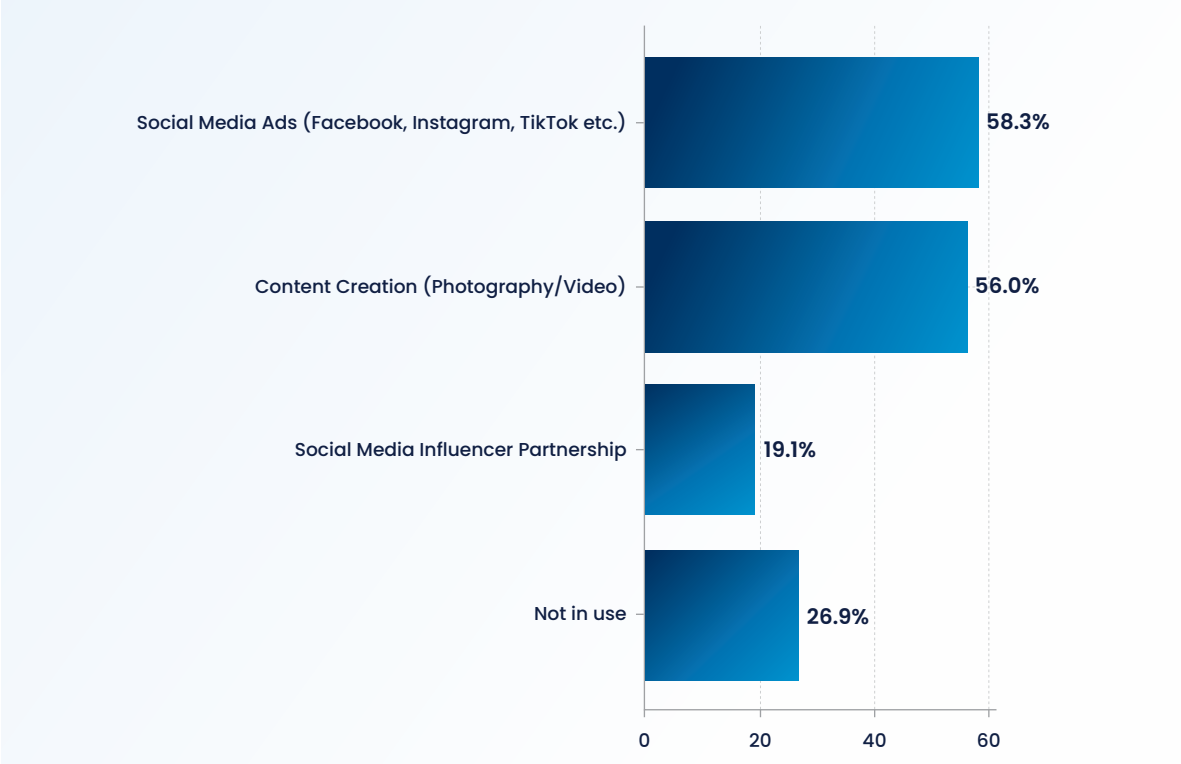
Table 20. Businesses' Future Plans for Using Artificial Intelligence Tools

Intention to Use in the Future (1=Lowest, 5=Highest)							
Question	**1**	**2**	**3**	**4**	**5**	**Average**	**Standard Deviation**
There are plans to increase the use of artificial intelligence over the next six months	10%	9%	26%	15%	39%	3.63	1.35
Plans are in place to invest in AI-powered automation	28%	13%	23%	10%	26%	2.92	1.55
Plans are in place to participate in artificial intelligence training	26%	10%	22%	13%	30%	3.11	1.57

According to Table 20, when examining the percentage of businesses planning to increase their use of artificial intelligence over the next six months, it is observed that **39%** of businesses expressed the highest level (5) of intent. When scores of 4 and 5 are considered together, this percentage reaches **54%**. The average score of **3.63** indicates that the overall trend is **positive but cautious**. This situation can be interpreted as follows: "Businesses want to increase their use of artificial intelligence, but this desire does not show a strong and uniform distribution".

In contrast, investment plans for AI-driven automation appear weaker. While the highest level of investment intent (5) stands at **26%**, the combined total of responses at the lower levels (1 and 2) is **41%**. The fact that the average score remains at **2.92** indicates that businesses are adopting a **cautious stance** regarding automation investments and exhibit a high perception of risk.

Plans for participating in artificial intelligence training, however, show a relatively more balanced distribution. While **30%** of respondents indicated the highest level of intent to participate, the combined total of those scoring 4 and 5 is **43%**. With an average of **3.11**, there is a moderate trend. This indicates that businesses have a certain level of awareness regarding human resource development.



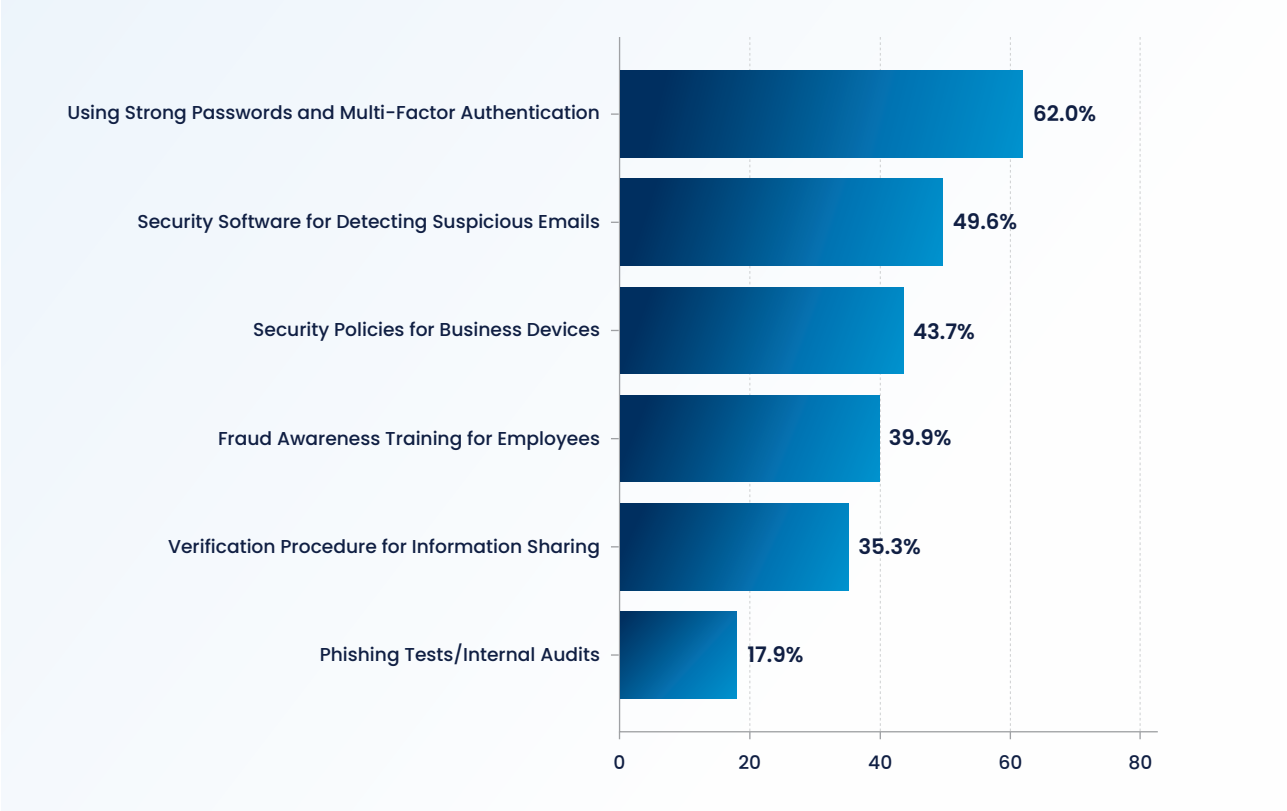
Graph 84. Social Media Usage Rate Among Businesses (%, multiple choices)

When examining businesses' use of social media, it is evident that these channels have **become an active and important marketing tool for e-commerce**. While **58.3%** of businesses use social media ads, **56%** create content (photos/videos). The fact that these two percentages are quite close indicates that businesses are not limited to simply running ads but have also adopted a content-focused marketing approach.

While social media influencer collaborations stood at **19.1%**, **26.9%** of businesses reported that they do not use social media at all.

As transaction volumes in e-commerce have grown, security has become one of the sector's fundamental elements. The risks of fraud and data breaches directly impact both consumer confidence and business reputation. For this reason, effective security measures are critical to the sustainability of e-commerce.

Accordingly, the survey on artificial intelligence conducted by the Ministry of Trade also asked participants about the security measures businesses have implemented to combat fraudulent activities in e-commerce.



Graph 85. Digital Security Measures Used in Businesses (%, multiple choice)

An examination of the digital security measures implemented in businesses reveals that while basic security practices have become widespread, advanced and systematic measures remain limited.

The most common practice is the use of strong passwords and multi-factor authentication (MFA), at **62%**. This is followed by security software designed to detect suspicious emails, at **49.6%**, and the enforcement of security policies on company devices, at **43.7%**. This data indicates that businesses place a certain degree of importance on basic cybersecurity measures.

While fraud awareness training for employees stands at **39.9%**, verification procedures for information sharing are at **35.3%**. The lowest rate, at **17.9%**, applies to phishing tests and internal audits.

AN ECONOMETRIC PERSPECTIVE

CHAPTER 15

An Econometric Perspective

The growth of e-commerce is directly impacting many sectors through supply chain integration, shifts in consumer behavior, and the influence of platform structures. In this section of the report, the interactions among the sectors comprising Türkiye's e-commerce ecosystem are examined using econometric methods.

In the analysis, Granger causality tests (Granger, 1969) were applied to a total of 1,190 pairs using daily transaction volume data from 35 sectors, Following this, economically coherent thematic groups were formed, and multivariate VAR models (Sims, 1980) were estimated within these groups, with Forecasted Error Variance Decomposition (FEVD) conducted.

This approach aims to highlight both the statistical significance and the economic interpretability of cross-sectoral interactions. Thus, the extent to which a shock in one sector is transmitted to others and the time lags involved are presented within a concrete framework for policymakers and industry professionals.

In the analysis, the Granger causality test was applied to identify leading-lagging relationships across sectors. This test examines whether the lagged values of one variable make a statistically significant contribution to the prediction of another variable. Here, the concept of ***"causality"*** refers to statistical priority in predictive power rather than a structural cause-and-effect relationship. In the analysis, all 1.190 pairs of relationships among the 35 sectors were examined; optimal lag lengths were determined using the Akaike Information Criterion (AIC). The results were evaluated at significant levels of **1%**, **5%**, and **10%**.

Table 21. Results of the Granger Causality Test for Sectors[15]

Direction	Optimal Lag	F Statistic	p-value	Significance
Travel, Transportation, and Storage → Food Delivery	3	9.8114	0.0000	***
Airlines → Food Delivery	2	15.4638	0.0000	***
Accommodation → Travel, Transportation, and Storage	2	15.2102	0.0000	***
Education and Consulting Services → Electronics	4	13.6057	0.0000	***
Accommodation → Food Delivery	2	11.1664	0.0001	***
Food Delivery → Agriculture and Livestock	4	5.4050	0.0008	***
Food and Supermarkets → Food Delivery	3	6.0586	0.0010	***
Electronics → Software	4	5.0942	0.0012	***
Accommodation → Airlines	2	6.4322	0.0026	***
Accommodation → Renovation, Cleaning, and Organization	2	6.3827	0.0027	***
Books and Magazines → Education and Consulting Services	1	8.4769	0.0047	***
Appliances and Small Household Appliances → Renovation, Cleaning, and Organization	3	4.6781	0.0048	***
Stationery and Office Supplies → Books and Magazines	1	7.9120	0.0062	***
Accommodation → Car Rental	2	5.4055	0.0064	***
Sports and Outdoor → Clothing, Footwear, and Accessories	1	6.4470	0.0131	**
Airlines → Travel, Transportation, and Storage	3	3.3622	0.0232	**
Food and Supermarkets → Agriculture and Livestock	2	3.8811	0.0248	**
Stationery and Office Supplies → Education and Consulting Services	4	2.9366	0.0264	**
Agriculture and Livestock → Food and Supermarkets	3	3.1967	0.0284	**
Education and Consulting Services → Books and Magazines	1	4.7510	0.0323	**
Food Delivery → Food and Supermarkets	2	2.4544	0.0927	*

According to the results of the Granger causality test, statistically significant lead-lag relationships were identified in 21 pairs. Of these pairs, 14 are significant at the 1% level, 6 at the 5% level, and 1 at the 10% level. Upon examining the results, it is evident that certain sectors play a distinct ***"leading"*** role within the ecosystem. The accommodation sector stands out for exhibiting statistically significant Granger causality toward a total of 5 different sectors. This sector demonstrates a leading relationship with all of the following sectors: travel, transportation and warehousing, food services, airlines, car rental, as well as renovation, cleaning, and event planning.

Similarly, the travel, transportation, and warehousing sectors, as well as the airline industry, have a significant leading effect on the food service sector. This can be interpreted to mean that travel activity drives food and beverage spending.

15 In the test results, * indicates significance at the 0.10 level; ** indicates significance at the 0.05 level; *** indicates significance at the 0.01 level..

The strong leading effect of the education and consulting services sector on the electronics sector ($F=13.61$; $p<0.001$) is consistent with the pattern of increased demand for technological devices during the academic year. The effect of the same sector on books and magazines also supports this view.

Notable interactions are also observed within the food supply chain. While the food and supermarket sectors exhibit a leading relationship in both the food service and agriculture and livestock sectors, a significant causality in the opposite direction—from the agriculture and livestock sector to the food and supermarket sector—has also been identified. This bidirectional relationship demonstrates that actors at both ends of the supply chain mutually influence one another.

An important consideration in interpreting the results is that statistical significance does not always correspond to an economic mechanism. Therefore, the 21 significant relationships identified were also subjected to an economic interpretability filter, and the table includes only those relationships found to be economically consistent.

While the Granger causality test identifies the existence and direction of bivariate relationships, it is insufficient for measuring the magnitude and duration of the transmission of a shock in one sector to other sectors. For this purpose, Vector Autoregressive (VAR) models were estimated, and Forecast Error Variance Decomposition (FEVD) was applied.

A critical methodological choice in VAR modeling is which variables to include in the model. Including all 35 sectors in a single VAR model leads to parameter inflation and a loss of degrees of freedom, making it difficult to obtain reliable estimates. On the other hand, constructing only bilateral VAR models may result in bias due to the neglect of other sectors in the system.

To strike a balance between these two extremes, the sectors have been divided into 5 thematic groups based on their economic functions and supply chain links:

The tourism and travel category encompasses the accommodation, travel-transportation-warehousing, airline, food service, and car rental industries. These sectors form an integrated service chain that is affected by the common demand shocks generated by tourism activity.

The digital and technology category encompasses education and consulting services, as well as the electronics and software industries. It reflects a digital ecosystem in which demand for training drives the purchase of technological devices and software.

The food supply chain category includes the food and supermarket, agriculture and livestock, and food service industries. These sectors, which represent different links in the supply chain stretching from production to final consumption, mutually transmit supply and demand shocks to one another.

The Home and Lifestyle category brings together the white goods and small appliances, home improvement, cleaning and organization, sports and outdoor, and clothing, footwear, and accessories sectors. These sectors, which are closely linked to household quality of life and personal spending preferences, are influenced by similar macroeconomic conditions.

The Information and Office category includes stationery and office supplies, books and magazines, as well as education and consulting services. These sectors, which are linked to access to information and office needs, share common demand dynamics driven by the academic calendar.

Thanks to this thematic grouping, each VAR model was estimated using an economically consistent set of sectors, thereby enhancing both statistical reliability and interpretability. Appropriate lag lengths were determined using the AIC.

Table 22. Results of Variance Decomposition by Thematic Sectors [16]

#	Independent Variable (X)	Dependent Variable (Y)	Thematic Group	VAR Lag	1st Month (%)	3rd Month (%)	6th Month (%)	12th Month (%)	Average Impact (%)	Efficacy Profile
1	Accommodation	Travel, Transportation, and Storage	Travel and Tourism	2	54.74%	58.45%	56.02%	55.90%	**56.28%**	immediate and sustained →
2	Education and Consulting Services	Electronics	Digital and Technology	4	45.11%	55.72%	58.61%	59.01%	**54.61%**	immediate and sustained →
3	Accommodation	Renovation, Cleaning, and Organization	Travel and Tourism	2	45.46%	46.93%	51.33%	52.33%	**49.01%**	immediate and sustained →
4	Accommodation	Airlines	Travel and Tourism	2	44.41%	48.68%	48.71%	49.45%	**47.81%**	immediate and sustained →
5	Agriculture and Livestock	Food and Supermarkets	Food Supply Chain	3	13.19%	52.45%	56.33%	56.46%	**44.61%**	Delayed Strengthening →
6	Accommodation	Car Rental	Travel and Tourism	2	27.65%	39.15%	38.92%	38.93%	**36.16%**	immediate and sustained →
7	Travel, Transportation, and Storage	Food Delivery	Travel and Tourism	2	18.77%	37.33%	37.81%	37.71%	**32.90%**	Delayed Strengthening →
8	Education and Consulting Services	Books and Magazines	Information and Office	3	26.70%	26.00%	33.51%	35.83%	**30.51%**	immediate and sustained →
9	Food Delivery	Food and Supermarkets	Food Supply Chain	3	41.94%	28.39%	25.57%	25.49%	**30.35%**	Immediate, Weakening →
10	Accommodation	Food Delivery	Travel and Tourism	2	7.89%	33.42%	33.27%	35.02%	**27.40%**	Delayed Strengthening →
11	Appliances and Small Household Goods	Renovation, Cleaning, and Organization	Lifestyle and Home	3	16.05%	16.68%	17.31%	17.35%	**16.85%**	immediate and sustained →
12	Food and Supermarkets	Agriculture and Livestock	Food Supply Chain	3	15.47%	15.47%	15.54%	15.53%	**15.50%**	immediate and sustained →
13	Sports and Outdoor	Clothing, Footwear, and Accessories	Lifestyle and Home	3	15.93%	13.34%	12.80%	12.67%	**13.68%**	immediate and sustained →
14	Stationery and Office Supplies	Books and Magazines	Information and Office	3	0.44%	15.44%	18.64%	18.37%	**13.22%**	Delayed Strengthening →
15	Stationery and Office Supplies	Education and Consulting Services	Information and Office	3	8.18%	10.99%	11.37%	11.57%	**10.53%**	immediate and sustained →
16	Food and Supermarkets	Food Delivery	Food Supply Chain	3	9.34%	9.63%	9.56%	9.81%	**9.59%**	immediate and sustained →
17	Electronics	Software	Digital and Technology	4	1.28%	7.09%	6.17%	5.69%	**5.06%**	immediate and sustained →
18	Airlines	Travel, Transportation, and Storage	Tourism and Travel	2	2.91%	3.82%	3.75%	3.74%	**3.56%**	immediate and sustained →
19	Food Delivery	Agriculture and Livestock	Food Supply Chain	3	2.91%	3.27%	3.66%	3.67%	**3.38%**	immediate and sustained →
20	Books and Magazines	Education and Consulting Services	Information and Office	3	2.51%	3.3%	3.66%	3.94%	**3.36%**	immediate and sustained →
21	Airlines	Food Delivery	Tourism and Travel	2	0.34%	1.67%	1.58%	1.68%	**1.32%**	immediate and sustained →

Note: FEVD values were obtained from a thematic group multivariate VAR model (AIC-based lag selection). Color (Average Effect): Dark Green ≥40% | Light Green 20–40% | Yellow 10–20% | Orange <10%. All variables were made stationary prior to model estimation.

16 The impact profile classification shown in the table was developed based on the temporal trends of the FEVD values for each sector pair at months 1, 3, 6, and 12. The "immediate and persistent" profile refers to pairs where the effect emerges at a high level from the first month onward and maintains or increases in magnitude over time; the "delayed but strengthening" profile refers to pairs where the effect remains limited at the outset but rises significantly in subsequent periods; and the "immediate but weakening" profile refers to pairs where the effect is relatively high at the outset but diminishes over time. This classification serves as a descriptive framework to facilitate the interpretation of FEVD dynamics rather than a categorical distinction with strict boundaries. However, the consistency of each profile with observed economic mechanisms—where structural interdependence relationships correspond to the immediate and persistent profile; supply chain delays to the delayed-gaining-momentum profile; and short-term demand substitutions to the immediate-but-weakening profile—supports the validity of the classification.

FEVD results show the extent to which sectors explain each other's variance over a 12-month forecast horizon. Significant findings emerge when average impact percentages and impact profiles are evaluated together.

The tourism and travel group is the cluster where the strongest cross-sectoral interactions are observed. Shocks originating from the accommodation sector account for **55.9%** of the variance in the travel, transportation, and warehousing sectors over a 12-month horizon. The accommodation sector plays a decisive role in the tourism ecosystem, with the highest average impact in the table. Within the same group, variance explanation rates of **47.81%** for the accommodation-airlines pair, **49.01%** for the accommodation-renovation, cleaning, and organization pair, and **36.16%** for the accommodation-car rental pair were identified. These findings demonstrate that the accommodation sector is not merely a leading indicator but also a structural force that shapes the operational dynamics of related sectors.

In the digital and technology category, the average impact of training and consulting services on the electronics industry is **54.61%**. This impact begins at **45.1%** in the first month and rises to **59.01%** over a 12-month horizon, exhibiting an "**immediate and sustained**" profile. The observation that the demand for technological equipment and education expenditures is directly linked to digitalization in the education sector supports this finding.

In the food supply chain group, the impact of the agriculture and livestock sector on the food and supermarket sector exhibits a "delayed strengthening" profile, with a rate of **44.61%**. The impact, which stands at **13.19%** in the first month, rises to **56.46%** in the 12th month. This profile indicates that agricultural supply shocks are reflected in the retail sector with a certain delay, which is consistent with the natural functioning of the supply chain. Within the same group, an "**immediate but weakening**" impact of **30.35%** was observed from the food service sector to the food and supermarket sector.

Within the home and lifestyle category, a **16.85%** impact is observed from the white goods and small appliances sector to the renovation, cleaning, and organization sector. The **13.68%** impact from the sports and outdoor sector to the clothing, footwear, and accessories sector indicates the fluidity of consumer lifestyle preferences across sectors.

Within the Information and Office group, the stationery and office supplies sector's impact on the book and magazine sector exhibits a "***delayed strengthening***" profile, at **13.22%**. The **10.53%** impact from the stationery and office supplies sector within the same group on the education and consulting services sector also reflects the link created by the education and training cycle between these sectors.

When a general assessment is made in terms of impact profiles, structural dependency relationships are observed among pairs exhibiting an "***immediate and sustained***" profile (e.g., accommodation → travel; education → electronics) reflect structural interdependence relationships; pairs exhibiting a "***delayed-strengthening***" profile (agriculture → food delivery; stationery → books) reflect supply chain or indirect transmission mechanisms; and pairs exhibiting an "***immediate but weakening***" profile (meals → food) reflect short-term demand shocks.

Sources

Granger, C. W. J. (1969). Investigating Causal Relations by Econometric Models and Cross-spectral Methods. *Econometrica*, 37(3), 424–438.

Sims, C. A. (1980). Macroeconomics and Reality. *Econometrica*, 48(1), 1–48.

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