

PRIORITIZATION OF TÜRKİYE'S CROSS-BORDER E-COMMERCE (E-EXPORT) BARRIERS¹

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ABSTRACT

E-export, the new engine of the global economy, offers revolutionary opportunities that transcend borders for businesses, but for many businesses in Turkey, this process is still fraught with insurmountable obstacles. This study examines the barriers faced by firms operating in the domestic market in transitioning to e-export through a scientific lens, determining the strategic order of importance of these obstacles using the Analytical Hierarchy Process (AHP) method. Based on the experience of sector experts, the analysis results strikingly reveal that the biggest obstacle to e-export is Legal and Regulatory Barriers with a weight of 0.526. This is followed by technological and logistical infrastructure problems. The findings suggest that customs and legislative reforms are necessary for Turkey to realize its full potential.

Keywords: E-export, AHP, International Trade, E-commerce Barriers, Decision Making

TÜRKİYE'NİN SINIR ÖTESİ E-TİCARET (E-İHRACAT) ENGELLERİNİN ÖNCELİKLENDİRİLMESİ

ÖZET

Küresel ekonominin yeni motoru olan e-ihracat, işletmeler için sınırları aşan devrim niteliğinde fırsatlar sunarken, Türkiye'deki birçok işletme için bu süreç engellerle dolu olmaktadır. Bu çalışma, iç pazarda faaliyet gösteren firmaların e-ihracata geçişte karşılaştığı engelleri bilimsel bir bakış açısıyla incelemekte ve Analitik Hiyerarşi Süreci (AHP) yöntemi kullanarak bu engellerin stratejik önem sırasını belirlemektedir. Sektör uzmanlarının deneyimlerine dayanan analiz sonuçları, e-ihracatın önündeki en büyük engelin 0,526 ağırlıkla Yasal ve Düzenleyici Engeller olduğunu ortaya koymaktadır. Bunu teknolojik ve lojistik altyapı sorunları takip etmektedir. Bulgular, Türkiye'nin potansiyelini gerçekleştirmesi için gümrük ve mevzuat reformlarının kaçınılmaz olduğunu göstermektedir.

Anahtar Kelimeler: E-ihracat, AHP, Uluslararası Ticaret, E-Ticaret Engelleri, Karar Verme

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1. INTRODUCTION

Electronic commerce (e-commerce) represents a revolutionary process that has fundamentally transformed traditional business models with the rapid global spread of information technologies since the 1990s (Gedik, 2021). These advancements in information technologies have enabled the transmission of voice, image, and text-based data over digital networks, creating a new area of interaction between businesses, consumers, and public institutions (Taşdemir, 2018). The concept of e-commerce encompasses all stages of a product or service, from production and marketing to sales, distribution, and payment processes, being carried out over computer networks (Sağlam et al., 2025). Today, e-commerce has become an integral part of the global economy with different models such as business-to-business (B2B), business-to-consumer (B2C), and consumer-to-consumer (C2C) (Uzun, 2021). Especially with Industry 4.0, technologies such as artificial intelligence and related Internet of Things and big data have been integrated into e-commerce processes, increasing commercial efficiency (Kara, 2025).

With the process of globalization, the transcendence of national borders in e-commerce has brought the concepts of "cross-border e-commerce" or "e-export" to the forefront in the literature (Ding et al., 2017). E-export, simply put, is the process of a country selling its goods and services to customers abroad through internet-based platforms and delivering these products (Uzun, 2021). This method offers strategic opportunities, especially for Small and Medium-sized Enterprises (SMEs), such as overcoming physical store limitations, accessing global markets with low market entry costs, and expanding their customer base (Ayan, 2021). Cross-border e-commerce is transforming the world into a single marketplace by making geographical distances and national borders less prominent in traditional trade (Sönmezay and Yıldırım Keser, 2024). The COVID-19 pandemic, which emerged in 2019 and affected the entire world, radically changed consumer shopping habits, further accelerating this digital transformation and causing an unpredictable increase in e-commerce volume globally (Toplu Yılmaz and Bayram, 2020). Micro-exports continue to increase day by day (Aslan and Parmaksız, 2025).

Turkey has great potential in the field of e-commerce and e-export with its young and technologically adept population, increasing internet penetration, and strategic geographical location (Bilik, 2023). According to data from the Turkish Statistical Institute, the household internet access rate increased from 27.4% in 2008 to 95.5% in 2023, clearly demonstrating the growth rate of the digital market. E-export is considered a critical tool within Turkey's export-based growth strategies to increase foreign exchange inflows and enhance the international competitiveness of local producers (Irmak, 2023). However, despite this potential, the multifaceted and complex obstacles that businesses face in their cross-border activities are causing the share of e-export in total exports to remain at a low level of 2.9% in 2024 (Republic of Turkey Ministry of Trade, 2025).

E-export processes; Logistics operations encompass various challenges such as customs regulations, payment systems, and cultural differences (Öksüz et al., 2023). Studies in the literature show that these obstacles directly affect businesses' decisions and performance in entering foreign markets (Sağlam et al., 2025). Logistics barriers are among the most fundamental problems for e-exporters in terms of timely and undamaged delivery of products, high transportation costs, and managing



international return processes (Sönmezay and Yıldırım Keser, 2024). For businesses that do not have warehouses or units abroad, extended delivery times negatively impact customer satisfaction (Irmak, 2023). Furthermore, the fact that e-export shipments from Türkiye are predominantly made through Istanbul leads to increased logistics congestion and costs (Sönmezay and Yıldırım Keser, 2024).

Legal and regulatory barriers stem from the complex customs procedures and tax regulations of different countries (Hepyaşar, 2019). The fact that each country has its own customs duties and exemption limits (*de minimis*) makes it difficult for businesses to comply with these rules and increases bureaucratic burdens (Tüfenk, 2024). Although applications such as the Electronic Commerce Customs Declaration (ETGB) and Simplified Customs Declaration (BGB) aim to accelerate micro-export processes in Turkey, inconsistencies in international legislation still constitute a serious obstacle (Turgut, 2023). Insufficient personnel at customs and long delays in product processing not only increase costs but also damage the brand value of businesses (Hepyaşar, 2019).

Inadequate technological and financial infrastructure is another barrier to e-export (Sağlam et al., 2025). Concerns, particularly regarding access to secure payment systems and data security, pose risks for both sellers and buyers (Bilik, 2023). The cessation of operations by global payment giants like PayPal in Türkiye has caused local entrepreneurs to experience difficulties in international collection processes and put them at a disadvantage in global competition (Bilik, 2023). Furthermore, the ineffective use of digital marketing channels and difficulties in accessing finance are slowing down the digital transformation process, especially for micro-entrepreneurs (Öksüz et al., 2023).

Cultural differences and language barriers constitute the social dimension of e-export (Sağlam et al., 2025). Deficiencies in producing content in the target market's language, understanding local shopping habits, and providing multilingual customer service support affect the global credibility of brands (Irmak, 2023). Consumers' tendency to shop from an unfamiliar seller located across borders is directly linked to the "trust" factor, and establishing this trust is essential for the sustainability of e-export (Delibal, 2019).

To enable businesses and policymakers to utilize their limited resources most efficiently in the face of this wide range of obstacles, it is essential to determine which barriers should be prioritized using scientific methods. Although numerous studies in the literature identify e-export barriers, they are largely descriptive and fail to assess their relative importance. This creates a significant gap in both academic literature and practical decision-making processes. In real-world applications, firms and policymakers must focus on the most critical barriers rather than addressing all obstacles simultaneously. Therefore, prioritizing e-export barriers by relative importance is crucial for effective strategy development.

The main objective of this study is to identify the obstacles faced by businesses operating in Turkey when transitioning to e-export and to determine the importance of these obstacles using the Analytical Hierarchy Process (AHP) method. The research is based on the opinions of experts with deep experience in foreign trade and logistics. The fundamental questions of the study are: what are the most critical main and sub-obstacles for e-exporters in Türkiye, and how should these obstacles be



positioned in the solution hierarchy? It is expected that the findings will guide businesses developing e-export strategies, help direct government incentives to the right areas, and provide a methodological contribution to the academic literature.

2. LITERATURE REVIEW

Cross-border e-commerce (e-export) has become a driving force for economic growth in the digitalized world and is defined as a revolutionary tool, especially for Small and Medium-sized Enterprises (SMEs), enabling them to access global markets by overcoming traditional boundaries. While this model, which is changing the dynamics of global trade, offers businesses advantages such as low market entry costs and a broad customer base, the literature emphasizes that there are multi-dimensional obstacles limiting the success of these processes. Research generally classifies e-export barriers under technological, logistical, legal, and cultural headings. However, despite these obstacles, digital platforms enable businesses to interact with customers in real-time, improve product quality, and enhance their innovation capabilities (Wang and Zhou, 2025).

2.1. Technological Infrastructure and Security Barriers

The foundation of e-commerce rests on a strong digital infrastructure. Kara (2025) states that inadequacies in Turkey's internet infrastructure negatively affect the speed and reliability of e-commerce, limiting its global competitiveness. Technological barriers include not only hardware but also a shortage of qualified workforce; according to a TÜSİAD (2017) report, the ratio of information technology specialists to the total workforce in Turkey is significantly below the European average. This makes it difficult for retailers to find expert teams to implement their digital transformation projects.

Security and data protection concerns are another critical dimension of technological barriers. Bilik (2023) states that consumer and seller concerns about cyber fraud, data privacy, and payment security have narrowed the volume of e-commerce. In the literature, it is accepted that users' perceptions of usefulness and trust are the most fundamental determinants in the adoption of e-commerce (Basarir-Ozel and Mardikyan, 2017).

2.2. Logistics and Distribution Infrastructure Barriers

Cross-border delivery of physical products is the most important factor determining the operational sustainability of e-export. A study conducted by Sönmezay and Yıldırım Keser (2024) with e-exporting businesses in Bursa found that logistics costs, especially shipping and packaging expenses, were the biggest obstacle. The fact that e-export shipments are generally in small packages prevents the utilization of economies of scale and increases unit costs (Gomez-Herrera et al., 2014).

Empirical evidence confirms that physical distance retains statistically significant negative effects on export volumes even in the CBEC era. Han et al. (2024), using panel data from Belt and Road Initiative countries over the period 2000–2022 and employing Fully Modified OLS (FMOLS), Dynamic OLS (DOLS), and Pooled Mean Group ARDL (PMG-ARDL) estimators, find that geographic distance continues to exert a long-run dampening effect on both goods and services exports conducted through digital channels. This finding challenges the early optimistic narrative that e-



commerce would render distance irrelevant and instead suggests that logistics infrastructure gaps amplify rather than dissolve the friction associated with geographic separation.

Delivery times and the management of return processes are also frequently discussed topics in the literature. Irmak (2023) emphasizes that extended delivery times harm customer satisfaction and that cooperation with third-party logistics (3PL) companies is necessary to overcome this problem. Furthermore, the complexity and high costs of customs procedures in return processes are a significant barrier that makes it difficult for businesses to engage in cross-border trade (Bafra, 2019). Tüfenk (2024) states that delays in shipping and product waiting times undermine international competitiveness.

2.3. Legal and Regulatory Barriers

Legal regulations are among the most significant obstacles businesses face and struggle to overcome in e-export activities. Complex customs regulations and varying customs tariffs across different countries create financial uncertainty and administrative burdens for businesses (Hepyaşar, 2019). Turgut (2023) argues that the Electronic Commerce Customs Declaration (ETGB) system accelerates micro-export processes and reduces bureaucracy, but its limitations to certain modes of transport and customs checkpoints reduce its effectiveness.

Limited access to payment systems is one of the most frequently cited obstacles in Turkey. Saydam (2022) and Delibal (2019) state that the cessation of operations in Turkey by global payment giants like PayPal has undermined the trust of foreign customers and caused local entrepreneurs to experience a competitive disadvantage in collection processes. Furthermore, a lack of knowledge in the accounting and taxation processes of cross-border transactions poses operational risks for financial advisors and businesses (Baral and Tekdemir, 2023).

The Turkish case studied by Aslan et al. (2024) illustrates how proactive regulatory reform can translate into tangible export gains. The progressive expansion of Turkey's Electronic Commerce Customs Declaration ceiling enabled a growing range of exports to benefit from simplified customs declarations, reducing administrative burden and accelerating clearance times. This regulatory liberalization produced measurable improvements in e-export performance and serves as a model for how targeted policy interventions can lower legal and regulatory barriers for e-exporters. The findings suggest that policymakers in other emerging markets may achieve similar gains through analogous micro-export facilitation frameworks.

2.4. Cultural Differences and Market Knowledge Barriers

Cultural distance and market knowledge deficits represent particularly intractable barriers to e-export because they are not amenable to purely technical or regulatory solutions. Exporters entering culturally distant markets must navigate differences in consumer preferences, communication norms, trust-building practices, negotiation styles, and product quality expectations, all of which require investment in market intelligence that is difficult to acquire from a distance (Elia et al., 2021). The inability to conduct in-person market visits, a practical constraint for many SMEs, further compounds this challenge.



Lack of understanding in the social and cultural fabric of the target market leads to the failure of marketing strategies. Sağlam et al. (2025) found that entrepreneurs perceive a lack of market research, difficulty in reaching the target audience, and language barriers as critical obstacles to e-export success. Ignoring local shopping habits and the inability to offer multilingual customer support damages the global credibility of brands (Irmak, 2023). Öksüz et al. (2023) emphasize that the inability to achieve market and product adaptation is one of the main factors restricting SMEs' access to international e-commerce markets.

Cassia and Magno (2025) add important nuance to this picture by demonstrating that market knowledge acquisition through e-export platforms is not instantaneous but unfolds progressively through co-creation processes involving exporters, buyers, and the platform ecosystem. Their longitudinal grounded theory study of Italian B2B exporters reveals that critical market knowledge gaps, including divergent pricing negotiation norms, unexpected demand for private-label products, and destination-specific labeling regulations, typically emerge only after active platform engagement rather than through prior desk research. This finding implies that the market knowledge barrier has a dynamic character: it cannot be fully resolved before market entry but must be addressed iteratively through accumulated platform experience. Firms that approach e-export with a learning orientation and commit to sustained platform engagement over time are better positioned to overcome cultural and market knowledge obstacles than those seeking immediate returns.

3. METHODOLOGY

This research uses the Analytical Hierarchy Process (AHP) method, a Multi-Criteria Decision Making (MCDM) technique, to identify the obstacles faced by businesses in Türkiye in their e-export processes and to rank these obstacles according to their importance. The AHP method is a scientific approach that evaluates qualitative and quantitative variables in a hierarchical structure, considering the priorities of groups or individuals in the decision-making process (Saaty, 1986).

The AHP method was preferred in this study due to its ability to handle hierarchical structures consisting of main and sub-criteria and to incorporate expert judgments through pairwise comparisons. In addition, AHP provides a consistency ratio (CR) to test the reliability of expert evaluations, which strengthens the robustness of the results.

In the AHP method, comparison matrices created with objective-oriented criteria are presented to experts. Experts perform comparisons between criteria using numerical values ranging from 1 to 9. The meanings of the numerical values given by the experts between the criteria are as follows: 1 is equally important, 3 is moderately preferred, 5 is heavily preferred, 7 is highly preferred, 9 is extremely preferred, and 2, 4, 6, and 8 represent intermediate decisions (Saaty 1994).

After the decision matrices are filled according to expert opinions, the weights assigned to each criterion and sub-criterion are determined by following the eigenvalue and eigenvector method suggested by the model, and this process is shown in equations 1-4.



$$A = [a_{ij}] \begin{bmatrix} 1 & a_{12} & \cdots & a_{1n} \\ a_{21} & 1 & \cdots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{n1} & a_{n2} & \cdots & 1 \end{bmatrix} \quad (1) \quad W = \begin{bmatrix} \frac{W_1}{W_1} & \frac{W_1}{W_2} & \cdots & \frac{W_1}{W_n} \\ \frac{W_2}{W_1} & \frac{W_2}{W_2} & \cdots & \frac{W_2}{W_n} \\ \vdots & \vdots & \ddots & \vdots \\ \frac{W_n}{W_1} & \frac{W_n}{W_2} & \cdots & \frac{W_n}{W_n} \end{bmatrix} \quad (2)$$

$$A \times K = \begin{bmatrix} 1 & a_{12} & \cdots & a_{1n} \\ a_{21} & 1 & \cdots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{n1} & a_{n2} & \cdots & 1 \end{bmatrix} \times \begin{bmatrix} W_1 \\ W_2 \\ \vdots \\ W_n \end{bmatrix} = \begin{bmatrix} W'_1 \\ W'_2 \\ \vdots \\ W'_n \end{bmatrix} \quad (3)$$

$$\lambda \max = \left(\frac{1}{n}\right) \times \left(\frac{W'_1}{W_1} + \frac{W'_2}{W_2} + \cdots + \frac{W'_n}{W_n}\right) \quad (4)$$

To verify the consistency of the values given by each expert in the comparison matrix, the consistency ratio (CR) needs to be calculated. The consistency index (CI), random consistency index (RI), and ultimately the consistency ratio is calculated using equations 5-7.

$$CI = \frac{\lambda \max - n}{n-1} \quad (5)$$

$$RI_n = [0.00, 0.00, 0.52, 0.89, 1.11, 1.25, 1.35 \quad \dots \quad] \quad (6)$$

$$CR = \frac{CI}{RI} \quad (7)$$

As the CR value increases, inconsistencies in comparisons also increase, potentially leading to the rejection of evaluations or requesting participants to revise their pairwise comparison scores. Therefore, it is recommended that the CR value remain at or below 0.1.

Finally, the geometric mean method was used to combine expert evaluations, considering the differences in opinion arising from each expert's perceptions and experiences, as suggested by Forman and Peniwati (1998) and shown in equation 8.

$$a_{ij} = \left(\prod_{k=1}^K a_{ij}^k\right)^{1/K} \quad (8)$$

3.1. Research Design and Determination of Criteria

In the first stage of the research, criteria representing the factors hindering e-export were determined as a result of the literature review and examination of sector reports. The determined criteria were structured hierarchically under four main headings and thirteen subheadings. These main criteria are "Technological Infrastructure and Security Barriers", "Logistics and Distribution Infrastructure Barriers", "Legal and Regulatory Barriers", and "Cultural Differences and Market Knowledge".



3.2. Expert Selection and Data Collection

In the AHP method, the accuracy of decisions is directly related to the competence of the experts from whom the data was collected. In this study, experts with experience in e-commerce, foreign trade, customs, and logistics were selected. Participant selection criteria were having at least 2 years of e-export experience and being familiar with market research processes. In the analysis phase, data from 3 experts with a consistency ratio below the acceptable threshold of 0.05 were included in the evaluation. The experts consisted of individuals working in the positions of export and logistics expert, warehouse manager, and export operations expert, and possessing experience in the sector.

The AHP weighting process was conducted with three domain experts, which is consistent with the methodological guidelines for group decision-making in AHP, as Saaty and Ozdemir (2014) establish that panels of three to seven judges are both theoretically sound and sufficient for obtaining valid, consistent pairwise judgments.

In selecting the expert panel, priority was given to role-based diversity rather than numerical diversity to ensure representation of the three main functional pillars of Türkiye's e-export ecosystem (logistics operations, export management, and warehousing). Although the sample size is modest, high consistency ratios ($CR \leq 0.05$) demonstrate stable prioritization structures and support the reliability of the evaluations. The ranking results of the criteria are iterative among the three experts. Increasing the panel size may slightly alter the weighting values. However, according to AHP theory, unless new participants introduce structurally different stakeholder categories, the ranking is unlikely to change significantly (Triantaphyllou and Sánchez, 1997; Saaty and Ozdemir, 2014). This suggests that the resulting prioritization reflects a robust underlying structure of perceived barriers within the current e-export context in Türkiye.

3.3. Data Analysis and Scaling

In face-to-face interviews with experts, a 1-9 scoring scale developed by Saaty was used to determine the importance of each criterion in relation to others. On this scale, a value of "1" indicates that both criteria are equally important, while a value of "9" indicates that one criterion is definitely more important than the other. The collected data was transferred to Microsoft Excel to create pairwise comparison matrices. As a result of the analysis, the weight of each criterion was calculated, and a hierarchical ranking was obtained.

4. FINDINGS

Table 1: Expert Participant Information

	Company Position	E-export Experience (Years)	Export Experience (Years)
Expert 1	Export and Logistics Specialist	1-5 years	More than 10 years
Expert 2	Warehouse Supervisor	1-5 years	1-5 years
Expert 3	Export Operations Specialist	1-5 years	1-5 years



Table 1 presents the competency and experience profiles of the experts who participated in the evaluations within the scope of the AHP method in this study. The fact that all participants have at least 1–5 years of experience in the field of e-export indicates that the pairwise comparisons are based on current digital export practices. Furthermore, the export and logistics expert's general export experience exceeding 10 years provides a strategic perspective and industry knowledge to the evaluations; while the warehouse manager and export operations expert's moderate experience ensures that practical and realistic judgments regarding operational processes are reflected in the model. This diversity of experts increases the reliability of the judgments used in the AHP analysis, covering both strategic and operational dimensions.

Since the study is based on the evaluations of three experts, a group decision-making approach was adopted. The individual pairwise comparison matrices obtained from each expert were aggregated by calculating the arithmetic mean to form a single group decision matrix.

Table 2: Prioritization of E-Export Barriers using AHP Method – Expert-Based Weight and Consistency Values

Criteria	E1 Weight	E1 Consistency	E2 Weight	E2 Consistency	E3 Weight	E3 Consistency
A. Technological Infrastructure and Security Barriers	0.25	0.05	0.25	0.05	0.18	0.04
- Inadequate Infrastructure	0.161	0.01	0.162	0.02	0.115	0.02
- Security and Data Protection Issues	0.035	0.01	0.058	0.02	0.042	0.02
- Lack of Technical Knowledge	0.062	0.01	0.038	0.02	0.027	0.02
B. Logistics and Distribution Infrastructure Barriers	0.17	0.05	0.17	0.05	0.13	0.04
- High Shipping Costs	0.087	0.04	0.091	0.05	0.083	0.04
- Customs Procedures	0.019	0.04	0.020	0.05	0.013	0.04
- Delivery Processes and Return Policies	0.050	0.04	0.047	0.05	0.029	0.04
- Warehousing and Inventory Management	0.015	0.04	0.013	0.05	0.012	0.04
C. Legal and Regulatory Barriers	0.49	0.05	0.49	0.05	0.59	0.04
- Legal Regulations of Different Countries	0.146	0.00	0.118	0.01	0.191	0.01
- Intellectual Property Rights and Patents	0.080	0.00	0.103	0.01	0.073	0.01
- Customs Tariffs and Other Taxes	0.264	0.00	0.269	0.01	0.332	0.01
D. Cultural Differences and Market Knowledge	0.08	0.05	0.08	0.05	0.08	0.04
- Language and Cultural Differences	0.015	0.00	0.025	0.00	0.016	0.00
- Difficulty in Reaching the Target Audience	0.014	0.00	0.009	0.00	0.015	0.00
- Global Competition	0.050	0.00	0.046	0.00	0.052	0.00

According to the results in Table 2, based on the assessments of the three experts participating in the AHP analysis, the biggest obstacle to e-export was identified as "Legal Regulatory Barriers." All participants evaluated this criterion with high weights. In particular, the sub-criterion "Customs Tariffs and Other Taxes" stood out



as the most important factor for all three participants. Technological infrastructure and security barriers and logistics and distribution infrastructure barriers were also among the relatively significant obstacles, while the criterion "Cultural Differences and Market Knowledge" was evaluated with low priority by all participants. At the sub-criterion level, "Insufficient Infrastructure," "High Transportation Costs," and "Legal Regulations of Different Countries" had a certain weight, while factors such as "Language and Cultural Differences" and "Difficulty Reaching the Target Audience" were ranked with a low impact level.

When the consistency ratios of the participants are examined, it is observed that both the main criteria and sub-criteria levels fall below the threshold values of 0.05 or 0.10, which are accepted in the AHP literature. In the main criteria, the consistency ratio of all participants is in the range of 0.04–0.05, indicating that the decision matrices were constructed reliably and rationally. In the sub-criteria, the ratios generally range between 0.00 and 0.02, which shows that the participants exhibited high consistency in their evaluations and that the results are valid for analysis.

Table 3: Weighting of E-Export Barriers

Criteria	Weight	Ranking
A. Technological Infrastructure and Security Barriers	0.234	2
- Inadequate Infrastructure	0.146	3
- Security and Data Protection Issues	0.045	7
- Lack of Technical Knowledge	0.042	9
B. Logistics and Distribution Infrastructure Barriers	0.160	3
- High Transportation Costs	0.087	4
- Customs Procedures	0.017	11
- Delivery Processes and Return Policies	0.042	8
- Warehousing and Inventory Management	0.013	12
C. Legal and Regulatory Barriers	0.526	1
- Legal Regulations of Different Countries	0.152	2
- Intellectual Property Rights and Patents	0.086	5
- Customs Tariffs and Other Taxes	0.288	1
D. Cultural Differences and Market Knowledge	0.081	4
- Language and Cultural Differences	0.019	10
- Difficulty in Reaching the Target Audience	0.012	13
- Global Competition	0.050	6

According to the AHP analysis results in Table 3, which prioritizes the main obstacles restricting e-export activities, the criterion with the highest weight is "Legal and Regulatory Barriers" (0.525). This reveals that e-export is closely related not only to technical or operational competence but also to compliance with international law and regulations. This is followed by "Technological Infrastructure and Security Barriers" (0.233) and "Logistics and Distribution Infrastructure Barriers" (0.160). Considering the dependence of e-export on digital infrastructure and distribution processes, the importance of these two criteria has been evaluated in parallel with the functioning of the sector. The "Cultural Differences and Market Knowledge" criterion ranks last with a lower weight (0.087), indicating that cultural factors are perceived as relatively less decisive among e-export barriers.



When examined at the sub-criterion level, “Customs Tariffs and Other Taxes” (0.288) stands out as the element with the highest weight. This indicates that the financial burdens and tax non-compliance encountered by companies during the border crossing of products in e-export processes create pressure on them. Factors such as “Legal Regulations of Different Countries” (0.151) and “Insufficient Infrastructure” (0.146) also have high importance, showing that competing in international markets requires not only legislation but also strong digital systems and infrastructure. “Intellectual Property Rights and Patents” (0.085) and “High Transportation Costs” (0.087) are among the main obstacles faced by e-exporters in terms of both legal protection and operational efficiency.

Among the sub-criteria represented with lower weights are “Delivery Processes and Return Policies” (0.042), “Lack of Technical Knowledge” (0.042), “Security and Data Protection Issues” (0.045), and “Global Competition” (0.049). These factors are areas that should be considered, especially in terms of the operational sustainability and digital security of e-export, but are seen as less important according to the participants' evaluations. Criteria such as “Language and Cultural Differences” (0.018), “Customs Procedures” (0.017), “Storage and Inventory Management” (0.013), and “Difficulty Reaching the Target Audience” (0.012) are among the sub-categories with the lowest importance, and it is understood that these elements are evaluated at a secondary level in the context of e-export barriers.

5. DISCUSSION AND CONCLUSION

The findings of this study strongly suggest that the obstacles faced by Turkish firms in the transition to e-export are largely institutional rather than operational in nature. The Analytical Hierarchy Process (AHP) results clearly show that legal and regulatory obstacles constitute the most critical group of obstacles with a weighting value of 0.526, significantly outpacing technological, logistical, and cultural factors. This result confirms and deepens the arguments in the existing literature that regulatory complexity and customs-related costs are the main deterrents to cross-border e-commerce activities (Hepyaşar, 2019; Tüfenk, 2024).

At the sub-level, customs tariffs and other taxes stand out as the most significant barriers. This finding shows that even if firms have sufficient digital infrastructure and logistical capacity, high financial burdens and uncertainties in cross-border taxation significantly reduce their competitiveness. This situation, where the unpredictability of total arrival costs discourages SMEs from scaling their e-export activities, is consistent with the studies of Gomez-Herrera et al. (2014) and Saydam (2022). Furthermore, the high weight given to the criterion of "legal regulations of different countries" highlights that the fragmented nature of international trade law is not a deficiency at the firm level, but a structural constraint.

Technological infrastructure is ranked as the second most important category, with "inadequate infrastructure" being the most prominent sub-factor. While digital transformation is often presented as the main driving force behind e-export success, the findings show that technology alone is insufficient in the absence of regulatory harmonization. This result complements the studies of Kara (2025) and Bilik (2023), who emphasize that digital readiness must be supported by institutional capacity to translate into export performance.



Logistical and distribution barriers, particularly high transportation costs, play a significant role but are considered secondary to legal constraints. This suggests that logistics-related problems can be mitigated by private sector solutions such as third-party logistics partnerships, while regulatory barriers require public sector intervention. Interestingly, cultural differences and market knowledge were ranked as the least significant barriers. This may reflect the increasing standardization of global e-commerce platforms and the increased accessibility of digital marketing tools that reduce cultural distance in online transactions.

Overall, the main barriers to e-export in Türkiye appear to be systemic and policy-related rather than stemming from a lack of entrepreneurial capacity and market knowledge, with high-weight tax barriers largely shaped by international trade structures rather than domestic policies. In this context, the role of global trade governance mechanisms, particularly the World Trade Organization (WTO), should be emphasized, as these frameworks significantly influence tariff regimes and cross-border trade conditions.

While institutional reforms are necessary to fully unlock Türkiye's e-export potential, SMEs should not delay their market entry processes. The strategic use of micro-export procedures, 3PL order fulfillment services, cross-border payment intermediaries, and selective market targeting can reduce regulatory barriers and allow firms to gain international experience as structural improvements progress.

This study focuses on the seller's perspective in Türkiye, as the primary objective is to identify local constraints hindering market entry. However, we acknowledge that buyer perceptions (e.g., trust, delivery expectations, payment reliability, transparency) can constitute an independent set of barriers. The inclusion of international buyer perspectives is a natural extension of this research and will be examined in future studies, possibly through a two-sided model comparing institutional frictions in both markets.

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