SELECTION OF A FULFILLMENT CENTER IN THE US MARKET:

THE CASE OF EXPORTER SMES IN TURKEY

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SELECTION OF A FULFILLMENT CENTER IN THE US MARKET: THE CASE OF EXPORTER SMES IN TURKEY

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DECLARATION OF ORIGINALITY

I, Kemal Alkan, certify that

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- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;
- this is a true copy of the thesis approved by my advisor and thesis committee at Boğaziçi University, including final revisions required by them.

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ABSTRACT

Selection of a Fulfillment Center in the US Market:

The Case of Exporter SMEs in Turkey

For the last couple of decades, globalization carved the path for a more interconnected medium of trade for businesses, ranging between large-size corporations and SMEs, to penetrate into new markets. As a result of this high-paced medium of transactions, businesses have been opting to outsource some of their supply-chain and logistics-related processes to some particular 3rd party firms, such as fulfillment centers. SMEs, however, can achieve even higher competitive advantages by working with fulfillment service providers for their export operations to foreign markets, which is being reinforced by several factors. This survey particularly investigates the Turkey-based SMEs' selection criteria on the appropriate fulfillment service providers for their export operations to the United States of America, through a wide-coverage questionnaire that measures companies' perception on fulfillment centers. Consequently, the presence of locality and the effectiveness of logistics are found to be significant for Turkey-based SMEs that develop export plans and/or operations to the United States, for their fulfillment center selection criteria.

ÖZET

ABD Pazarındaki Lojistik Merkezlerinin Seçimi:
Türkiye'deki İhracatçı KOBİ'ler Üzerine Bir Araştırma

Son birkaç on yılda küreselleşme, büyük çaplı firmalardan KOBİ'lere kadar uzanan geniş bir yelpazede şirketlerin kolaylıkla yeni pazarlara girmesinin yolunu açmıştır. Ortaya çıkan bu hızlı ticari dinamiğin bir sonucu olarak, şirketler, lojistik veya tedarik zinciri gibi süreçlerini, lojistik merkezleri gibi, birtakım üçüncü parti şirketlerden dışarıdan tedarik ile sürdürmeyi tercih etmektedirler. Fakat KOBİ'ler, dış pazarlardaki ihracat faaliyetlerinde lojistik merkezlerinin sunduğu hizmetler sayesinde, kendilerine rekabetçi avantaj sağlayacak bazı faktörlere sahip olabilirler. Bu araştırma, Türkiye KOBİ'lerinin A.B.D.'ye yönelik ihracat faaliyetlerinde dış kaynak kullanımı amacıyla uygun lojistik merkezleri hangi faktör veya kriterlere göre seçtiğini geniş kapsamlı bir anket yardımıyla ölçümlemektedir. Sonuç olarak, lojistik merkezlerinin bölgesellik faktörü ve lojistik süreçlerindeki efektifliğinin, Türkiye KOBİ'lerinin A.B.D.'ye yönelik ihracat faaliyetleri veya planlarındaki kriterler olduğu bulunmuştur.

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ABBREVIATIONS

ANOVA:	analysis of variance
C.I.:	confidence interval
FC:	Fulfillment Center
FS:	Fulfillment Service
FSP:	Fulfillment Service Provider
KOSGEB:	Küçük ve Orta Ölçekli İşletmeleri Geliştirme ve Destekleme İdaresi Başkanlığı (Small and Medium Industry Development Organization)
LSD:	least significant difference
SMEs:	small and medium-sized enterprises
TİM:	Türkiye İhracatçılar Meclisi (Turkish Exporters' Assembly)
U.S.:	United States
USA:	United States of America

CHAPTER 1

INTRODUCTION

Providing an inclusive set of operations to handle the major logistics processes, fulfillment service providers play a vital role in trade transactions, allowing both local and global businesses to outsource these time-consuming, complex, or even impractically bureaucratic logistics activities. Ranging from inventory management to handling the logistics operations to the final consumers, fulfillment centers construct a convenient medium for foreign businesses, regardless of their sizes or commercial scopes, and enhance the global supply chain mechanism. Taking international trade into account, fulfillment service providers can plan, monitor, and further overcome operational and legal challenges for foreign businesses willing to export.

SMEs, as being a significant part of global economies, can also consider fulfillment service providers in order to reinforce their foreign operations, penetrate into new foreign markets and gain competitive advantages in their operating sectors.

Constituting 99.7% of the total enterprises in Turkey by 2021, SMEs play a crucial role in the Turkish economy. This major dominance of Turkey-based SMEs is again reinforced by generating 37.3% of the country's total production value, providing 71% of the total employment, and 44% of the accumulated revenue of all enterprises in Turkey. (Statistics for Small and Medium-sized Enterprises, 2021)

The import/export balance is another key factor to consider in Turkey-based SMEs and their significance in the Turkish economy. For the fiscal year 2021, the annual reports published by Turkish Statistical Institute indicates the global export

volume of SMEs at $67.62 billion, and the global import volume of SMEs at $37.81 billion. Whereas the same global data indicated large enterprises have transacted export operations at $154.92 billion, in addition to an even larger import volume at $219.01 billion. Focusing on the data related to continental America, Turkey-based SMEs engaged in continental-America-targeted export activities at a volume of $5.06 billion, and import activities at a volume of $2.58 billion, in 2021. In contrast, large enterprises engaged in continental-America-targeted export activities at a volume of $17.20 billion, whereas import activities at a volume of $19.15 billion, in the fiscal year 2021. Accordingly, the export-inclined stance of Turkey-based SMEs should be considered a significant covariate in balancing Turkey's current account deficit in the long run.

In order to optimize the statistical significance of the research, which considers Turkey-based SMEs as the subject of the study, the target market is chosen as the United States -which is home to the largest market for fulfillment service providers in 2021, globally, with an estimated total market value of $16.5 billion. On the other hand, Turkey-based SMEs also consider the continental American market as an opportunity to expand by engaging in export operations. The aforementioned reports demonstrate a doubling pattern of the total volume of export to continental America by Turkey-based SMEs from 2016 -with an annual reported export volume of $2.38 billion- to 2021 -with an annual reported export volume of $5.10 billion. These shares, however, are relatively insignificant, compared to the identical export statistics of large enterprises, which have increased from $7.53 billion in 2016 to $17.20 billion in 2021. Additionally, compared to other market country groups, the aforementioned 2021 report indicated the continental American market remains in the fourth rank out of five groups, staying behind the country

groups of Africa, Asia, and Europe -as the Europe country group holds the first rank with the annual reported export volume of $31.40 billion, transacted by Turkey-based SMEs.

Apart from the country-or-market-specific interpretation, between the years 2016 and 2021, the effective percentage of the export transactions conducted by Turkey-based SMEs, over the total export volume of Turkey, demonstrated a fluctuating pattern, accounting for 34.09% in 2015, 32.36% in 2016, 30.62% in 2017, 37.60% in 2018 -as accounting for the highest-, 36.65% in 2019, 36.42% in 2020, and a sharp decline to 30.39% in 2021. Several studies claimed this dramatic decrease in the fiscal year of 2021 was associated with the after-effects of the COVID-19 pandemic, however, further studies are required to build a statistical correlation. (Eskin I., 2021; Hossain et al., 2022)

This research aims to understand Turkey-based SMEs' selection behaviors for their fulfillment-service-run export operations to the United States of America markets. By conducting an extensive survey on 12 different industries, with 4 operating companies for each, this research investigates SMEs' financial, operational, and strategic decisions towards their selection criterion on US-based fulfillment centers.

CHAPTER 2

LITERATURE REVIEW

The uprise of globalization has led world economics to an interconnected, self-running, high pace, yet almost irreversible path. Although the term globalization was emphasized in literature and mass media back in the last decade of the 20th century, the basis for "globe" being a "globalized economy" holds a long history back to the 15th century, with the beginning of the Age of Exploration. A holistic means of 'exchange' commenced people, societies, governments, markets, and mostly Western economies to realize the presence of a potential to construct an interconnected web of economic transactions to improve the wealth, prosperity and welfare as a result of colonization. Then came the Industrial Revolution, which is a prominent turn-point in the history of economics and globalization, where the "progressively globalizing" economies could ultimately be satiated, by allowing businesses to produce their goods more efficiently at way lower costs, to be further sold at global markets. This gave rise to a need in changing the trade policies, abandoning their mercantilist orientations, to be replaced with more liberal trade policies, such as abolishing -if not, minimizing- any trade barriers (Bell, 2003). Ethier (2005) takes this particular point as a milestone, not only in setting a universal start-point of globalization, but also defining the "globalization" itself. Ethier (2005) proposes three major consequences via this alternative approach in defining globalization: reallocation of global production, ease in constructing holistic adjustments on production methods in case of a global need, and an increase in international outsourcing. Besides these macro facts, there also exists the micro-level consequences occurring in the global

economy.

Globalization, along with the aforementioned factors, resulted in the expansion of existing markets, and also in the creation of new markets (Keohane et al., 2020). It is significant to note that these occurrences of "creation" or "expansion" would not necessarily be considered completely benign, thus generating the by-products of unequal competition (Dana et al., 1999), violations of labor rights and conditions (Mosley et al., 2007), or the reidentification of these "by-products" as waste-products which are clear malignancies to the global environment (Apergis et al., 2021).

To deeply investigate the consequence of the new means of competition, complemented with the aforementioned issue of inequality in competition, the issues of competition raised in the era of globalization should be dissected in detail. Globalization had a significant impact on competition, by saturating the markets with businesses and consumers all around the world, increasing the mobility of capital, and initializing a race within industries where actors must keep up with the continuously dynamic trends in trade, products, technological investments, and demands. Increased pressure on companies to stay competitive in this environment has created a self-fulfilling survival instinct, where not-yet-global businesses have found themselves in a stuck-in-the-middle state to reach and penetrate these new markets. In such an environment, the competition generated its own requirement: accessibility. Dana et al. (1999) considers this issue as an opportunity for small-to-medium enterprises to unchain from their "limited" distinguishing characteristics of reach and expand in a manner to "pool and leverage" their dominating properties, or expertise, in their operating sectors. Dana et al.'s (1999) optimism in the related study is constructed on a risk-taking versus risk-absorbing balance, where they pose

to take commercial risks in a high propensity, but absorb them in a relatively low capacity, compared to multi-national enterprises. Furthermore, Asgary et al. (2020) distinguish the risk-endurance dynamics of SMEs as internal and external risks and consider SMEs to have much control over internal risks, thanks to close-knit risk management mechanisms within these relatively conservative companies. On the other hand, as a result of their lack of capacity to forecast and monitor for external risks and react against those, SMEs are more prone to be affected by external risks (Apergis et al., 2021; Asgary et al., 2020).

Taking a contradictory stance, Noe et al. (2017) expose global economic competition as one of the major threats to SMEs in the modern conditions of international trade. Their approach to the global economic competition was previously settled by Singh et al. (2010), indicating that even in the presence of an ultimately electronic medium of commerce, the current liberal state of international trade unevenly bolsters the transactions of already-operating multi-national firms and large enterprises in foreign markets. This situation involuntarily constructs a barrier and SMEs, being geographically clustered and segmented, get tackled, and face challenges to penetrate that specific market.

Accordingly, the aforementioned “survival instincts” of SMEs -that consider a foreign market as a commercial opportunity- eventually turn into “survival strategies”, which would work by improving their competitiveness, by establishing a rigid, permanent penetration to the market with correct approaches, focuses, and tools (Naradda et al., 2020).

As mentioned in the first paragraph, the approach of Ethier (2005) considers the increase in foreign outsourcing as a result of globalization. This results in a search for a substitute, which will bear the challenges that SMEs would face, or an

alternative way to outsource those challenges. A potent candidate for such substitutes is a “fulfillment service provider” that would handle the supply-chain-related operational or logistics mechanisms of an SME in a foreign market by enhancing the “accessibility” factor and providing some vital services for foreign businesses, which would intend to increase their competitiveness.

Fulfillment centers are the third-party operators that handle clients’ outsourced final phase of the supply-chain operations of logistics, by taking over the processes of warehousing, picking, packaging, and to-consumer shipping. In addition to these operational functions, fulfillment service providers may also be engaged in legal and regulatory procedures such as customs clearance and offer post-sales support such as management of returned goods and preparation of waybills and invoices (Agatz et al., 2008; Kawa, 2017). United States of America, is known to be home to the biggest industry for fulfillment service providers, by market size. In 2021, the reports of Agile Intel Research indicated US-based fulfillment services’ total market value at $16.5 billion, as being accountable for 20% of the global market share. This dominancy of the United States is then followed by China, at $7.4 billion, which is less than the half of the U.S. fulfillment service provider market. The aforementioned review reported the increased expectancies towards the growing of fulfillment service provider market, due to the rapid increase on the demand for consumer electronics and ready-to-wear textile products. (AgileIntel Research, 2022)

Any potential cooperation between SMEs and fulfillment service providers, by nature, is a commercial transaction where each party would defend their subjective benefits, which should result in a mutualistic relationship -in the optimal case. This leads to the conclusion that shared between SMEs and fulfillment centers, shapes the overall effectiveness of fulfillment services, aids the SMEs to expand into

new foreign markets, and maximizes the profits gained by fulfillment centers for outsourced operations, by enhancing their client portfolio. These factors, mostly demanded by the SMEs, based on their industry-specific, location-specific, or target-specific needs, are prone to demonstrate universal patterns, and are not expected to be affected by geographical elements. Nevertheless, the socioeconomic and legal conditions of the home country, including economic volatility, political instability and uncertainty, are considered major challenges for SMEs and their survival in this continually globalizing economy (Kunday et al., 2015).

The total cost of fulfillment service, in this case, can be seen as one of the critical factors that SMEs would take into consideration while selecting the "correct" fulfillment service provider for their export transaction to a foreign market. The total expense of a fulfillment service is, in fact, a contradicting opportunity cost, referring back to the point where the use of fulfillment services has been rationalized by stating the issue of SMEs' lack of specific competitive advantages to penetrate into new markets. Accordingly, not only selecting the appropriate fulfillment center, but also opting whether to outsource the related operations to a third party or not would play as a crucial role in making this strategic decision (Tarn et al., 2003). At this point, fulfillment service providers should also be aware of the local economic conditions of client SMEs' homeland, to offer a more tailor-based approach to handling its outsourced fulfillment operations.

Moreover, the outsourcing warehouse-to-end-user logistics can be identified as one of the most prominent practical reasons why SMEs would opt to work with a fulfillment service provider. The E-Commerce Supply Chain Report (2019), published by DHL Group in mid-2019 as a press release, poses an expected increase in the percentage of clients forecasting to outsource their fulfillment operations to a

partner third party from 12% to 18%, in the following five years. The same report states that SMEs, which engage in business-to-consumer commercial transactions, indicate some of their major motives behind working with a fulfillment center as outsourcing the supply-chain expertise and related logistics operations, as well as tailor-made customizations on various supply-chain operations for the optimization of the logistics. As a location-specific instance for the case of Turkey, Altintas et al. (2007) claim the presence of various export barriers as a primary challenge that small-to-medium-sized enterprises in Turkey experience in their export performances.

However, similar to the cost based of fulfillment dilemma, an out-of-control dominant presence of a third-party fulfillment service provider that disables the outsourcing client by implying its standard, yet quite self-independent autonomous logistics mechanism might be a discouraging factor. This is mostly the case for SMEs which operate in specific industries with high logistics risks that require close-up surveillance on each step of the logistics process for many aspects. In this manner, the implication of a digitalized supply-chain management system, being compatible with the client's in-house managerial information systems, aimed to enhance the traceability -and further modifiability- of any outsourced logistics operation, would be expected to balance out the dominancy of concrete logistics processes of fulfillment service providers (Amer et al., 2010; Chow, 2004).

Local representativeness of foreign operating fulfillment centers can be identified as another noteworthy factor for SMEs in their selection criteria. Masum et al. (2008) considers the "physical distance" as a prominent factor in SMEs' internationalization process, by approving the traditional Uppsala Model by Johansson and Vahlne (Vahlne et al., 2017). Referring back to the previously

mentioned “accessibility” factor which constructs the main base of potential challenges that SMEs would encounter in their commercial globalization processes, fulfillment service providers should recognize local representativeness as a prominent prerequisite in the case of a potential need for the specific industry, client or target-country (Ethier, 2005). By taking various steps, including the operation of a representative and/or legal office in the home country of the client, or providing local-country-language speaking personnel and/or customer representative to their service package, fulfillment centers can achieve a competitive advantage in their operating markets.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Purpose of the study

With the ultimate uprise of globalization, the accessibility of for-profit businesses, including small and medium enterprises, to a foreign marketplace has become a crucial point in the competitive dynamics of commercial markets. Considering both the financial and operational advantages of large-scale businesses by their nature, the presence of a catalyzing agent -which is aimed to aid non-large-scale businesses to penetrate into foreign markets- poses a substantial factor for breaking this dominancy and ease the efforts for SMEs to join the competitive medium of a foreign market. Most exporting SMEs consider a wide spectrum of alternatives for such catalyzing agents: ranging from licensing (Cardinali et al., 2019) to franchising (Kirby et al., 1999) -or even engaging in a joint venture partnering with a foreign company (Kirby et al., 2003). This research identifies another catalyzing agent, as partnering with a fulfillment service provider, and actualizes an exploratory study in order to identify the factors that SMEs seek in selecting the appropriate fulfillment center that would satisfy their operational needs.

Considering the limited literature in the field of international trade on SMEs and their appropriate fulfillment center selection criteria, this study aims to contribute by constructing a scoring-based methodological framework and conducting an empirical study related to the criteria on selecting the appropriate fulfillment service providers in US. By taking the US as the target market, this research aims to concentrate on a specific geographical scope, that holds the overall

dominancy in the global fulfillment services market, in order to maximize the generalizability of the sample set, and the study as a whole.

3.2 Research questions of the study

Referring to the mentioned previous literature on the topic of this study; cost, as a total amount of monetary expenses for the fulfillment service (Tarn et al., 2003); logistics, specifying the particular FC-to-consumer shipping process (Altintas et al., 2007); presence of a digital supply-chain mechanism, providing an accessible tool between the supplier and the fulfillment center provider (Amer et al., 2010); and locality, as referring the physical proximity between the exporter, and the fulfillment service provider, or its representative (Masum et al., 2008), are identified as prominent points to consider in this research.

By taking the below minor research question into account, as:

"What factors do Turkey-based SMEs consider while selecting fulfillment service providers for their export operations to the USA?", this study is conducted to answer the following main research question:

"Do micro, small and medium-sized enterprises consider different factors in their fulfillment service provider selection criteria?"

3.3 Hypotheses of the study

Based on the previous studies and further considering the above main research question, four major factors are considered as the potential factors for Turkey-based SMEs to select their fulfillment service provider for their export operations to the United States of America. These factors are identified as cost, logistics, supply-chain mechanisms, and locality. To this purpose, the hypotheses are conducted as follows:

H1: The significance of the total cost of a fulfillment service in selecting the appropriate fulfillment center for Turkey-based SMEs export operations to the U.S. is not equal for micro, small and medium-sized enterprises.

H2: The significance of the duration of FC-to-consumer logistic operations in selecting the appropriate fulfillment center for Turkey-based SMEs export operations to the U.S. is not equal for micro, small and medium-sized enterprises.

H3: The significance of the presence of an accessible digital supply-chain system in selecting the appropriate fulfillment center for Turkey-based SMEs export operations to the U.S. is not equal for micro, small and medium-sized enterprises.

H4: The significance of the presence of a local legal representative office and/or branch in selecting the appropriate fulfillment center for Turkey-based SMEs export operations to the U.S. is not equal for micro, small and medium-sized enterprises.

3.4 The scope of the study

This research follows a survey-equipped descriptive method via a cross-sectional research design, by including multidimensional scoring measurements which target to monitor subject companies' commercial, operational and managerial dynamics, that include their perception towards the presence of fulfillment services, their perceived capabilities and/or compatibilities in company-specific international trade operations, and any particular selection criterion for a fulfillment service provider.

3.5 Design of the study

Through two distinct methods, this study investigates the selection criteria of small and medium-sized enterprises for fulfillment services for their export operations to the United States. The first approach considers various specific parameters from the survey output and evaluates the industry-specific dynamics of SMEs, based on company size and revenue.

A custom-made scoring method, named “Multidimensional FC-Selection Criterion Tool” or MFCSCT has been pursued for the second approach. This scoring tool, and its calculation methodology is provided in detail at Appendix A.

The first approach takes each question as an individual factor, and provides an in-detail comprehension for SMEs fulfillment service provider selection criteria. However, it is preferable to develop a standardized model for the categorical analysis of relevant factors. In addition, considering the first approach of this study handles individual factors with Likert-scale-based measurements, constructing a model by conducting mathematical operators on the initial Likert-scale ordinal measures is expected to create an approximately continuous variable. The second approach uses the arithmetical average operator for the measurement on each category scores, based on the scoring schematic, provided in the Appendix A. The SCR_Digitalization code, which scores the SMEs’ tendency to opt for a digitalized, accessible system for FS-related operations, computes the arithmetic average of answers to P2Q1_1 and P2Q1_2 questions. The SCR_SupChMgmt code, which scores the SMEs’ tendency to opt for FS that provide an accessible supply- chain-management system, procedure, or mechanism, computes the arithmetic average of answers to P2Q1_1, P2Q1_2 and P2Q1_3 questions. The SCR_Cost code, is the exact score of P2Q1_4, which scores the importance of FS-related costs as stated by the SMEs. The

SCR_Logistics code scores the SMEs' tendency to opt for an inclusive, convenient, and accessible logistics mechanism, via computing the arithmetic average of P2Q1_5, P2Q1_6, P2Q1_7, P2Q1_8 and P2Q1_9. The SCR_Locality code scores the SMEs' tendency to opt for a physically accessible FC, via computing the arithmetic average of P2Q1_11 and P2Q1_12. The SCR_Consulting code scores the SMEs' tendency to opt for an FS that offers outsourced consulting services in various operational processes, by computing the arithmetic average of P2Q1_14, P2Q1_15 and P2Q1_16.

Following the related analyses via the MFCSCT scoring method, additional reliability analysis is conducted in order to test the statistical significance of the scoring via the input variables and the score sets.

Both of approaches mentioned above are run via a one-way ANOVA method, each reinforced with a post hoc test of Least Significant Difference (LSD), both at the confidence interval of 95%. As taking the ordinal nature of question-based variables into account, further Chi-square tests are conducted for statistical cross-confirmation. Considering the limited size of the sample set, the analytical preference is opted for parametric testing.

The initial preparation of the datasets, including the categorization and coding, is conducted via Microsoft Excel 2013 software, where the statistical analyses are run via IBM SPSS version 27.0.0.0, 64-bit edition software. The output graphs, tables and any additional visual figures are exported from both of the aforementioned software packages.

3.6 Scale reliability analysis

Aiming to test the statistical reliability of the particular scoring scale used in this study, MFCSCT is analyzed via Cronbach's alpha method. The revenue-and-size constrained in-scale reliability of the custom-constructed MFCSCT scale is found to be highly reliable ($n = 8$, $\alpha = 0.871$).

However, due to the relatively small sample size of the study, this analysis should be retested in related large-scale samples in order to reevaluate the reliability of MFCSCT scale.

3.7 The methodology of the study

The subjects of this study are chosen randomly, based on the registered-company databases, gathered from TIM (Türkiye İhracatçılar Meclisi - Turkey Exporters Assembly) and KOSGEB (Küçük ve Orta Ölçekli İşletmeleri Geliştirme ve Destekleme İdaresi Başkanlığı - Small and Medium Industry Development Organization).

The questionnaire, as presented in Appendix B, is provided to the correspondents of participant companies via Google Forms links. Correspondents hold positions such as chief executive officer, manager, sales executive, export manager, and business development specialist. A total of 270 businesses are reached, among which 54 of them have responded, specifying their current and/or planned export operations to the USA, in addition to three companies that declare no current export operation or intention to the USA which are filtered out from the sample. Considering a major portion of the company-specific data gathered from TIM do not include SMEs, a further filtering process is operated following the initial demographic findings. As a result of this secondary filtering, thirteen companies are

excluded from the study sample set. Although it was available as an optional alternative, no physical copy is demanded nor distributed to any participant subject.

The questionnaire consists of two major parts. In the first part, the respondents are asked to complete 10 short-answer or multiple-choice questions regarding company demographics, its operational scope, and commercial transactions. The questions in the first part are designed for control and confirmatory purposes for the participants' answers to the questions in the second part. Accordingly, the second part consists of two sub-parts: the first sub-part is a 7-choice Likert scale, consisting of 16 uniquely identifying questions on the company's selection criteria of a fulfillment center regarding its export operations to the United States, whilst the second sub-part consists of an exploratory question to identify specific demands of participant companies for their fulfillment center choice.

The participant subjects are categorized by their main field of industry (I), number of employees (II), and their annual revenue for the fiscal year of 2021 (III). Each taxonomy is based on KOSGEB's classifications (31782 Sayılı Resmî Gazete - 5315 Sayılı Karar, 2022).

Accordingly, for the particular study, the subject companies are classified based on their main area of industries (I) as follows:

- Heavy Industries
    i. Textile and raw materials
    ii. Wood and forestry products
    iii. Cement, glass, ceramic, and soil products
    iv. Ferrous and non-ferrous metals

- Food Products
    i. Olive and olive oil products
    ii. Nuts
    iii. Dried fruit
    iv. Cereals, pulses, oil seed and products
- Non-food Consumer Goods
    i. Jewelry
    ii. Ready-to-wear apparel
    iii. Leather and leather products
    iv. Electrical and electronic products

The second descriptive categorization (II), the company size, is based on the number of actively working employees, and is classified as follows:

i. 9 employees or less
ii. 10 to 49 employees
iii. 50 to 249 employees
iv. 250 employees or more (excluded following the demographic analysis)

Consequently, the third descriptive categorization (III) in the study methodology signifies the companies' annual total revenue for the fiscal year of 2021, which is classified as the following monetary ranges:

i. Less than 3 million TRY per annum
ii. 3 million TRY to 25 million TRY per annum
iii. 25 million TRY to 125 million TRY per annum
iv. More than 125 million TRY per annum (excluded following the demographic analysis)

CHAPTER 4

RESULTS

4.1 Descriptive statistics

The empirical study is conducted by gathering data from 54 Turkey-based companies, including SMEs, from at least 16 different provinces. Six companies are excluded due to the undisclosed locations of operation. The dispersion of companies based on their registered KOSGEB branch is presented in the bar graph (Figure 1).

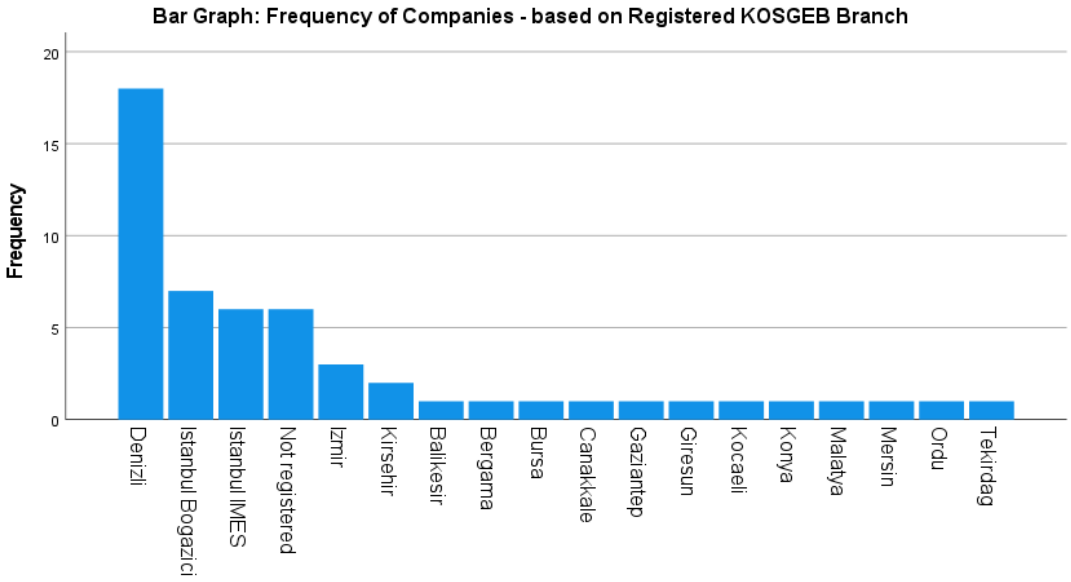

Figure 1. Frequency of companies based on registered KOSGEB branch

Figure 1 demonstrates the dominancy of SMEs based in Western Turkey, including Denizli, Istanbul and Izmir areas. This Western-oriented clustering might be identified as a result of the industry-specific distribution of questionnaires, and the corresponding call to study: to heavy industries, food industries and non-food consumer goods industries.

Upon the 54 participant SMEs, 18 companies are operated by 9 or less employees, where 17 companies hold an employee size ranging from 10 to 49, 13 companies hold an employee size of 13, whilst the remaining 6 companies reported their employee size at 250 or more.

The distribution of companies based on their number of employees is presented in Figure 2.

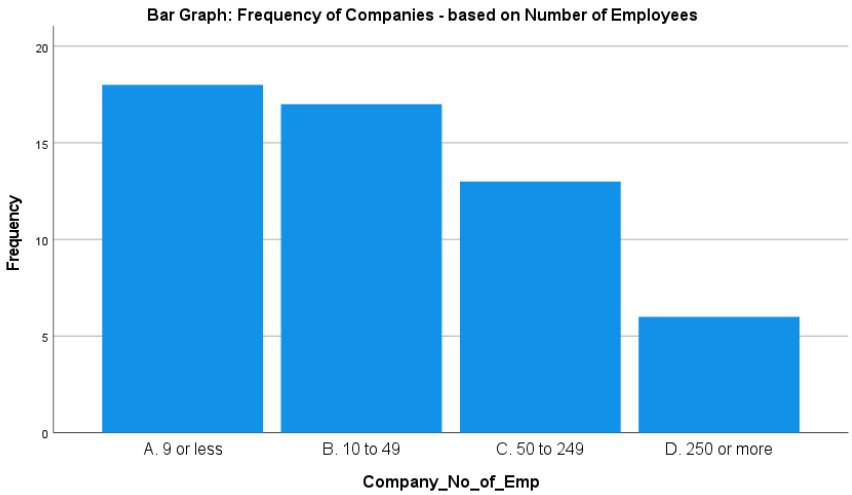

Figure 2. Frequency of companies based on number of employees

Regarding the fiscal year of 2021, the annual revenues are reported as less than 3 million Turkish Liras, between 3 million Turkish Liras to 25 million Turkish Liras and between 25 million Turkish Liras to 125 million Turkish Liras by 10, 16 and 17 companies respectively. The remaining 11 companies are reported as having annual revenues more than 125 million Turkish Liras.

The distribution of companies based on their reported annual revenues for the fiscal year 2021 is presented in Figure 3.

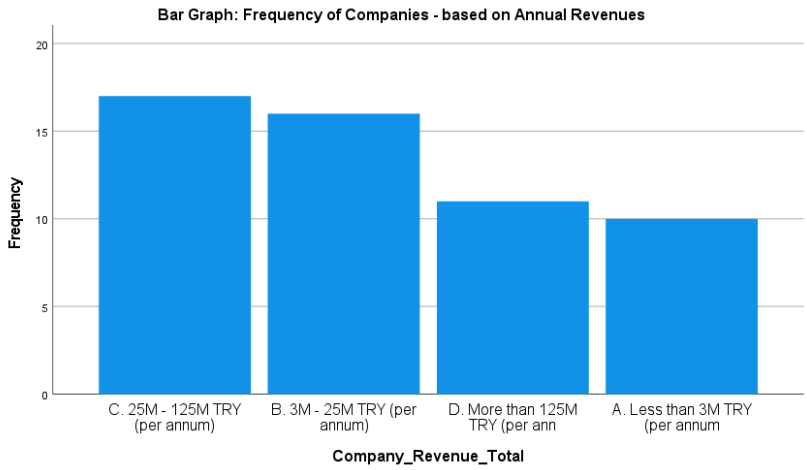

Figure 3. Frequency of companies based on their reported total revenues for the fiscal year 2021

Based on the predefined SME classification, which limits the company size to 249 employees, and the reported annual revenue of a maximum level to 125 million Turkish Liras, thirteen incompatible participants are removed from the sample set. In detail, a total of six companies reported working employee numbers greater than 250, and a total of eleven companies reported annual revenues bigger than 125 million Turkish Liras, where four companies breached both limitations, reporting annual revenues bigger than 125 million Turkish Liras and also number of employees exceeding 250.

The remaining companies are classified both by their reported annual revenue, and the number of employees, and considered to be in their particular category, based on either one of two. Accordingly, all of the statistical tests are conducted considering these two distinctive features separately, in order to strengthen the objectivity of any statistical relationship.

Following the aforementioned filtering on 54 participant companies, 13 of them are removed from the dataset, and the remaining 41 applicable participants are dissected based on their operating industries and sub-industries.

The pie distribution of SMEs based on their operating sub-industries is presented in Figure 4.

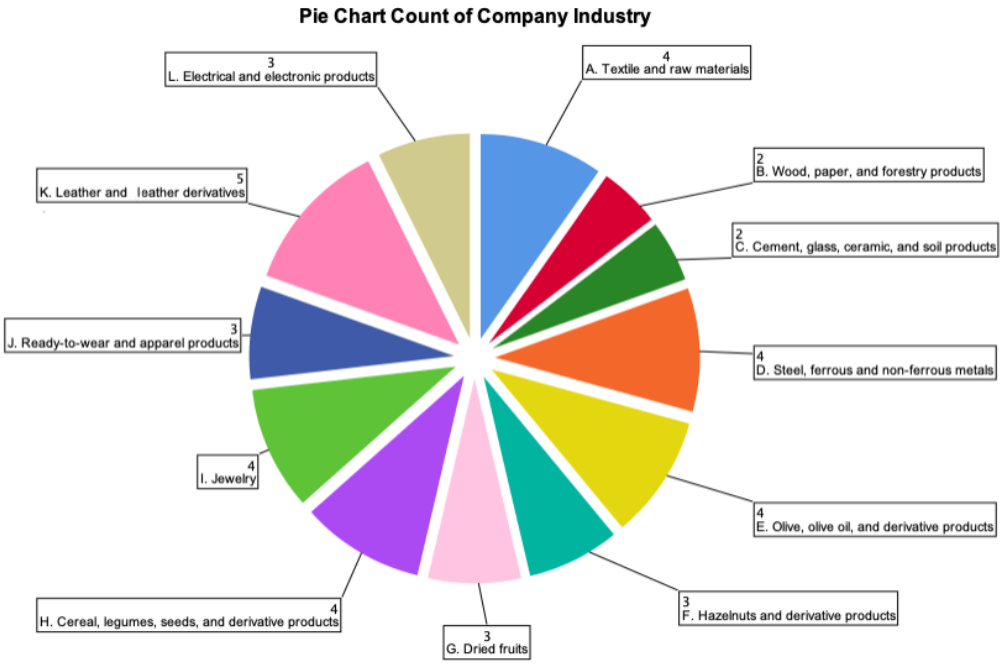

Figure 4. Pie chart of count of SMEs based on their operating sub-industries

The pie distribution of companies based on their operating industry categories is presented in Figure 5.

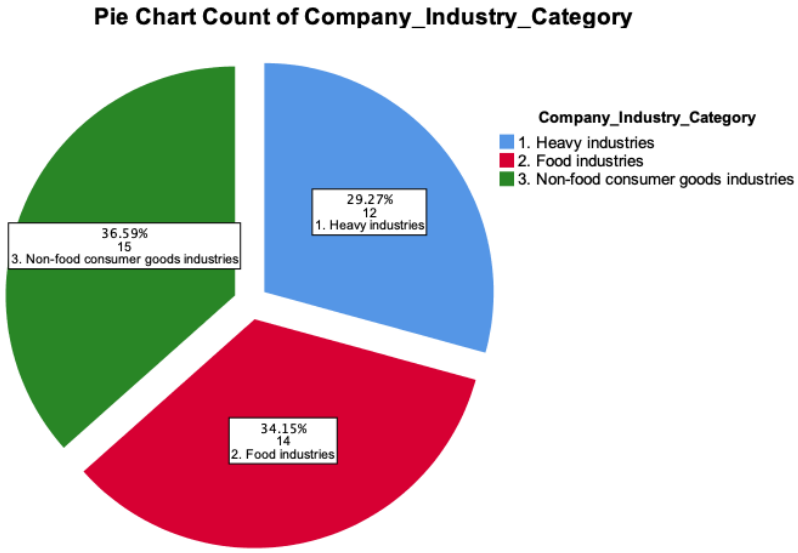

Figure 5. Pie chart of count of SMEs based on their operating industry categories

According to the Figure 4 and Figure 5, the dataset of the study consists of a total of 12 SMEs in heavy industries category, including the sub-industries of 4 SMEs operating in textile and raw materials industries, 2 SMEs operating in wood, paper and forestry products industries, 2 SMEs operating in cement, glass, ceramic and soil products industries, 4 SMEs operating in steel, ferrous and non-ferrous metals industries.

In addition, as being included under the food industries category; the dataset consists of 4 SMEs operating in olive, olive oil and derivative products industries, 3 SMEs operating in hazelnuts and derivative products industries, 3 SMEs operating in dried fruits industries, and 4 SMEs operating in cereal, legumes, seeds and derivative products industries, which makes a total of 14 SMEs under this particular industry category.

Lastly, as being included under the non-food consumer goods industries category, the dataset consists of 4 SMEs operating in jewelry industries, 3 SMEs operating in ready-to-wear and apparel products industries, 5 SMEs operating in leather and leather derivatives industries, and lastly, 3 SMEs operating in electrical and electronic products industries, which makes a total of 15 SMEs operating under this particular industry category.

The distribution of companies based on their operating industry categories is presented in Figure 6.

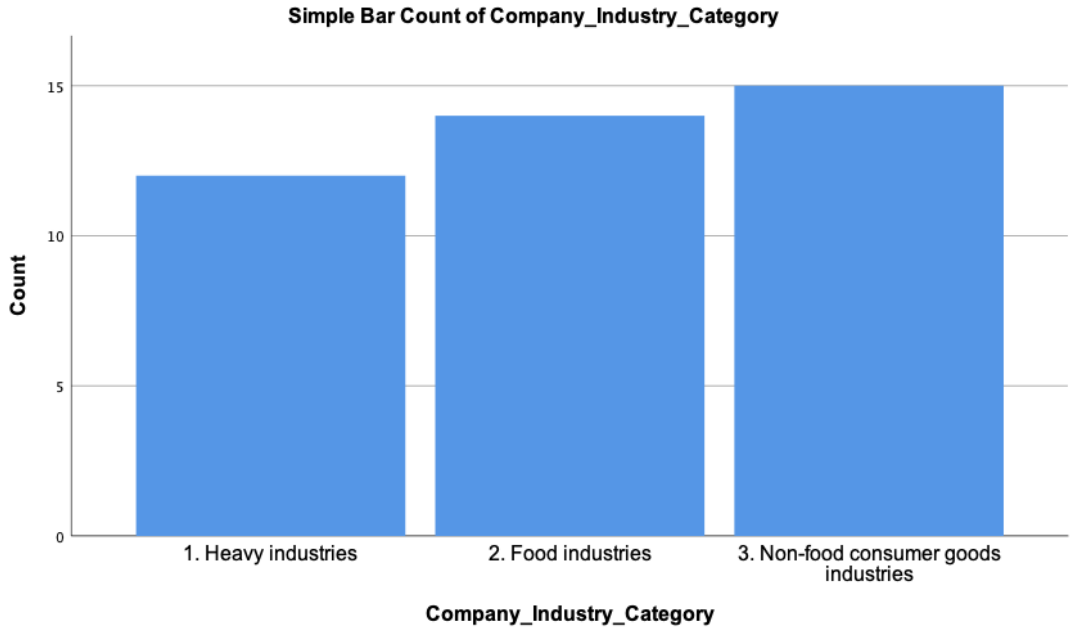

Figure 6. Graph of frequency of SMEs based on their operating industry categories

The distribution of SMEs based on their reported total revenues for the fiscal year 2021, classified by their operating industry categories is presented in Figure 7.

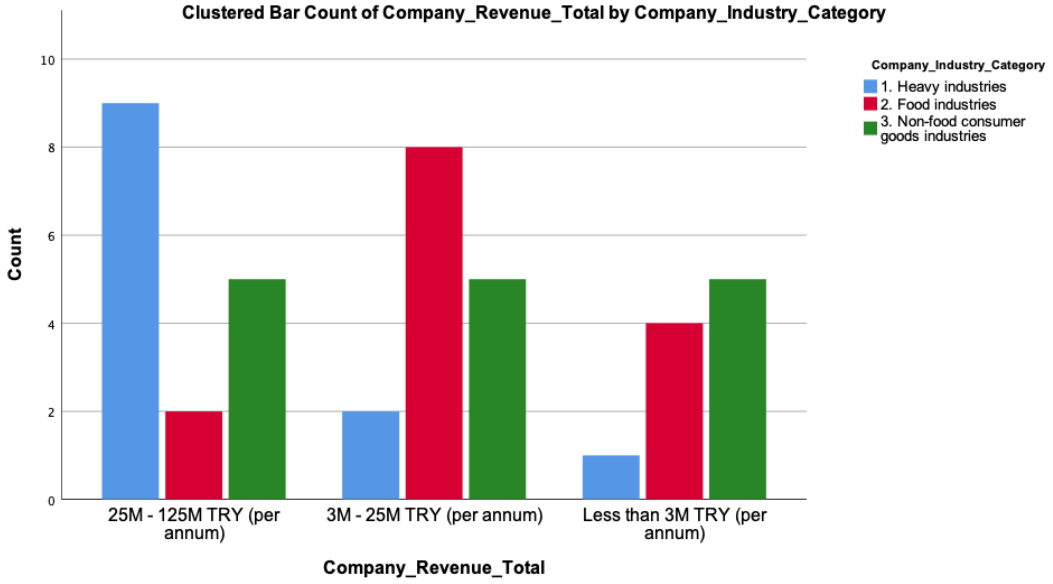

Figure 7. Graph of frequency of SMEs based on their reported total revenues for the fiscal year 2021, classified by their operating industry categories

As being visualized in Figure 7, participant SMEs operating in heavy industries compose the upper one-third of the dataset. Nine companies with revenues reported between 25 million to 125 million Turkish liras that corresponds to the “medium” category based on the SME classification method by Turkish Exporters’ Assembly, sorted based on the reported total revenues for the fiscal year of 2021.

The distribution of SMEs based on their number of employees, classified by their operating industry categories is presented in Figure 8.

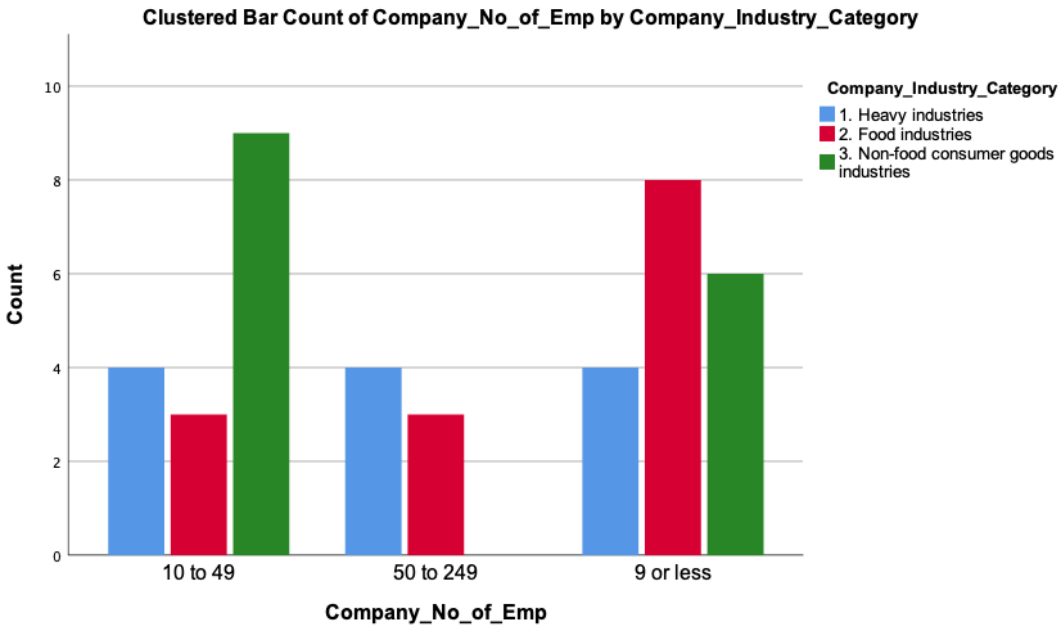

Figure 8. Graph of frequency of SMEs based on their number of employees, classified by their operating industry categories

As an alternative approach to the revenue-based classification of companies, Figure 8 demonstrates the micro, small and medium classification of enterprises based on their total number of employees. Accordingly, micro-sized enterprises, with 9 or less employees, constitute the majority of the participant SMEs with 18 companies, where companies operating in food industries dominate the category with 8 firms. This is followed by small-sized enterprises with 16 participant companies, dominated

by SMEs operating in non-food consumer goods industries with 9 companies, then medium-sized enterprises with 7 participant companies, with no companies operating in non-food consumer goods industries, where the rest is homogeneously dispersed.

Five demographic confirmatory questions, P1Q6, P1Q7, P1Q8a, P1Q8b, and P1Q9, are included in the questionnaire, in order to filter out any outlier participants that would not be a candidate for this survey, provide a deeper demographic view, and also cross-check the consistency of the answers that they have provided.

Based on question P1Q6, which asks if the subject company currently exports any products or services, 49 participants declared an ongoing export operation carried out by the company, whereas 5 participants stated no current export activity is carried out by the company.

Based on question P1Q7, which limits the previous question to the geographical scope of the U.S. market, 33 participants indicated no current export operation is carried out to the U.S., whereas 16 participants approved the presence of a current export operation is carried out to the United States, out of a total of 49 post-filter participants based on their answers to the previous question of P1Q6.

The question P1Q8 and its two subparts, P1Q8a and P1Q8b, are indicated to measure the percentage share of the company's revenue on exports in total gross revenue in 2021, and the percentage share of the company's revenue on exports to the U.S.A. in total revenue of exports in 2021. According to P1Q8a, the participant companies reported an average percentage share of the company's revenue on exports in their total gross revenue at 46.5%, for the fiscal year 2021. (Mean = 46.53, SD = 33.68)

According to P1Q8b, the participants reported an average share of the company's revenue on exports to the U.S. in total revenue of exports at 12.4%, for the fiscal year 2021. (Mean = 12.37, SD = 26.94)

The question P1Q9 is used to detect the subjects who are not conducting nor planning to transact export operations to the United States. As mentioned in the Methodology of the Study section of the Research Methodology chapter, three subjects who responded "No" to this question have been removed from the sample set prior to the demographic analysis.

4.2 Data analyses

4.2.1 Industry-specific analysis

In order to analyze the industry-specific differences in SMEs' selection criteria for fulfillment service providers, multiple one-way ANOVA tests are conducted for the subjects' responses to the question coded as P2Q1 in the questionnaire (How important is each factor in the company's decision to select the right Fulfillment Center (FC) and/or Fulfillment Service Provider (FSP) to conduct its foreign commercial operations?).

The initial ANOVA output for each question in the survey, taking the industry epi-groups as the categorizing factor, at the confidence interval (C.I.) of 95%, is presented in Table 1.

Table 1. ANOVA - Industry Specific Analysis – P2Q1 scores

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
P2Q1_1	Between Groups	3.174	2	1.587	.394	.677
	Within Groups	152.924	38	4.024		
	Total	156.098	40			
P2Q1_2	Between Groups	4.233	2	2.117	.503	.609
	Within Groups	159.864	38	4.207		
	Total	164.098	40			
P2Q1_3	Between Groups	.188	2	.094	.021	.979
	Within Groups	171.714	38	4.519		
	Total	171.902	40			
P2Q1_4	Between Groups	4.484	2	2.242	.523	.597
	Within Groups	163.029	38	4.290		
	Total	167.512	40			
P2Q1_5	Between Groups	63.923	2	31.962	9.281	.001
	Within Groups	130.857	38	3.444		
	Total	194.780	40			
P2Q1_6	Between Groups	22.550	2	11.275	2.904	.067
	Within Groups	147.548	38	3.883		
	Total	170.098	40			
P2Q1_7	Between Groups	11.476	2	5.738	1.812	.177
	Within Groups	120.329	38	3.167		
	Total	131.805	40			
P2Q1_8	Between Groups	3.004	2	1.502	.423	.658
	Within Groups	134.948	38	3.551		
	Total	137.951	40			
P2Q1_9	Between Groups	1.624	2	.812	.204	.816
	Within Groups	151.400	38	3.984		
	Total	153.024	40			
P2Q1_10	Between Groups	15.537	2	7.768	2.224	.122
	Within Groups	132.707	38	3.492		
	Total	148.244	40			
P2Q1_11	Between Groups	4.262	2	2.131	.681	.512
	Within Groups	118.957	38	3.130		
	Total	123.220	40			
P2Q1_12	Between Groups	5.827	2	2.914	.802	.456
	Within Groups	138.124	38	3.635		
	Total	143.951	40			
P2Q1_13	Between Groups	.825	2	.412	.116	.891
	Within Groups	135.614	38	3.569		
	Total	136.439	40			
P2Q1_14	Between Groups	6.775	2	3.388	1.047	.361
	Within Groups	122.981	38	3.236		
	Total	129.756	40			
P2Q1_15	Between Groups	5.582	2	2.791	.550	.581
	Within Groups	192.662	38	5.070		
	Total	198.244	40			
P2Q1_16	Between Groups	17.081	2	8.541	2.343	.110
	Within Groups	138.529	38	3.645		
	Total	155.610	40			

Based on the ANOVA analysis, there exists a statistically significant difference between heavy industries, food industries, and non-food consumer goods industries

in companies' preference for FCs that offer storage facilities with adjustable climate conditions, coded as P2Q1_5 [F(2,38) = 9.281, p = 0.001].

Confirmatory Chi-square analyses indicate only a statistically significant difference of means between the industry sub-groups, specific to the score of P2Q1_5. [$\chi 2$ (df = 12, N = 41) = 21.921, p = 0.038]

The remaining factors -each represented with the corresponding survey questions- demonstrate no statistically meaningful difference between the analysis groups.

In order to analyze the specific-between-group differences in the tested F-value of P2Q1_5 (Presence of storage facilities with adjustable climate conditions such as temperature (e.g., cold-chain depots)), an LSD post hoc test is run, and corresponding output is demonstrated in Table 2.

The industries are coded as (1.00) representing heavy industries, (2.00) representing food industries, and (3.00) representing non-food consumer goods industries.

Table 2. Multiple Comparisons – Industry Specific Analysis - P2Q1_5 (LSD)

Multiple Comparisons						
Dependent Variable: P2Q1_5						
LSD						
(I) DUM_Company CAT_Industry	(J) DUM_Company CAT_Industry	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-3.048*	.730	.000	-4.53	-1.57
	3.00	-1.000	.719	.172	-2.45	.45
2.00	1.00	3.048*	.730	.000	1.57	4.53
	3.00	2.048*	.690	.005	.65	3.44
3.00	1.00	1.000	.719	.172	-.45	2.45
	2.00	-2.048*	.690	.005	-3.44	-.65
*. The mean difference is significant at the 0.05 level.						

According to the analysis result, the post hoc mean difference comparisons via LSD test indicate a statistically meaningful difference of means between heavy industries and food industries, for the score P2Q1_5 (LSD post hoc, MD = -3.048, p = 0.000 < 0.05). The heavy industries attach significantly 3.048 less importance, out of 7.00 based on the Likert scale, to the presence of storage facilities with advanced climate condition controls in a fulfillment center.

A similar pattern is also present between food industries and non-food consumer goods industries, at a lower level (LSD post hoc, MD = -2.048, p = 0.005 < 0.05).

On the other hand, taking the MFCSCT scoring criteria into account, no statistically significant difference in means is indicated, at the confidence interval of 95% as presented in the related ANOVA output in Table 3:

Table 3. ANOVA - Industry Specific Analysis - MFCSCT scoring

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
SCR_Dig	Between Groups	1.481	2	.741	.203	.817
	Within Groups	138.563	38	3.646		
	Total	140.044	40			
SCR_SupChMgmt	Between Groups	3.372	2	1.686	.417	.662
	Within Groups	153.628	38	4.043		
	Total	157.000	40			
SCR_Cost	Between Groups	4.484	2	2.242	.523	.597
	Within Groups	163.029	38	4.290		
	Total	167.512	40			
SCR_Logistics	Between Groups	10.227	2	5.113	1.991	.151
	Within Groups	97.613	38	2.569		
	Total	107.840	40			
SCR_Locality	Between Groups	4.887	2	2.443	.778	.466
	Within Groups	119.308	38	3.140		
	Total	124.195	40			
SCR_Consulting	Between Groups	9.101	2	4.550	1.545	.226
	Within Groups	111.897	38	2.945		
	Total	120.998	40			

4.2.2 Company-size specific analysis

In order to analyze the differences in SMEs' selection criteria for fulfillment service providers, based on their company sizes -in terms of number of employees- multiple

one-way ANOVA tests are conducted for the subjects' responses to the question coded P2Q1 of the survey.

Taking the company size as the categorizing factor, Table 4 demonstrates the results of the ANOVA test, run at the confidence interval of 95%:

Table 4. ANOVA – Company-size Specific Analysis – P2Q1 scores

ANOVA						
		Sum of Squares	Df	Mean Square	F	Sig.
P2Q1_1	Between Groups	4.454	2	2.227	.558	.577
	Within Groups	151.644	38	3.991		
	Total	156.098	40			
P2Q1_2	Between Groups	6.954	2	3.477	.841	.439
	Within Groups	157.144	38	4.135		
	Total	164.098	40			
P2Q1_3	Between Groups	4.973	2	2.486	.566	.572
	Within Groups	166.930	38	4.393		
	Total	171.902	40			
P2Q1_4	Between Groups	8.334	2	4.167	.995	.379
	Within Groups	159.179	38	4.189		
	Total	167.512	40			
P2Q1_5	Between Groups	13.518	2	6.759	1.417	.255
	Within Groups	181.263	38	4.770		
	Total	194.780	40			
P2Q1_6	Between Groups	25.296	2	12.648	3.319	.047
	Within Groups	144.802	38	3.811		
	Total	170.098	40			
P2Q1_7	Between Groups	12.010	2	6.005	1.905	.163
	Within Groups	119.795	38	3.152		
	Total	131.805	40			
P2Q1_8	Between Groups	15.542	2	7.771	2.412	.103
	Within Groups	122.409	38	3.221		
	Total	137.951	40			
P2Q1_9	Between Groups	12.809	2	6.405	1.736	.190
	Within Groups	140.215	38	3.690		
	Total	153.024	40			
P2Q1_10	Between Groups	11.585	2	5.793	1.611	.213
	Within Groups	136.659	38	3.596		
	Total	148.244	40			
P2Q1_11	Between Groups	20.168	2	10.084	3.718	.034
	Within Groups	103.052	38	2.712		
	Total	123.220	40			
P2Q1_12	Between Groups	42.328	2	21.164	7.914	.001
	Within Groups	101.623	38	2.674		
	Total	143.951	40			
P2Q1_13	Between Groups	15.947	2	7.973	2.515	.094
	Within Groups	120.492	38	3.171		
	Total	136.439	40			
P2Q1_14	Between Groups	1.847	2	.924	.274	.762
	Within Groups	127.909	38	3.366		
	Total	129.756	40			
P2Q1_15	Between Groups	20.919	2	10.459	2.241	.120
	Within Groups	177.325	38	4.666		
	Total	198.244	40			
P2Q1_16	Between Groups	2.958	2	1.479	.368	.694
	Within Groups	152.652	38	4.017		
	Total	155.610	40			

The corresponding ANOVA analyses indicate a statistically meaningful difference of means between companies with a varying number of employees, concerning the duration of the fulfillment center to consumer logistics operations (P2Q1_6) [$F(2,38) = 3.319$, $p = 0.047 < 0.05$], presence of a local legal representative office in Turkey (P2Q1_11) [$F(2,38) = 3.718$, $p = 0.034 < 0.05$], and the tendency to opt for a fulfillment center that provides Turkish-speaking customer representatives or call centers (P2Q1_12) [$F(2,38) = 7.914$, $p = 0.001 < 0.05$]. Accordingly, this test fails to reject hypothesis H4 and confirms the difference between SMEs with varying company sizes in opting for a fulfillment center that provides Turkish-speaking customer representatives. In addition, this test fails to reject hypothesis H2 and confirms the difference between SMEs with varying company sizes in signifying the duration of the fulfillment center to consumer logistics operations. Confirmatory Chi-square analyses indicate only a statistically significant difference of means between the company sub-groups, specific to the score of P2Q1_12. [$\chi 2$ ($df = 12, N = 41$) $= 21.139$, $p = 0.048$] No significant difference of means are identified for the other questions, based on the Chi-square analysis.

The remaining factors -each represented with the corresponding survey questions- do not indicate any statistically meaningful difference between the analysis groups. Accordingly, the hypotheses H1 and H3 are rejected. The exact between-group differences are analyzed via running LSD post hoc tests, shown in Table 5.

The company size (in terms of number of employees) categories are coded as: (1.00) representing 9 or less employees (micro-sized enterprises), (2.00) representing 10 to 49 employees (small-sized enterprises), and (3.00) representing 50 to 249 employees (medium-sized enterprises).

Table 5. Multiple Comparisons – Company-size Specific Analysis - P2Q1_6, P2Q1_11, P2Q1_12 (LSD)

Multiple Comparisons							
LSD							
Dependent Variable	(I) DUM_Company No_of_Emp	(J) DUM_Company No_of_Emp	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
P2Q1_6	1.0	2.0	.306	.671	.651	-1.05	1.66
		3.0	2.198*	.870	.016	.44	3.96
	2.0	1.0	-.306	.671	.651	-1.66	1.05
		3.0	1.893*	.885	.039	.10	3.68
	3.0	1.0	-2.198*	.870	.016	-3.96	-.44
		2.0	-1.893*	.885	.039	-3.68	-.10
P2Q1_11	1.0	2.0	1.319*	.566	.025	.17	2.46
		3.0	1.587*	.734	.037	.10	3.07
	2.0	1.0	-1.319*	.566	.025	-2.46	-.17
		3.0	.268	.746	.722	-1.24	1.78
	3.0	1.0	-1.587*	.734	.037	-3.07	-.10
		2.0	-.268	.746	.722	-1.78	1.24
P2Q1_12	1.0	2.0	1.931*	.562	.001	.79	3.07
		3.0	2.270*	.728	.003	.80	3.74
	2.0	1.0	-1.931*	.562	.001	-3.07	-.79
		3.0	.339	.741	.650	-1.16	1.84
	3.0	1.0	-2.270*	.728	.003	-3.74	-.80
		2.0	-.339	.741	.650	-1.84	1.16
*. The mean difference is significant at the 0.05 level.							

For the score P2Q1_6 (The duration of FC-to-consumer logistics/shipping operations), the LSD post hoc analysis demonstrates a statistically meaningful difference of means between heavy industry companies and non-food consumer goods companies (LSD post hoc, MD = 2.198, $p = 0.016 < 0.05$). This indicates micro-sized companies attach significantly higher importance compared to medium-sized companies to the FC-to-consumer duration in their FC selection criteria. In addition, a similar pattern is also observed between small-sized companies and medium-sized companies, where the former attaches an average of 1.893 higher significance to the FC-to-consumer duration, out of 7.000, based on the corresponding Likert scale. (LSD post hoc, MD = 1.893, $p = 0.039 < 0.05$)

For the score P2Q1_11, which signifies the presence of a local legal representative office in Turkey, the LSD post hoc analysis indicates a statistically meaningful difference of means between micro-sized companies and small-sized

companies (LSD post hoc, MD = 1.319, p = 0.025 < 0.05), and also between micro-sized companies and medium-sized companies (LSD post hoc, MD = 1.587, p = 0.037 < 0.05). Accordingly, the presence of a local legal representative office in Turkey is significantly more important for micro-sized companies, compared to small-sized and medium-sized enterprises, respectively.

The post hoc analysis via LSD methodology demonstrates a statistically meaningful difference of means between the companies with 9 or less employees and companies with 10 to 49 employees. The related score of P2Q1_12 (LSD post hoc, MD = 1.931, p = 0.001 < 0.05) indicates that presence of a Turkish-speaking customer representative is more important for companies with 9 or less employees, compared to those with 10 to 49 employees, with an average of 1.931, out of 7.000 based on the related Likert scale.

In addition, the LSD post hoc analysis also indicates a difference between the companies with 9 or less employees and companies with 50 to 249 employees. The identical score (LSD post hoc, MD = 2.270, p = 0.003 < 0.05) depicts that companies with 9 or less employees put an average of 2.270 more importance, out of 7.000, based on the Likert scale, on the presence of Turkish-speaking customer representatives and/or call centers, compared to companies with 50 to 249 employees.

Furthermore, considering the MFCSCT scoring criteria, one statistically meaningful difference of means is detected in the related ANOVA output, at the confidence interval of 95% as presented in Table 6.

Table 6. ANOVA – Company-size Specific Analysis - MFCSCT scoring

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
SCR_Dig	Between Groups	5.162	2	2.581	.727	.490
	Within Groups	134.882	38	3.550		
	Total	140.044	40			
SCR_SupChMgmt	Between Groups	5.509	2	2.754	.691	.507
	Within Groups	151.491	38	3.987		
	Total	157.000	40			
SCR_Cost	Between Groups	8.334	2	4.167	.995	.379
	Within Groups	159.179	38	4.189		
	Total	167.512	40			
SCR_Logistics	Between Groups	13.731	2	6.866	2.772	.075
	Within Groups	94.109	38	2.477		
	Total	107.840	40			
SCR_Locality	Between Groups	30.231	2	15.115	6.113	.005
	Within Groups	93.964	38	2.473		
	Total	124.195	40			
SCR_Consulting	Between Groups	5.172	2	2.586	.848	.436
	Within Groups	115.826	38	3.048		
	Total	120.998	40			

Accordingly, the SCR_Locality score comes forward as a distinct characteristic between companies, based on their number of employees [$F(2,38) = 6.113$, $p = 0.005 < 0.05$]. The post hoc analyses are run to confirm the relationship, and further indicate the between-group differences. The results are summarized in Table 7.

Table 7. Multiple Comparisons – Company-size Specific Analysis – SCR_Locality (LSD)

Multiple Comparisons						
Dependent Variable: SCR_Locality						
LSD						
(I) DUM_Company No_of_Emp	(J) DUM_Company No_of_Emp	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.0	2.0	1.6250000*	.5402973	.005	.531225	2.718775
	3.0	1.9285714*	.7004455	.009	.510594	3.346549
2.0	1.0	-1.6250000*	.5402973	.005	-2.718775	-.531225
	3.0	.3035714	.7125979	.673	-1.139008	1.746150
3.0	1.0	-1.9285714*	.7004455	.009	-3.346549	-.510594
	2.0	-.3035714	.7125979	.673	-1.746150	1.139008
*. The mean difference is significant at the 0.05 level.						

Regarding the SCR_Locality score in the MFCSCT scale, the LSD post hoc analyses confirm the statistically meaningful difference of means between the (1.00) coded companies and (2.00) coded companies (LSD post hoc, MD = 1.625, $p = 0.005 < 0.05$). The results indicate that companies with a maximum of 9 employees put an average of 1.625 higher to the importance of FCs' locality, based on the corresponding zero-to-seven score range of MFCSCT.

A similar pattern is also observed means between the companies with a maximum of 9 employees and companies with more than 49 employees (LSD post hoc, MD = 1.929, $p = 0.009 < 0.05$). This indicates that companies with a maximum of 9 employees put an average of 1.929 more to the importance of FCs' locality, based on the corresponding zero-to-seven score range of MFCSCT. The analysis based on MFCSCT scores provides confirmatory results for hypothesis H4.

4.2.3 Revenue specific analysis

The final company-oriented analysis of the selection criteria on fulfillment service providers is run based on the companies' reported total annual revenues, for the fiscal year of 2021. Results of the related multiple one-way ANOVA analyses are conducted at the confidence level of 95% based on the companies' fitted revenue category, as in Table 8.

Table 8. ANOVA – Revenue Specific Analysis – P2Q1 scores

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
P2Q1_1	Between Groups	1.264	2	.632	.155	.857
	Within Groups	154.833	38	4.075		
	Total	156.098	40			
P2Q1_2	Between Groups	8.227	2	4.113	1.003	.376
	Within Groups	155.871	38	4.102		
	Total	164.098	40			
P2Q1_3	Between Groups	14.169	2	7.085	1.707	.195
	Within Groups	157.733	38	4.151		
	Total	171.902	40			
P2Q1_4	Between Groups	9.975	2	4.987	1.203	.311
	Within Groups	157.537	38	4.146		
	Total	167.512	40			
P2Q1_5	Between Groups	62.610	2	31.305	9.000	.001
	Within Groups	132.171	38	3.478		
	Total	194.780	40			
P2Q1_6	Between Groups	27.727	2	13.863	3.700	.034
	Within Groups	142.371	38	3.747		
	Total	170.098	40			
P2Q1_7	Between Groups	7.834	2	3.917	1.201	.312
	Within Groups	123.971	38	3.262		
	Total	131.805	40			
P2Q1_8	Between Groups	19.401	2	9.701	3.109	.056
	Within Groups	118.550	38	3.120		
	Total	137.951	40			
P2Q1_9	Between Groups	9.541	2	4.771	1.263	.294
	Within Groups	143.483	38	3.776		
	Total	153.024	40			
P2Q1_10	Between Groups	16.261	2	8.130	2.341	.110
	Within Groups	131.983	38	3.473		
	Total	148.244	40			
P2Q1_11	Between Groups	13.749	2	6.874	2.386	.106
	Within Groups	109.471	38	2.881		
	Total	123.220	40			
P2Q1_12	Between Groups	29.168	2	14.584	4.828	.014
	Within Groups	114.783	38	3.021		
	Total	143.951	40			
P2Q1_13	Between Groups	9.489	2	4.745	1.420	.254
	Within Groups	126.950	38	3.341		
	Total	136.439	40			
P2Q1_14	Between Groups	9.223	2	4.611	1.454	.246
	Within Groups	120.533	38	3.172		
	Total	129.756	40			
P2Q1_15	Between Groups	16.211	2	8.105	1.692	.198
	Within Groups	182.033	38	4.790		
	Total	198.244	40			
P2Q1_16	Between Groups	18.839	2	9.419	2.617	.086
	Within Groups	136.771	38	3.599		
	Total	155.610	40			

The corresponding ANOVA analyses at the confidence interval of 95% indicate a statistically meaningful difference of means between companies with different annual revenues, concerning companies' preference for FCs that offer storage

facilities with adjustable climate conditions (P2Q1_5) [F(2,38) = 9.000, p = 0.001 < 0.05], the duration of fulfillment center to consumer logistics (P2Q1_6)[F(2,38) = 3.700, p = 0.034 < 0.05], and the presence of Turkish-speaking customer representative and/or call centers (P2Q1_12)[F(2,38) = 4.828, p = 0.014 < 0.05].

The remaining factors -each represented with the related survey questions- do not indicate any statistically meaningful difference between the analysis groups.

The exact between-group differences for annual revenues are analyzed via running LSD post hoc tests, whose multiple comparisons output as follows, at the confidence interval of 95%. Results of multiple comparisons are provided in Table 9.

The company revenue categories are coded as: (1.00) representing companies with annual revenues of 3 million Turkish Liras or less, (2.00) representing companies with annual revenues of 3 million Turkish Liras to 25 million Turkish Liras, and (3.00) representing companies with annual revenues of 25 million Turkish Liras to 125 million Turkish Liras.

Table 9. Multiple Comparisons – Revenue Specific Analysis - P2Q1_5, P2Q1_6, P2Q1_12 (LSD)

Multiple Comparisons							
LSD							
Dependent Variable	(I) DUM_Company Revenue_Total	(J) DUM_Company Revenue_Total	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
P2Q1_5	1.00	2.00	1.867*	.761	.019	.33	3.41
		3.00	3.188*	.752	.000	1.67	4.71
	2.00	1.00	-1.867*	.761	.019	-3.41	-.33
		3.00	1.321	.670	.056	-.04	2.68
	3.00	1.00	-3.187*	.752	.000	-4.71	-1.67
		2.00	-1.321	.670	.056	-2.68	.04
P2Q1_6	1.00	2.00	1.133	.790	.160	-.47	2.73
		3.00	2.113*	.780	.010	.53	3.69
	2.00	1.00	-1.133	.790	.160	-2.73	.47
		3.00	.979	.696	.167	-.43	2.39
	3.00	1.00	-2.112*	.780	.010	-3.69	-.53
		2.00	-.979	.696	.167	-2.39	.43
P2Q1_12	1.00	2.00	.367	.710	.608	-1.07	1.80
		3.00	1.925*	.701	.009	.51	3.34
	2.00	1.00	-.367	.710	.608	-1.80	1.07
		3.00	1.558*	.625	.017	.29	2.82
	3.00	1.00	-1.925*	.701	.009	-3.34	-.51
		2.00	-1.558*	.625	.017	-2.82	-.29
*. The mean difference is significant at the 0.05 level.							

For the specific score of P2Q1_5, the LSD post hoc analysis indicates a significant difference of means between the companies coded as (1.00), with all other revenue coded company subgroups of (2.00) and (3.00).

Accordingly, the most significant difference of means is detected between the group coded as (1.00) and (3.00). Companies with annual revenues less than 3 million TRY puts an average of 3.188 more importance, out of 7.000 based on the Likert scale to presence of storage facilities with adjustable climate conditions, while selecting the fulfillment center for their operations, compared to companies with annual revenues ranging between 25 million TRY and 125 million TRY (LSD post hoc, MD = 3.188, $p = 0.000 < 0.05$).

Moreover, companies with annual revenues less than 3 million TRY puts an average of 1.867 more importance out of 7.000 based on the Likert scale, to presence of storage facilities with adjustable climate conditions, while selecting the fulfillment center for their operations, compared to companies with annual revenues ranging between 3 million TRY and 25 million TRY (LSD post hoc, MD = 1.867, $p = 0.019 < 0.05$).

Furthermore, considering the score of P2Q1_6, that signifies the duration of FC-to-consumer logistics and shipping operations, a statistically meaningful difference of means is identified between the group coded as (1.00) and (3.00), where micro-sized enterprises, by their revenues, considers the aforementioned factor at an average of 2.113 more than medium-sized enterprises (LSD post hoc, MD = 2.113, $p = 0.010 < 0.05$). These tests fail to reject the hypothesis H2.

Finally, two statistically significant differences of means are identified for the specific score of P2Q1_12, as medium-sized enterprises signify the presence of a Turkish-speaking customer representative and/or call center at an average of 1.925

and 1.558 means less than micro (LSD post hoc, MD = -1.925, p = 0.009 < 0.05) and small-sized (LSD post hoc, MD = -1.558, p = 0.017 < 0.05) enterprises, respectively.

As taking the MFCSCT scoring criteria into account, two statistically meaningful differences of means are found, as SCR_Logistics, and SCR_Locality, in the related ANOVA output as follows, at the confidence interval of 95%, in Table 10.

Table 10. ANOVA – Revenue Specific Analysis - MFCSCT scoring

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
SCR_Dig	Between Groups	5.107	2	2.553	.719	.494
	Within Groups	134.938	38	3.551		
	Total	140.044	40			
SCR_SupChMgmt	Between Groups	3.982	2	1.991	.494	.614
	Within Groups	153.018	38	4.027		
	Total	157.000	40			
SCR_Cost	Between Groups	9.975	2	4.987	1.203	.311
	Within Groups	157.537	38	4.146		
	Total	167.512	40			
SCR_Logistics	Between Groups	21.581	2	10.791	4.754	.014
	Within Groups	86.259	38	2.270		
	Total	107.840	40			
SCR_Locality	Between Groups	20.711	2	10.355	3.803	.031
	Within Groups	103.484	38	2.723		
	Total	124.195	40			
SCR_Consulting	Between Groups	13.808	2	6.904	2.448	.100
	Within Groups	107.189	38	2.821		
	Total	120.998	40			

The related ANOVA output indicates a statistically meaningful difference of means in the scoring SCR_Logistics, between companies with different reported annual revenues [(F(2,38) = 4.754, p = 0.014 < 0.5)], and SCR_Locality [(F(2,38) = 3.803, p = 0.031 < 0.5)].

In order to further investigate the between-groups relationship on the difference of means for the SCR_Logistics and SCR_Locality scores, LSD post hoc tests are run at the confidence level of 95%, in Table 11.

Table 11. Multiple Comparisons – Revenue Specific Analysis – SCR_Logistics, SCR_Locality (LSD)

Multiple Comparisons							
LSD							
Dependent Variable	(I) DUM Company Revenue Total	(J) DUM Company Revenue Total	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
SCR_Logistics	1.00	2.00	1.1733333	.6150839	.064	-.071839	2.418506
		3.00	1.8725000*	.6073467	.004	.642991	3.102009
	2.00	1.00	-1.1733333	.6150839	.064	-2.418506	.071839
		3.00	.6991667	.5414835	.204	-.397009	1.795343
	3.00	1.00	-1.8725000*	.6073467	.004	-3.102009	-.642991
		2.00	-.6991667	.5414835	.204	-1.795343	.397009
SCR_Locality	1.00	2.00	.2500000	.6737053	.713	-1.113845	1.613845
		3.00	1.5937500*	.6652307	.022	.247061	2.940439
	2.00	1.00	-.2500000	.6737053	.713	-1.613845	1.113845
		3.00	1.3437500*	.5930903	.029	.143101	2.544399
	3.00	1.00	-1.5937500*	.6652307	.022	-2.940439	-.247061
		2.00	-1.3437500*	.5930903	.029	-2.544399	-.143101
*. The mean difference is significant at the 0.05 level.							

For the SCR_Logistics score, the LSD post hoc tests indicate a statistically meaningful difference of means between companies coded under (1.00) and (3.00) sub-groups, where companies with annual revenues less than 3 million Turkish Liras score an average of 1.872 higher out of seven, based on the corresponding zero-to-seven score range of MFCSCT, compared to companies with annual revenues ranging between 25 million Turkish Liras to 125 million Turkish Liras (LSD post hoc, $MD = 1.872$, $p = 0.004 < 0.05$).

Furthermore, for the SCR_Locality score, two additional differences of means are identified as statistically significant between companies coded under (3.00) and (2.00), and (3.00) and (1.00) sub-groups. Companies with annual revenues less than 3 million Turkish Liras score an average of 1.593 higher out of seven, based on the corresponding zero-to-seven score range of MFCSCT, compared to companies with annual revenues ranging between 25 to 125 million Turkish Liras (LSD post hoc, $MD = 1.593$, $p = 0.022 < 0.05$). In addition, the average SCR_Locality score is found statistically different between companies with annual revenues ranging from 3

to 25 million Turkish Liras and companies with annual revenues ranging from 25 to 125 million Turkish Liras, as the latter scores at an average value of 1.344 less than the former, out of seven, based on the corresponding zero-to-seven score range of MFCSCT. (LSD post hoc, MD = -1.344, $p = 0.029 < 0.05$)

The analyses based on MFCSCT scoring provide reinforcing results for hypotheses H2 and H4.

4.2.4 In-demand analysis

The analyses towards question P2Q2 which asks companies' extra demands from fulfillment centers, in return for additional fees demonstrated homogeneous results through the subjects. 55.6% of the participant companies opted their extra demand for customs brokerage or customs-clearance consultancy services, where 48.1% of the participant companies opted their extra demand for wide-coverage insurance, and also fast logistics and shipping services. The demand for these two services is then followed by marketing and advertising services, to be provided by the fulfillment center, at a rate of 44.4%.

CHAPTER 5

CONCLUSION AND DISCUSSION

5.1 Discussion

Taking the company demographics into account, the distribution of participant companies based on their employee numbers demonstrate a similar pattern to the number of exporting initiatives by scale sizes, reported in 2019 by TOBB (SMEs of Turkey Report, 2020). Accordingly, the dominance of micro-sized enterprises in this study's sample set is expected to reinforce the population representativeness of this research.

The significant difference in the duration of logistics, specifically the FC-to-consumer end-process, can be identified as a game-changer, specifically for micro-enterprises that compete in large-scale marketplaces, considering their potential lack of products with potent competitive advantages, compared to bigger-sized enterprises. On the other hand, from a company-oriented perspective, a naturally occurring fall in unit price as the company grows, larger-scale SMEs, including most medium-sized enterprises reprioritize the logistics costs -both monetary and operationally- with the overall product costs. This results in a larger-size-compatible manner of power in their exporting market competition. The findings of this study reinforce this inverse proportion between the company size and their committed significance to logistics operations.

This study also proposes the substantial element of "locality", which in Turkey is considered as a cardinal factor in selecting the appropriate fulfillment service provider by both micro and small-sized enterprises. The concept of locality

can be exemplified into several subsections: ranging from local offices, or branches that legally represent 3rd party fulfillment service providers, to local-language-speaking customer services. An explanation for this phenomenon might be the lack of proficiency in commercial communication, both in person and business wise, as once described by Arik (2020). On the other hand, the SMEs' prominent search for a 'local' interlocutor can also be a self-fulfilling prophecy that self-explains one of the reasons for micro and small-scale enterprises to be unable to outgrow, or expand, with only using their own monetary, labor, and strategic resources. Accordingly, making an inference on the micro and small-sized companies' ultimate need, and following demand of engaging in a foreign operation via a 'supportive' 3rd party, considering the lack of expertise or experience in exporting transactions for these particular introverted enterprises would not be irrational. In fact, building such a trust relationship is often considered as a noteworthy decision-maker in a potential, or an ongoing interaction of trade. (Hofstede et al., 2006) Establishing a trust factor, if conducted in a mutualist advantageous manner, may even carve a path such that both parties perceive a decrease in the overall transaction cost (Arik, 2020; Hofstede et al., 2006).

Being one of the important findings of this study is that the importance given to logistics and locality factors by micro-sized enterprises is more prominent than other enterprises. Leaving the probable deviations due to sample-size-bounded limitations aside, the results can be interpreted as confirmatory evidence of by the study of Majocchi et al. (2005). Accordingly, micro-scale enterprises attempt to capture their competitive advantage via these two factors while penetrating foreign markets, considering their relatively limited potential operational capabilities, as engaging in alternative steps -including product development, or extensive geo-

specific marketing strategies- to maintain their presence in the competitive market environment would not be cost-efficient in the short run. (Majocchi et al., 2005)

An alternative approach to dissect the prominent effect of “locality” in micro and small-scaled enterprises would be focusing in a more tangible and practical potential issue, that reflects the likelihoods on their lack of integration to electronic services, webs, and interconnected hubs, such as e-payment systems. As this deficit might be due to incompatibility -or even individual inexperience-, penetrating a foreign market via a pathfinder, such as fulfillment service providers, can result in a mutualistic gain for both parties (Lorenzen, 2001; Den Butter et al., 2003).

It would be significant to indicate here as, most sub-factors that form both of the locality and logistics factors do exhibit a substantial variable in micro-scaled enterprises, categorizing both based on their company sizes and annual reported revenues -and the overall MFCSCT scoring scale. Accordingly, as being unconstrained from preset classifications, the correlation between being a company with few employees or reporting below-average annual revenues, and a prominent quest to engage in an export activity with a fulfillment service provider that meets the aforementioned displayed needs of SMEs is remarkable to further explore.

Additionally, based on the significantly potent reliability score, future researchers for the related context are kindly encouraged to imply the MFCSCT scale to corresponding data, and test the proposed high reliability of the scoring method, in addition to any external correlations within and between the datasets. The desired stable maintenance of the MFCSCT scale’s high-reliability index may prospect the development of a standard scoring method for future research on companies engaging in international commercial transactions.

To conclude, by providing a genuinely curated fulfillment service package that binds effective, efficient, and fast procedures of logistics to local, convenient, and represented presence, U.S.-based fulfillment service providers would gratify the needs and demands of Turkey-based SMEs, which would result in constructions of bilaterally lucrative commercial transactions.

5.2 Managerial implications

Considering the survey participants declared managerial positions in their employed companies, as being responsible for international trade operations, the findings of this study should be considered as a significant agent in their choice criteria of a fulfillment center. In addition, the findings of this survey do also pose a significant navigation aid for fulfillment service providers to comprehend the needs and demands of client SMEs.

The results of the statistical analysis of the dataset demonstrate a significant difference in SMEs' ascribed importance to locality and logistics (based on the relevant SCR_Locality and SCR_Logistics scores in the MFCSCT scale) in choosing the correct fulfillment service provider among companies with different reported annual revenues. Furthermore, a similar pattern is also observable specific to the significance of locality among SMEs with different number of employees.

Accordingly, these factors should be taken into account whilst fulfillment service providers execute their marketing operations, as well as while conducting their feasibility studies on the dynamics of SMEs in the Turkish market. Specific instances for these actions may cover fulfillment service providers to employ Turkish-speaking customer service -or sales- representatives or establishing local offices in Turkish provinces where a significant load of operation volume is expected

to be handled. In addition, fulfillment service providers should contact local logistics operators to optimize the shipping costs, as well as the operational capabilities or ranges for logistics operations, which are forecasted to be carried upon the fulfillment service providers' penetration in the Turkish market. The total duration of logistics -more specifically, the presence of "express" shipping-, as being one of the major factors tested in the survey, is a particular example of such demands of Turkey-based SMEs, in their export operations to the United States of America.

From the perspective of Turkey-based SMEs, the findings of this study are expected to aid companies to compass their export plans by signifying the dominance of the need for integrity between storage and delivery operations. Although there exist many different conditions for standing out in the competitive marketplace, Turkey-based SMEs should consider the two major facts on creating a long-term competitive advantage: neither the effects of optimizing the price and quality dynamics by establishing cost-efficient manufacturing and production processes, nor any research and development studies are not necessarily more important than the presence of fast-delivery, whilst the latter is relatively a less costly method (Majocchi et al., 2005).

It is important to signify here as even though the research topic of this study concentrates on the presence of fulfillment service providers, Turkey-based SMEs may opt to handle the fulfillment operations in-house, without referring any third-party fulfillment service providers or logistics operators. Accordingly, in these alternative cases, Turkey-based SMEs should pay close attention to the factors of logistics and locality, whilst conducting export operations. Unless the SMEs have the operational flexibility to work in harmony with the US-based shipping companies, potential issues on delays in shipment may arise and cause cascade interruptions in

both the export operations, as well as the overall competitive strength of the particular SME in the market.

To conclude, this research, including the particular methodology that established a scoring system, and the findings of this research are expected to act as a navigation aid for any Turkey-based SMEs, from different industries, to understand the opportunity of cooperating with a fulfillment center, as an alternative method to penetrate into foreign markets, as well as for fulfillment service providers to have a better grasp on the size and industry-specific needs and demands of Turkey-based SMEs for their export operations to the United States of America markets.

5.3 Limitations of the study

This study, and the research procedure towards the aforementioned findings, have encountered two major limitations, which should further be dissected in detail.

The sample size of this study, in other words, the number of participating Turkey-based SMEs, can be identified as one of the major limitations of this research. This issue should not necessarily be considered a typical potential of bias due to the small sample size. Instead, by taking the structural and managerial "introverted nature" of Turkey-based SMEs into account, as having geographically closer target markets for export operations and their relatively limited operational capabilities, the concept of fulfillment services is observed to be quite an unfamiliar concept, whilst many potential participants have strictly refused the existence of plans to cooperate with a fulfillment center in the near future. Furthermore, the sample-size limitation of this study has also arisen from some of the industry-specific restraints that are mainly observable throughout the producers in food industries which require the processing of local or locally harvested raw materials, including

hazelnuts and olive derivatives. These relatively micro-sized local agricultural enterprises are structured domestically and traditionally, with little to no know-how of up-to-date approaches and methods of export, including fulfillment services. It is also noteworthy to signify here as this study has constructed its industry-specific sorting based on the industry classification proposed by the Turkish Exporters' Assembly, which follows a globally standard method of taxonomy to classify the member SMEs, based on their operating sectors. Accordingly, future studies and trials within the scope of this study should establish a more populated sample set to further analyze the dynamics of Turkey-based SMEs in their choice criteria for fulfillment service providers.

The second significant limitation of this study is identified as the lack of a standardized scoring methodology in assessing enterprises' behaviors in engaging in international trade operations. An acute solution to this problem is successfully integrated into this study, by establishing a tailor-made yet comprehensive scoring system, MFCSCT, with a statistically powerful reliability score. Future studies are invited to integrate the provided MFCSCT scale into larger and more heterogeneous sample sets to standardize the behavioral dynamics of companies in choosing the appropriate fulfillment service provider in their export operations, and also further track the reliability of this scoring method.

Potential follow-up studies on the participant SMEs -in which including both the SMEs which have cooperated with a fulfillment service provider and the SMEs which have not- can bring a significant opportunity for future research to pursue longitudinal analyses for any changes within companies' perception towards fulfillment service providers, and any correlated needs and demands via repeated

applications of the MFCSCT scales, or any other appropriate measurement methodology.

APPENDIX A

MFCSCT SCORING LEGEND

MFCSCT Scoring Code	Description	Scoring Method	Input Variables
SCR_Digitalization (SCRDG)	Scores the SMEs' tendency to opt for a digitalized, accessible system for FS-related operations	7-pt. Likert Arithmetic Average [1.00-7.00]	+ (P2Q1_1) + (P2Q1_2)
SCR_SupChMgmt (SCRSC)	Scores the SMEs' tendency to opt for FS that provide an accessible supply-chain-management system, procedure, or mechanism	7-pt. Likert Arithmetic Average [1.00-7.00]	+ (P2Q1_1) + (P2Q1_2) + (P2Q1_3)
SCR_Cost (SCRCO)	Scores the importance of FS-related costs as stated by the SMEs	7-pt. Likert Exact Score [1.00-7.00]	+ (P2Q1_4)
SCR_Logistics (SCRLG)	Scores the SMEs' tendency to opt for an inclusive, convenient, and accessible logistics mechanism	7-pt. Likert Arithmetic Average [1.00-7.00]	+ (P2Q1_5) + (P2Q1_6) + (P2Q1_7) + (P2Q1_8) + (P2Q1_9)
SCR_Locality (SCRLL)	Scores the SMEs' tendency to opt for a physically accessible FC	7-pt. Likert Arithmetic Average [1.00-7.00]	+ (P2Q1_11) + (P2Q1_12)
SCR_Consulting (SCRCL)	Scores the SMEs' tendency to opt for an FS that offers outsourced consulting services in various operational processes	7-pt. Likert Arithmetic Average [1.00-7.00]	+ (P2Q1_14) + (P2Q1_15) + (P2Q1_16)

APPENDIX B

PARTICIPANT RESEARCH DECLARATION AND CONSENT FORM

The supporting institution for the thesis: Boğaziçi Üniversitesi

Name of the Master's thesis: Fulfillment Center Selection of Turkey-based SMEs for Their Export Operations to the United States of America

Name of the researcher: Kemal Alkan

E-mail and phone number of the researcher:

Name of the thesis supervisor: Prof. Dr. Arzu Tektaş

E-mail and phone number of the thesis supervisor:

To whom it may concern,

Kemal Alkan, from the Department of International Trade at Bogazici University, is conducting a scientific study for his Master's thesis, named "Fulfillment Center Selection of Turkey-based SMEs for Their Export Operations to the United States of America".

We invite you to fill out this survey form, for helping us in this research. Before you decide on participating in this research, we would like to inform you of the details of this study. If you do accept to participate in this study after reading this Participant Research Declaration and Consent Form, please sign this form and return it to the researcher.

If you accept to participate in this study, we will invite you to answer a survey containing 11 short-answer and multiple-choice questions. Your answers in this survey will help to understand how Turkey-based SMEs select fulfillment centers for their US-based export operations.

This research is being carried out for scientific purposes, and the privacy of participants and their answers in this survey is one of the most significant matters throughout our research. If you're participating in this research via an online form, the data of the form will be stored in a high-security database that blocks the access of unauthorized individuals or third parties and will be permanently deleted after the completion of the research process. If you're participating in this research via a physically printed form, the form will be kept in a steel safe to block the access of unauthorized individuals or third parties and will physically be burnt to be annihilated upon the completion of the research process.

Participating in this research is completely voluntary. You do have the ultimate right to withdraw from the research at any time without having to provide any reason or excuse. If you would like to learn more about this research, please contact the corresponding Master's degree candidate, Kemal Alkan from the department of International Trade at Boğaziçi University (Email: kemal.alkan@boun.edu.tr – Phone: +905059265550). You can contact "The Commission on Ethical Investigations on Master's and Doctoral Theses at Boğaziçi University" by sending an e-mail to "sbe-ethics@boun.edu.tr" to learn more about your rights for this research.

Concerning these declarations, if you would like to participate in this research, please fill out this form and return it to the researcher.

I, named _____, have read and understood the above declaration on terms and conditions, the purpose of the research, my responsibilities, and rights. I understand that I have the ultimate right to withdraw from this research at any time at my discretion, without any potential negative consequences. I have had the opportunity to ask any questions related to the research.

In these circumstances, I hereby agree and confirm participating in this research completely voluntarily, without any coercion or enforcement.

I have taken a copy of this form / do not want to take a copy of this form.

Participant Name-Surname:.....
Signature:.....
Address (if available, Phone No, Fax No):.....
.....
Date (dd/mm/yy):...../...../.....

KATILIMCI BİLGİ VE ONAM FORMU

Tezi destekleyen kurum: Boğaziçi Üniversitesi

Tezin adı: Türkiye bazlı KOBİ'lerin ABD'deki İhracat Operasyonlarında "E-Ticaret Lojistik Merkezleri" Seçimi

Araştırmacının adı: Kemal Alkan

Araştırmacının e-posta adresi ve telefon numarası:

Tez danışmanı: Prof. Dr. Arzu Tektaş

Tez danışmanının e-posta adresi ve telefon numarası:

Sayın ilgili,

Boğaziçi Üniversitesi Uluslararası Ticaret Bölümü yüksek lisans öğrencisi Kemal Alkan, "Türkiye bazlı KOBİ'lerin ABD'deki İhracat Operasyonlarında "E-Ticaret Lojistik Merkezleri" Seçimi" adı altında bilimsel bir araştırma projesi yürütmektedir.

Bu araştırmada bize yardımcı olmanız için sizi de bu anketimizi doldurmaya davet ediyoruz. Kararınızdan önce araştırma hakkında sizi bilgilendirmek istiyoruz. Bu bilgileri okuduktan sonra araştırmaya katılmak isterseniz lütfen bu formu imzalayınız ve araştırmacıya veriniz.

Bu araştırmaya katılmayı kabul ettiğiniz takdirde sizden kısa-cevap ve çoktan seçmeli sorulardan oluşan 11 soruluk bir anket doldurmanızı rica edeceğiz. Bu ankete vereceğiniz cevaplar, Türkiye bazlı KOBİ'lerin ABD'deki ihracat operasyonlarında E-Ticaret Lojistik Merkezleri seçimlerini nasıl yaptıklarını daha iyi anlamamıza yardımcı olacaktır.

Bu araştırma bilimsel bir amaçla yapılmaktadır ve katılımcı bilgilerinin gizliliği esas tutulmaktadır. Eğer bu çalışmaya online bir form ile katılıyorsanız, form girdileriniz yetkisiz veya üçüncü şahısların erişimini engelleyen yüksek güvenlikli bir sunucu içinde saklanacak ve araştırma sürecinin sonunda tamamen imha edilecektir. Eğer bu çalışmaya kâğıda basılı bir anket formu ile katılıyorsanız, doldurduğunuz form yetkisiz veya üçüncü şahısların erişimini engellemek için çelik bir kasada saklanacak ve araştırma sürecinin sonunda yakılarak imha edilecektir.

Bu araştırmaya katılmak tamamen isteğe bağlıdır. Katıldığınız takdirde çalışmanın herhangi bir aşamasında herhangi bir sebep göstermeden onayınızı çekmek hakkına da sahipsiniz. Araştırma projesi hakkında ek bilgi almak istediğiniz takdirde lütfen Boğaziçi Üniversitesi Uluslararası Ticaret Bölümü Uluslararası Ticaret Yönetimi yüksek lisans öğrencisi Kemal Alkan ile temasa geçiniz (Telefon: 05059265550, Eposta: kemal.alkan@boun.edu.tr). Araştırmayla ilgili haklarınız konusunda Boğaziçi Üniversitesi Sosyal ve Beşerî Bilimler Yüksek Lisans ve Doktora Tezleri Etik İnceleme Komisyonu'na (SOBETİK) (sbe-ethics@boun.edu.tr) danışabilirsiniz.

Eğer bütün bu bilgiler ışığında, araştırmaya katılmak isterseniz lütfen bu formu imzalayınız ve araştırmacıya veriniz.

Ben, (katılımcının adı) _____ yukarıdaki metni okudum ve katılmam istenen çalışmanın kapsamını ve amacını, gönüllü olarak üzerime düşen sorumlulukları tamamen anladım. Çalışma hakkında soru sorma imkânı buldum. Bu çalışmayı istediğim zaman ve herhangi bir

neden belirtmek zorunda kalmadan bırakabileceğimi ve bıraktığım takdirde herhangi bir olumsuzluk ile karşılaşmayacağımı anladım.

Bu koşullarda söz konusu araştırmaya kendi isteğimle, hiçbir baskı ve zorlama olmaksızın katılmayı kabul ediyorum.

Formun bir örneğini aldım / almak istemiyorum (bu durumda araştırmacı bu kopyayı saklar).

Katılımcının Adı-Soyadı:.....

İmzası:.....

Adresi (varsa Telefon No, Faks No):.....

.....

Tarih (gün/ay/yıl):...../...../.....

Part 1.2: Information on Company and Commercial Transactions

P1/Q1: Please indicate the full name of the company. (OPTIONAL)

_____

P1/Q2: Please indicate the KOSGEB branch, to which the company is registered.

_____

P1/Q3: Please indicate the accurate classification of the company, based on the total number of actively working employees.

A. Less than or equal to 9 employees
B. 10 to 49 employees
C. 50 to 249 employees
D. More than 250 employees

P1/Q4: Which of the following best describes the major industry that the company is operating in?

A. Textile and raw materials
B. Wood, paper, and forestry products
C. Cement, glass, ceramic, and soil products
D. Steel, ferrous and non-ferrous metals
E. Olive, olive oil, and derivative products
F. Hazelnuts and derivative products
G. Dried fruits
H. Cereal, legumes, seeds, and derivative products
İ. Jewelry
J. Ready-to-wear and apparel products
K. Leather and leather derivatives
L. Electrical and electronic products
M. Other (please indicate): _____

P1/Q5: In terms of the company's total gross revenue (TRY) in 2021, which of the following classifications does the company fit in?

A. Less than 3 million ₺ (annual)
B. 3 million ₺ to 25 million ₺ (annual)
C. 25 million ₺ to 125 million ₺ (annual)
D. More than 125 million ₺ (annual)

P1/Q6: Is the company currently exporting any products/services?

A. Yes
B. No (If selected No, leave the questions P1/Q7 and P1/Q8 blank.)

P1/Q7: Does the company currently engage in any export activity in the US?

A. Yes
B. No

P1/Q8a: What is the percentage share of the company's revenue on exports in total gross revenue in 2021 (P1/Q5)?

_____ %

P1/Q8b: What is the percentage share of the company's revenue on exports to the United States of America in total revenue of exports in 2021?

_____ % *of the revenue on TOTAL exports are from the export operations to the United States of America*

P1/Q9: Does the company plan to engage, continue or initiate any export activity in the US, in the near future?

A. Yes
B. No

Part 2: The Company's Perception of Selecting the Fulfillment Service Provider

P2/Q1: How important is each factor in the company's decision to select the right Fulfillment Center (FC) and/or Fulfillment Service Provider (FSP) to conduct its foreign commercial operations?

	1 (Not important at all)	2	3	4	5	6	7 (Very important)
[1] Presence of a digital supply-chain management system, operated by the FC							
[2] The company's accessibility to FC's supply-chain management systems for sales and inventory tracking							
[3] The compatibility of FC's supply-chain management systems with company's operational software (e.g., accounting)							
[4] The total cost of Fulfillment service							
[5] Presence of storage facilities with adjustable climate conditions such as temperature (e.g., cold-chain depots)							
[6] The duration of FC-to-consumer logistics/shipping operations							
[7] Reputation of the logistics/shipping partner that the FC works with							
[8] The operational range of the logistics/shipping partner that the FC works with							
[9] Presence of an all-inclusive logistics service that includes company-to-FC and FC-to-consumer shipping solutions							
[10] Insurance coverage provided by the FC or partner insurers in order to cover company's in-warehouse goods for risks and perils							
[11] Presence of a local legal representative office in Turkey, established by the FC							
[12] Presence of Turkish-speaking customer representative / call center							
[13] Reputation of the FC and/or the Fulfillment service provider							
[14] Presence of consulting services on inventory management, provided by the FC							
[15] Presence of customs brokerage or customs consultancy services, provided by the FC							
[16] Presence of local-market-specific consultancy services of marketing and sales, provided by the FC, tailor-made for specific industries and goods							

P2/Q2: In addition to the default base package of services* provided by the Fulfillment Centers, which extra services would the company demand in return for additional fees?

* The default base package of a Fulfillment service typically includes the following:

- Standard storage
- Standard digital inventory management services
- Standard logistics/shipping services (FC-to-consumer)
- Standard insurance services

You may select MULTIPLE options.

A. Marketing and advertising services
B. Customs brokerage or customs-clearance consultancy services
C. Wide-coverage insurance
D. Local-market-specific consultancy services in sales and marketing
E. Fast logistics/shipping services (e.g., next-day-delivery, same-day-delivery)
F. All-inclusive logistics service (both company-to-FC and FC-to-consumer)
G. Storage services with advanced climate control (e.g., temperature, humidity, pH)
H. None
İ. Other (please indicate): _____

Bölüm 1.2: Şirket ve Ticari Faaliyetleri

P1/Q1: Şirketin ismini aşağıdaki boşluğa yazınız. (OPSİYONEL)

_____

P1/Q2: Şirketin kayıtlı bulunduğu KOSGEB şubesini aşağıdaki boşluğa yazınız.

_____

P1/Q3: Şirketteki çalışan sayısı aşağıdaki aralıklardan hangisine girmektedir?

A. 9 çalışan veya daha az
B. 10 – 49 çalışan arası
C. 50 – 249 çalışan arası
D. 250 çalışan veya daha fazla

P1/Q4: Şirket, aşağıdaki endüstri alanlarından hangisinde asıl faaliyetini göstermektedir?

A. Tekstil ve hammaddeleri
B. Ahşap, kâğıt ve orman ürünleri
C. Çimento, cam, seramik ve toprak ürünleri
D. Çelik, demir ve demir-dışı metaller
E. Zeytin, zeytinyağı ve yan ürünleri
F. Fındık ve yan ürünleri
G. Kuru meyve
H. Tahıl, kuru bakliyat, tohum ve yan ürünleri
İ. Mücevherat
J. Hazır giyim ürünleri
K. Deri ve yan ürünleri
L. Elektrik ve elektronik ürünler
M. Diğer (lütfen belirtiniz): _____

P1/Q5: Şirketin Türk Lirası kurundan 2021 yılı toplam cirosu, aşağıdaki aralıkların hangisinde değerlendirilmektedir?

A. 3 milyon Türk Lirası veya daha az (yıllık)
B. 3 milyon Türk Lirası ve 25 milyon Türk Lirası arası (yıllık)
C. 25 milyon Türk Lirası ve 125 milyon Türk Lirası arası (yıllık)
D. 125 milyon Türk Lirası veya daha fazla (yıllık)

P1/Q6: Şirket, halihazırda herhangi bir hizmet veya ürün ihraç etmekte midir?

A. Evet
B. Hayır (bu şıkkı seçmeniz durumunda, P1/Q7 ve P1/Q8 sorularını boş bırakınız.)

P1/Q7: Şirket, halihazırda ABD'ye herhangi bir ihracat faaliyetinde bulunmakta mıdır?

A. Evet
B. Hayır

P1/Q8a: 2021 yılı için, şirketin yıllık ihracat cirosu, toplam cirosunun (P1/Q5) yüzde kaçını oluşturmaktadır?

_____ %

P1/Q8b: 2021 yılı için, şirketin yıllık ABD'ye yaptığı ihracat cirosu, toplam ihracat cirosunun yüzde kaçını oluşturmaktadır?

_____ % *kadar ihracat cirosu, ABD'ye yapılan ihracat cirosunun toplam cirodaki payını oluşturmaktadır.*

P1/Q9: Şirket, ABD'ye yönelik bir ihracat faaliyeti gerçekleştirmekte midir ve/veya yakın gelecekte planlamakta mıdır?

A. Evet
B. Hayır

Bölüm 2: Şirketin E-Ticaret Lojistik Merkezlerine Olan Algısı

P2/Q1: Şirketin ihracat faaliyetlerinde hizmet almak üzere E-Ticaret Lojistik Merkezi (ETLM) ve E-Ticaret Lojistik Hizmet Sağlayıcısı (ETLHS) seçimlerinde, aşağıdaki kriterler ne derece önem arz etmektedir?

	1 (Hiç önemli değil)	2	3	4	5	6	7 (Çok önemli)
[1] ETLM'nin işlettiği bir dijital tedarik yönetim zinciri sistemi bulunması							
[2] İhracatçı şirketin, stok ve satış takibi amacıyla ETLM'nin işlettiği dijital tedarik yönetim zinciri sistemine erişimi							
[3] ETLM'nin işlettiği dijital tedarik yönetim zinciri sisteminin ihracatçı şirketin kullandığı benzer ve ilişkili sistemler (muhasebe vb.) ile uyumluluğu							
[4] ETLM hizmetinin ihracatçı şirkete toplam maliyeti							
[5] ETLHS'nin ayarlanabilir iklimlendirme olanağı sağlayan depolama çözümlerinin bulunması (soğuk-zincir kilerleri vb.)							
[6] ETLM'nin ihracatçı şirket ürünlerini nihai tüketiciye ulaştırmadaki lojistik/kargolama süresi							
[7] ETLM'nin lojistik operasyonlarını gerçekleştiren partner firmalarının kurumsal itibarı							
[8] ETLM'nin lojistik operasyonlarını gerçekleştiren partner firmalarının operasyonel menzili							
[9] Hem ihracatçı şirketten ETLM'ye olan, hem de ETLM'den nihai tüketiciye olan lojistik süreçleri yöneten kapsamlı bir taşımacılık hizmetinin bulunması							
[10] ETLM veya sigorta partnerleri tarafından, ihracatçı şirketin ürünlerini risk ve beklenmedik tehlikelere karşı sigortalama hizmetleri sağlanması							
[11] ETLHS'nin Türkiye'de bölgesel temsilcilik ofisleri ve/veya şubelerinin bulunması							
[12] ETLHS'nin Türkçe dilinde hizmet veren müşteri temsilcisi hizmeti sağlaması							
[13] ETLHS'nin ve/veya ETLM'nin kurumsal itibarı							
[14] ETLM tarafından ihracatçı şirkete stok yönetim danışmanlığı hizmeti sunulması							
[15] ETLM tarafından ihracatçı şirkete gümrük danışmanlık ve müşavirlik hizmeti sunulması							
[16] ETLM'nin ihracatçı şirketin ürünlerinin ilgili dış piyasada satışı için pazarlama hizmeti ve/veya pazarlama danışmanlık hizmeti sunması							

P2/Q2: Şirket, ihracat faaliyetlerini gerçekleştirmek için bir E-Ticaret Lojistik Hizmet Sağlayıcısının verdiği temel hizmetlere* ek olarak, fazladan bir maliyet ile, aşağıdaki ek hizmetlerin hangisi/hangileri için ekstra bir ücret ödemeye razıdır?

* Bu senaryoda, bir E-Ticaret Lojistik Hizmet Sağlayıcısı, aşağıdaki TEMEL HİZMETLERİ vermektedir:

- Standart depolama
- Standart dijital stok yönetimi hizmeti
- Standart kargo/lojistik hizmeti
- Standart sigortalama hizmeti

Birden fazla seçenek işaretleyebilirsiniz.

A. Pazarlama ve reklam hizmetleri
B. Gümrük müşavirliği/danışmanlığı
C. Geniş kapsamlı sigortalama
D. Firmaya ve firmanın faaliyet gösterdiği sektöre özel bölgesel pazar danışmanlığı hizmeti
E. Yüksek hızlı kargo/lojistik hizmetleri (aynı gün teslimat, ekspres kargo vb.)
F. İleri iklimlendirmeli depolama hizmeti (soğuk zincir depolama, kriyojenik depolama vb.)
G. Hiçbiri
H. Diğer (lütfen belirtiniz): _____

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