EVALUATION OF FINANCIAL PERFORMANCE ACCORDING TO FIRM SCALE: CASE OF MANUFACTURING SECTOR[1]

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Abstract: Companies are classified as large, medium and small enterprises according to their scale. Today increasing competition conditions make the sustainability of companies difficult. For this reason, businesses should pay attention to their financial structures and use their resources effectively while continuing their activities. The purpose of the study is to compare the financial performance of the small, medium and large-scale companies in the manufacturing sector which has an important place in Turkey's economy, during the period 2014-2016. In the study, 19 financial ratios related to liquidity, financial structure, activity, and profitability were used. Firstly weights of criteria were determined by using the Analytic Hierarchy Process (AHP) method and then companies were ranked according to scale by Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) method. As a result of the analyzes, it was determined that small and medium scaled firms, although they have a significant volume in numerical terms, perform relatively weak in terms of financial performance compared to large-scale firms.

Keywords: *Firm Scale, AHP, TOPSIS, Financial Performance, Manufacturing Sector, Turkey.*

Finansal Performansın Firma Ölçeğine Göre Değerlendirilmesi: İmalat Sektörü Örneği

Özet: Şirketler ölçeklerine göre büyük, orta ve küçük işletmeler olarak sınıflandırılmaktadır. Günümüzde artan rekabet koşulları, şirketlerin sürdürülebilirliğini zorlaştırmaktadır. Bu nedenle, işletmeler faaliyetlerine devam ederken mali yapılarına dikkat etmeli ve kaynaklarını etkin bir şekilde kullanmalıdır. Bu çalışmanın amacı, 2014-2016 döneminde Türkiye'nin ekonomisinde önemli bir yere sahip olan imalat sektöründeki küçük, orta ve büyük ölçekli şirketlerin finansal performansını karşılaştırmaktır. Çalışmada, likidite, finansal yapı, faaliyet ve karlılık ile ilgili 19 finansal oran kullanılmıştır. Öncelikle Analitik Hiyerarşi Prosesi (AHP) yöntemi kullanılarak ölçüt ağırlıkları belirlenmiş ve TOPSIS yöntemine göre ölçekler sıralanmıştır. Analizler sonucunda, küçük ve orta ölçekli firmaların, sayısal olarak önemli bir hacme sahip olmalarına rağmen, büyük ölçekli firmalara kıyasla finansal performans açısından nispeten zayıf oldukları tespit edilmiştir.

Anahtar Kelimeler: *Firma Ölçeği, AHP, TOPSIS, İmalat Sektörü, Türkiye*

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1. INTRODUCTION

Companies are classified as large, medium and small enterprises according to their scale. These scales can provide some advantages to the firms. As a company grows in scale, the advantages of specialization in terms of labor and mechanization are also increasing in the production process. The benefiting from scale economy in large-scale firms increases the firm's profit. Because, in large-scale companies, it is possible to obtain some inputs at a cheaper price due to the possibility of purchasing in high quantities. Thus, other conditions remaining the same, it is reduced production costs. At the same time, the use of special-purpose machinery is also becoming more economical for firms with large quantities of production. A broad market allows for lowering costs with advanced technological methods. Due to mass production, various marketing functions can be done in a larger volume. It also requires fewer inventories and leads to cost savings. A broad market allows for the recruitment of qualified personnel at higher levels in activities such as production, planning, management, research and development (Gungor, 2017, p. 22).

Another advantage of large-scale firms is access to cheap finance, i.e. borrowing costs. As long as borrowing costs are low, firms will have higher debt/equity ratios, and large-scale firms will be able to use more foreign resources than small-scale firms to take advantage of tax shields. In this respect, there is a positive relationship between firm scale and leverage ratio. For example, a research conducted in ten developing countries in which Turkey takes place, it is found that there is a positive relationship between firm scale variable and debt level (Booth et al., 2001, p.105). Similarly, in a study conducted in Spain (Padron et al., 2005), Asia Pacific Region (Deesomsak et al., 2004) and China (Chen, 2004), there was a positive relationship between the two variables. So it is possible to increase the number of species studies (Demirhan, 2009, p. 677). This will also contribute positively to the profitability of the company. For example; Karacaer et al. (2009), Zhu and Huang (2012), Apergis and Sorros (2014), Ayaydın and Karaaslan (2014) have found that there is a positive and significant relationship between firm scale and ROA.

In the case of small-scale firms, the ability to focus on products and markets, the ability to specialize, the flexibility to enter markets with limited demand, the ability to react quickly to changes in market conditions and consumer preferences, and the ability to use qualified technology can be an advantage (Gungor, 2017, p. 22). However, in addition to these advantages, Gupta (1969) studied the influence of firm scale on financial structure. It is found that small-scale firms have difficulties in finding funds because their inventory and cash turnover rates are high and average collections periods are low. In addition, there is a negative relationship between the borrowing rate and firm scale. The reason for this negative relationship is that the financial risk of small firms is high. It is also found that the debt of small firms is mainly composed of short-term debt (Ata and Ag, 2010, p. 50).

The vast majority of companies operating in the manufacturing industry in Turkey, in the small and medium scaled (SME) companies are formed. However, from the point of view of production, it is seen that, in contrast to the distribution of the number of firms, large-scale firms are more dominant in manufacturing industrial production. In this study, the financial performances of small, medium and large-scale companies in the manufacturing sector were compared during the 2014-2016 period. In the literature, there have not been studies analyzing financial performance by using multi-criteria decision-making methods in terms of scale. In this respect, it is believed that the study will contribute to the literature.

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2. LITERATURE REVIEW

In the literature, multi-criteria decision-making method is used to analyze the financial performance of businesses in different sectors. Among these studies, Aytekin and Sakarya (2013) used ten financial ratios to measure the financial performance of twenty food operations in Borsa İstanbul (BIST) food, beverage, and tobacco sector for the period 2009-2012. The obtained data were evaluated by the TOPSIS method. As a result, when the financial performances of the enterprises are taken into consideration after the 2008 global financial crisis, it has been revealed that there has not been an enterprise that performs best in all the years over the period examined. Karakış and Goktolga (2015) analyzed the financial performances of the automotive manufacturing sector firms traded in Borsa Istanbul with multi-criteria decision-making techniques, ELECTRE and AHP. The AHP method was used to determine the weighting ratios of the proportions. Later F9 and F4 firms with a performance score calculated using the ELECTRE method was found to have a stable financial activity. Meydan et al. (2016) assessed the financial performance of food companies traded in BIST for 2012. In this context, the financial ratios (liquidity, activity, financial structure and profitability ratios) of enterprises were taken as group and whole separately. The financial performances of the businesses were analyzed by using Gray Relational Analysis method in both cases. As a result, Ulker Gıda ranked first in overall financial performance and Penguin Food ranked last in ranking. Orcun and Eren (2017) evaluated the financial performances of technology companies traded in BIST covering the period 2010-2015 by using the TOPSIS method. As a result of the analysis, it was determined that the most successful companies in terms of performance are ASELS, LINK, ARMDA, LINK, INDES, and DGATE respectively. Sit et al. (2017) analyzed the financial performances of BIST Main Metal Index companies during the 2011-2015 period. In the study, frequently used ratios of liquidity, activity, financial structure, profitability, and stock market performance ratios were determined and compared with TOPSIS management. As a result of the study, it was determined that the financial performances of the companies operating in the sector vary from year to year. In studies comparing sectors; Omurbek and Mercan (2014), compared the financial performance of the manufacturing industry sub-sectors in Turkey for the period of 2009-2011. Nine financial ratios were used in the study and TOPSIS and ELECTRE methods were used for performance measurement. As a result, in both methods coke and refined petroleum products found as the best performing financial sector in the manufacturing sector. Karadeniz et al. (2017) analyzed the financial performance of twenty-one sub-sectors in the Turkish manufacturing sector by Gray Relational Analysis method by taking into account the 2012-2014 period. In the study where thirty-two financial ratios were used, the three sub-sectors with the most successful performance were respectively; production of tobacco products, production of coke and refined petroleum products, and manufacturing of beverages.

3. DATA AND METHODOLOGY

The purpose of the study is to compare the financial performance of the small, medium and large-scale companies in the manufacturing sector which has an important place in Turkey's economy, by addressing the 2014-2016 period. The comparison of financial performances according to the scales of the companies gathered from financial ratios included in the Sectorial Balance Sheet Statistics published by The Central Bank of The Republic of Turkey (CBRT). In the determination of the scale ranges, "net sales" adopted by CBRT by BACH (The Bank of Harmonized Data on Company Accounts) and "asset size" criteria used by European Union are taken as a basis. Under the net sales criteria; companies with net sales of less than 10 Million

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Euros in 2016 are on the small scale, those between 10 Million Euros and 50 Million Euros are on the medium scale and those over 50 Million Euros are on the big scale. In sectors analyzed according to asset size criteria; Companies with a total of fewer than 10 Million Euros in 2016 are classified as small-scale, firms with a size between 10 Million Euros and 43 Million Euros are classified as medium-scale and those with a size greater than 43 Million Euros are classified as large-scale. In the CBRT study, 1467 small-scale, 1082 medium-scale and 508 large-scale firms were taken into account. Financial ratios used in the study are shown in Table 1.

Table 1. Financial Ratios

Basic Ratios	Codes	Sub-Ratios
Liquidity Ratios	L1	Current Ratio
	L2	Quick Ratio
	L3	Cash Ratio
	L4	Inventory Dependency Ratio
Financial Structure Ratios	F1	Total Debt/Assets
	F2	Equity/Assets
	F3	Short-Term Liabilities/Total Liabilities
	F4	Net Tangible Assets/Equity
Activity Ratios	A1	Inventory Turnover
	A2	Receivable Turnover
	A3	Net Working Capital Turnover
	A4	Equity Turnover
	A5	Asset Turnover
Profitability Ratios	P1	Net Profit/Equity
	P2	EBIT/Assets
	P3	Net Profit/Assets
	P4	Operating Profit/Net Sales
	P5	Gross Profit /Net Sales
	P6	Net Profit /Net Sales

Because it requires a multi-criteria framework for performance evaluation, MCDA methods were utilized in the study. Analytical Hierarchy Process (AHP) is used to determine the weights of the criteria and TOPSIS methods were used in performance ranking.

3.1. Analytical Hierarchy Process (AHP)

Developed by Saaty in 1977, AHP is a structured technique designed to help people deal with complex decisions. The AHP is an important tool because it makes use of both objective and subjective evaluation criteria, ensures that the evaluation consistency is tested and that a very important decision is made by the decision maker, in particular, which should be prioritized among the alternatives that need to be assessed against multiple measures (Eraslan and Algün, 2005: p. 98). The implementation steps of the AHP approach are summarized as follows:

1.Step: Establishing the model and formulating the problem,

2.Step: Collection of data, the creation of binary comparative matrices,

3.Step: Estimating the relative weights (eigenvectors) of the elements at each step of the hierarchy,

4.Step: Calculation of the consistency rate for the validity of the results,

5.Step: Use of relative weights for different purposes.

3.2. Technique for Order Preference by Similarity to Ideal Solution (TOPSIS)

TOPSIS method developed by Hwang and Yoon (1981) is based on the positive ideal solution, the shortest distance and the negative ideal solution, the farthest alternative. The TOPSIS method consists of 6 steps (Triantaphyllou et al., 1998, p. 12-13):

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1.Step: Creating a Normalized Decision Matrix

2.Step: Creating a Weighted Standard Decision Matrix

3.Step: Determination of Ideal (A+) and Negative Ideal (A-) Solution

4.Step: Calculation of Variance Measurements

5.Step: Calculating the relative proximity of the Ideal Solution:

6.Step: Alternatives are sorted by the ideal solution relative affinity (Ci*) value

4. FINDINGS

In this part of the study, the financial performance of the manufacturing sector is calculated and interpreted according to firm scale cover the period 2014 to 2016.

4.1. Determination of Weights of Financial Ratios

The weight of each criterion is determined by the AHP method in comparing financial performances according to firm scale. Here, we have been interviewed by expert academics and sector managers when creating pair-wise comparison matrices. Then the answers are analyzed in Super Decision program and the importance ratings of each criterion were determined. The consistency rate (CR) was calculated as 0,06. The weights of the financial ratios are shown in Table 2.

Table 2. Weights of Financial Ratios

Basic Ratios	Weights	Sub-Ratios	Weights
Liquidity Ratios	**0,261**	L1 Current Ratio	0,088
		L2 Quick Ratio	0,076
		L3 Cash Ratio	0,059
		L4 Inventory Dependency Ratio	0,038
Financial Structure Ratios	**0,175**	F1 Total Debt/Assets	0,032
		F2 Equity/Assets	0,043
		F3 Short Term Liabilities/Total Liabilities	0,058
		F4 Net Tangible Assets/Equity	0,042
Activity Ratios	**0,247**	A1 Inventory Turnover	0,058
		A2 Receivable Turnover	0,041
		A3 Net Working Capital Turnover	0,049
		A4 Equity Turnover	0,044
		A5 Asset Turnover	0,055
Profitability Ratios	**0,317**	P1 Net Profit/Equity	0,066
		P2 EBIT/Assets	0,039
		P3 Net Profit/Assets	0,042
		P4 Operating Profit/Net Sales	0,046
		P5 Gross Profit /Net Sales	0,055
		P6 Net Profit /Net Sales	0,069

4.2. Evaluation of Financial Performance with TOPSIS Method

As shown in Table 3, the top line of the decision matrix contains weight values indicating the importance of each criterion. Weight values are obtained by evaluating questionnaires containing pair-wise comparisons through the AHP approach. Three decision points (firm scale) and 19 evaluation criteria (financial ratios) are used in the study. In the first stage (3x19) dimensional decision matrices are created in the application of the TOPSIS method.

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Table 3. Decision Matrices

	L1	L2	L3	L4	F1	F2	F3	F4	A1	A2	A3	A4	A5	P1	P2	P3	P4	P5	P6
2014																			
Small	141,16	81,09	18,39	203,61	69,39	30,61	49,46	106,64	5,08	4,82	2,63	3,55	0,87	7,12	4,91	1,75	6,48	17,93	2,08
Medium	152,76	95,58	22,41	198,39	66,53	33,47	49,17	88,79	7,38	5,29	5,05	4,83	1,26	11,34	7,75	3,72	7,08	16,21	3,21
Large	184,79	113,48	31,63	158,56	59,45	40,55	41,66	72,20	6,47	5,86	4,36	4,01	1,25	13,47	10,02	5,77	8,13	18,25	5,46
2015																			
Small	142,8	80,2	18,6	212,2	70,1	29,9	50,1	106,9	4,1	4,6	2,1	3,5	0,8	7,0	5,4	1,5	7,5	19,0	2,1
Medium	152,5	95,8	23,1	197,6	67,2	32,8	49,6	88,9	6,0	5,0	4,8	4,8	1,2	10,6	8,1	3,4	7,7	16,8	2,9
Large	180,6	112,3	30,4	167,7	60,6	39,4	42,6	68,9	6,2	5,8	4,6	3,8	1,2	11,6	10,0	4,6	9,0	19,2	4,3
2016																			
Small	142,8	77,5	18,0	205,6	69,9	30,1	50,0	97,2	3,7	4,4	1,8	3,0	0,8	4,5	4,5	0,8	7,3	19,2	1,2
Medium	156,1	95,6	21,6	183,3	66,5	33,5	48,8	82,9	5,5	4,9	4,3	4,4	1,1	7,9	7,2	2,6	7,9	17,0	2,5
Large	178,3	111,2	30,4	175,5	61,3	38,7	42,9	65,9	5,9	5,5	4,2	3,7	1,2	11,8	9,7	4,6	9,7	19,9	4,4

After the decision matrices are created using the formula $r_{ij} = \dfrac{a_{ij}}{\sqrt{\sum_{k=1}^{m} a_{kj}^2}}$ a normalized decision matrix is obtained and is shown in Table 4.

Table 4. Normalized Decision Matrices

2014																		
	L1	**L2**	**L3**	**L4**	**F1**	**F2**	**F3**	**F4**	**A1**	**A2**	**A3**	**A4**	**A5**	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Small	0,50	0,48	0,42	0,62	0,61	0,50	0,60	0,68	0,46	0,52	0,36	0,49	0,44	0,37	0,36	0,24	0,51	0,59	0,31
Medium	0,54	0,56	0,52	0,60	0,58	0,55	0,60	0,56	0,66	0,57	0,70	0,67	0,63	0,59	0,57	0,52	0,56	0,53	0,48
Large	0,66	0,67	0,73	0,48	0,52	0,66	0,51	0,46	0,58	0,63	0,60	0,55	0,63	0,70	0,73	0,81	0,64	0,60	0,81
2015																		
	L1	**L2**	**L3**	**L4**	**F1**	**F2**	**F3**	**F4**	**A1**	**A2**	**A3**	**A4**	**A5**	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Small	0,51	0,47	0,43	0,63	0,61	0,50	0,60	0,68	0,43	0,51	0,30	0,49	0,43	0,40	0,38	0,25	0,53	0,59	0,37
Medium	0,55	0,57	0,54	0,59	0,58	0,55	0,60	0,57	0,62	0,55	0,68	0,67	0,63	0,61	0,57	0,57	0,55	0,52	0,51
Large	0,65	0,66	0,71	0,50	0,52	0,66	0,51	0,44	0,64	0,65	0,66	0,54	0,64	0,67	0,71	0,77	0,64	0,60	0,76
2016																		
	L1	**L2**	**L3**	**L4**	**F1**	**F2**	**F3**	**F4**	**A1**	**A2**	**A3**	**A4**	**A5**	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Small	0,51	0,46	0,43	0,62	0,61	0,50	0,61	0,67	0,41	0,51	0,28	0,46	0,41	0,30	0,35	0,14	0,50	0,59	0,22
Medium	0,56	0,57	0,52	0,56	0,58	0,56	0,59	0,57	0,61	0,57	0,68	0,68	0,62	0,53	0,55	0,49	0,54	0,52	0,48
Large	0,64	0,67	0,73	0,53	0,53	0,65	0,52	0,45	0,66	0,64	0,67	0,56	0,65	0,79	0,75	0,85	0,66	0,61	0,84

The weighted standard decision matrix is obtained by multiplying the normalized values by weights ($V_{ij} = \omega_{ij} \times R_{ij}$) and is shown in Table 5.

Table 5. Weighted Standard Decision Matrices

2014																		
	L1	**L2**	**L3**	**L4**	**F1**	**F2**	**F3**	**F4**	**A1**	**A2**	**A3**	**A4**	**A5**	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Small	0,045	0,036	0,025	0,024	0,020	0,022	0,035	0,029	0,027	0,021	0,018	0,022	0,024	0,025	0,014	0,010	0,024	0,033	0,022
Medium	0,048	0,043	0,031	0,023	0,019	0,024	0,035	0,024	0,039	0,023	0,035	0,029	0,035	0,039	0,022	0,022	0,026	0,029	0,033
Large	0,058	0,051	0,043	0,019	0,017	0,029	0,030	0,019	0,034	0,026	0,030	0,024	0,035	0,047	0,029	0,034	0,030	0,033	0,057
2015																		
	L1	**L2**	**L3**	**L4**	**F1**	**F2**	**F3**	**F4**	**A1**	**A2**	**A3**	**A4**	**A5**	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Small	0,046	0,036	0,026	0,024	0,020	0,022	0,035	0,029	0,025	0,021	0,015	0,022	0,024	0,027	0,015	0,011	0,024	0,033	0,026
Medium	0,049	0,043	0,032	0,022	0,019	0,024	0,035	0,024	0,036	0,023	0,034	0,030	0,035	0,041	0,023	0,024	0,025	0,029	0,036
Large	0,058	0,051	0,042	0,019	0,017	0,029	0,030	0,019	0,038	0,027	0,032	0,024	0,035	0,045	0,028	0,033	0,030	0,033	0,053
2016																		
	L1	**L2**	**L3**	**L4**	**F1**	**F2**	**F3**	**F4**	**A1**	**A2**	**A3**	**A4**	**A5**	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Small	0,045	0,036	0,026	0,024	0,020	0,022	0,035	0,028	0,024	0,021	0,014	0,020	0,023	0,020	0,014	0,006	0,023	0,033	0,015
Medium	0,050	0,044	0,031	0,021	0,019	0,024	0,035	0,024	0,036	0,023	0,033	0,030	0,035	0,035	0,022	0,021	0,025	0,029	0,033
Large	0,057	0,051	0,043	0,020	0,017	0,028	0,030	0,019	0,039	0,026	0,033	0,025	0,036	0,052	0,029	0,036	0,031	0,034	0,058

Then ideal (A⁺) and negative ideal (A⁻) solutions were created. For the A⁺ set, the largest value in each column of the V matrix is chosen as the smallest value in each column of the V matrix for A⁻ set. The sets are shown in Table 6 for the purposes of the criteria.

Table 6. Ideal (A⁺) and Negative Ideal (A⁻) Solutions

2014																		
A*	0,058	0,051	0,043	0,019	0,017	0,029	0,030	0,019	0,039	0,026	0,035	0,029	0,035	0,047	0,029	0,034	0,030	0,033	0,057
A⁻	0,045	0,036	0,025	0,024	0,020	0,022	0,035	0,029	0,027	0,021	0,018	0,022	0,024	0,025	0,014	0,010	0,024	0,029	0,022
2015																		
A*	0,058	0,051	0,042	0,019	0,017	0,029	0,030	0,019	0,038	0,027	0,034	0,030	0,035	0,045	0,028	0,033	0,030	0,033	0,053
A⁻	0,046	0,036	0,026	0,024	0,020	0,022	0,035	0,029	0,025	0,021	0,015	0,022	0,024	0,027	0,015	0,011	0,024	0,029	0,026
2016																		
A*	0,057	0,051	0,043	0,020	0,017	0,028	0,030	0,019	0,039	0,026	0,033	0,030	0,036	0,052	0,029	0,036	0,031	0,034	0,058
A⁻	0,045	0,036	0,026	0,021	0,019	0,024	0,035	0,024	0,036	0,023	0,033	0,025	0,035	0,035	0,022	0,021	0,025	0,029	0,033

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Distances (Si^+) from the positive-ideal solution, the distances from the negative-ideal solution (Si^-), the performance scores and the rankings of the manufacturing sector firm scales by years are presented in Table 7.

Table 7. Performance Scores and Rankings of Scales by Years

2014				
Scale	**S***	**S‾**	**(C) Score**	**Ranking**
Small	0,064	0,003	0,052	3
Medium	0,035	0,036	1,045	2
Large	0,008	0,062	7,424	1
2015				
Scale	**S***	**S‾**	**(C) Score**	**Ranking**
Small	0,057	0,004	0,072	3
Medium	0,028	0,036	1,319	2
Large	0,006	0,056	9,318	1
2016				
Scale	**S***	**S‾**	**(C) Score**	**Ranking**
Small	0,076	0,039	0,553	3
Medium	0,040	0,012	0,805	2
Large	0,005	0,045	8,806	1

Findings indicate that large-scale firms show better financial performance compared to medium and small-scale firms during the related period. This situation is thought to be caused by scale economies.

Scale economies are defined as the decrease in average cost while the production capacity measured by unit output is increasing. In other words, they are reductions in unit costs resulting from the increased transaction scale. As a matter of fact, the larger the scale of a company's facility, the greater the bargaining power of the company in the international market, and therefore the firm is able to obtain the production factors it buys at lower prices (Gungor, 2017, p. 23). This situation also contributes positively to the profitability ratios. According to this, while medium and large scaled companies reached the highest performance values in 2015, it is seen that the small sized companies reached the highest performance value in 2016. This is thought to be the contribution of incentives and credit guarantee funds that the government has explained.

5. CONCLUSION

Businesses intend to increase their financial performance while maintaining their activities. The firm scale is also an important concept that needs to be investigated in financial performance measurement. The reason for this is that firm scale is related to the cost of the firm, profitability and the quality of the labor.

Companies are classified as large, medium and small enterprises according to their scale. These scales can provide some advantages to the firm. For example, small businesses can respond instantly to changes in consumer needs, while large businesses can benefit from scale economies. In this regard, businesses should pay attention to their financial structures and use their resources effectively while maintaining their activities. Increasing competition conditions are pushing companies. One of the industries holds an important place in Turkey's economy is

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the manufacturing sector. In this study, the financial performances of small, medium and large scale companies in the manufacturing sector were compared over the period 2014-2016.

In the study, liquidity, financial structure, activity and profitability ratios are used. Firstly, the weights of the ratios were determined by using the AHP method and then the performance scores of the scales were calculated and sorted by TOPSIS method. As a result of the analysis, it was determined that SMEs perform considerably poorly in terms of financial performance compared to large-scale firms even though they are in significant numbers. The most important problem of the small and medium-scaled firms in Turkey is the lack of sufficient working capital. This increases costs, making it difficult to fulfill obligations and to work at full capacity. Therefore, the findings consist with expected results. In this respect, SMEs' access to finance at low cost will be beneficial in terms of enabling them to sustain their activities.

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