Measuring The Performance of Fund Managers with The Multiple Criteria Decision Making Method

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Abstract

The performance of the funds has always been important for investors and has affected their investment preferences. Different factors such as managers' characters or performances has come to the fore in evaluation of funds' performance with the developments of behavioral finance field. For this reason, the relationship between managers' characters or performances and funds' performance has become the focus of researchers besides the effect of other outputs. For this purpose, it was aimed to measure the performances of fund managers who worked as stock fund managers in every year between 2008-2017. In addition, it was aimed to look for the answer to the question of are the success of managers continue by the years. In this context, the return of manager (%), Sharpe ratio, downside capture ratio and upside capture ratio were preferred as performance indicators of fund managers. The determined indicators were calculated with the help of the Finnet Analysis Expert program. TOPSIS method, which is one of the multi-criteria decision-making methods, was used to rank the performance of fund managers using these indicators. Calculations related to the TOPSIS method were made with Microsoft Excel. As a result, 15 fund managers, who were worked as manager between the relevant years consistently, were identified with the help of Finnet Analysis Expert program. An empirical finding was provided to the statement that no fund manager can show high performance for all years expressed theoretically in the literature. In a word, it was found that the success of the fund managers is mostly accidental.

Keywords: Fund Manager Performance, Sharpe Ratio, Downside Capture Ratio, Upside Capture Ratio.

1. INTRODUCTION

With the gaining importance of the studies in behavioral finance, it has started to draw the attention of the researchers whether the success or failure of the companies is influenced not only by the company outputs but also by the character of the company managers. The same situation applies to the evaluation of fund performances. It is not enough to evaluate only by looking at the outputs or characteristics related to funds. At the same time, managers' performances or characteristics should be taken into account (Graham *et al*., 2019; Andreu *et al.*, 2019).

In the literature, mostly variables such as the size of funds, age of funds, and fund fees were used to measure fund performances (Gottesman and Morey, 2006; Aggarwal and Boyson, 2016; Ferreira *et al*., 2018; Dyakov and Verbeek, 2019). However, the effects of the characteristics and demographics of fund managers on fund performances cannot be ignored. With the effect of

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behavioral finance gaining importance in recent years, studies which are in this direction have started to take place in the literature. Liu *et al*. (2019) mentioned the effects of the social networks of fund managers on the performance of the funds they manage and stated that there is a positive relationship between performance and social relations. Bai *et al.* (2019) found concrete evidence that the high self-confidence of fund managers will increase fund returns. They also stated that relatively older fund managers' performances are better because of the ages of fund managers constitute an element of trust on investors. At the same time, there are studies in the literature that performance is not differentiated by gender (Atkinson *et al*., 2003; Niessen-Ruenzi and Ruenzi, 2015; Aggarwal and Boyson, 2016; Alda *et al.,* 2017).

It also has been investigated whether portfolio densities affect or not the performance of managers (Alda *et al.,* 2017; Hung *et al*., 2020). Fund managers, who specialize in a single fund, can easily take more risks because they have more information about the fund, and therefore they gain high returns and increase their performance (Alda *et al.,* 2017)

In the study, it was aimed to evaluate fund manager performances. There are studies in the literature based on different asset classes and markets. In fact, most empirical studies focus on asset classes such as mutual funds, hedge funds, and real estate, and markets such as the UK and US (Chekenya and Sikomwe, 2020). Contrary to this, emerging market and stock fund managers were preferred in this study. In this context, Sharpe ratio, Upside Capture Ratio, Downside Capture Ratio and Return of Manager (%) were taken into consideration as performance indicators. Although there are many studies in the literature using the Sharpe ratio (Chuang *et al*., 2008; Nelson, 2009; Zakamouline and Koekebakker, 2009; Marlo and Stark, 2016; Niessen-Ruenzi and Ruenzi, 2019; Graham *et al*., 2019), upside or downside capture ratios (Nelson, 2009) were used in the few study. In this study, a more holistic evaluation was made by using all of these ratios together.

The performance of the fund managers was calculated with TOPSIS. TOPSIS ranks the decision units according to the criteria determined and helps researchers, investors or experts in deciding on the best alternative. Sharpe ratio, upside capture ratio, downside capture ratio and return of manager were determined as the criteria to be used in the TOPSIS method and these ratios were calculated with the help of the Finnet Analysis Expert program. As the decision units, managers who worked as the fund managers in every year between 2008 and 2017 were selected. In this way, performance evaluation was made based on fund managers. In addition, the answer to the question of " Does the success of the managers (fund managers) continue by years or are they successful by chance in some years which is one of the theoretical discussion subjects of behavioral finance (Osei, 2017), was found empirically and contributed to the literature.

The second part of the study includes a literature review; the third part is the methodology, and the last part is the result and evaluation.

2. LITERATURE REVIEW

The fund manager is the person who responsible for managing a fund's trading activities and implementing a fund's strategic asset allocation (Hung *et al*., 2020). In addition, another of its most important tasks is to protect the investors' wealth (Hung *et al*., 2020). For this reason, the performances of fund managers are important. There are several factors that affect the performance of managers such as demographic factors, personal characteristics, competition, social networks, portfolio densities, etc. Hoberg *et al*. (2018) stated that competition is a determinant of the managers' persistence of performance as it affects the future positions of existing funds. Also, testing the persistence of performance of fund managers is important for investors not only in terms of providing information about past performance but also in predicting future fund performance (Ferreira *et al*., 2018). Several studies in the literature are also divided into performance persistence positive and negative categories. While positive performance persistence means that managers who performed well in the past will have good performance in the future, negative persistence means that the manager who performed poorly in the past will

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have poor performance in the future (Hung *et al*., 2020). In addition to these, Ferreira *et al*. (2019) stated that testing the persistence of fund managers is also important in determining whether their managers have sufficient skills.

In addition, with the increasing popularity of behavioral finance, the effect of the social relations of fund managers on fund performances has become the focus of the attention of researchers (Liu *et al*., 2019). Through their social networks, fund managers influence each other's trading behavior and fund performance (Hong *et al*., 2004; Cohen *et al*., 2008; Bajo *et al*., 2016). Because social networks include people from business and working environments, their relationships with graduates, and their geographic regions, and all of these factors affect the investment behavior of managers (Pool *et al*., 2015; Shen *et al*., 2016; Gerritzen *et al.,* 2018; Liu *et al*., 2019). Liu *et al.* (2019) were found that the existence of social networks of fund managers had a positive and significant relationship on the sharing of fund information and the trading behavior of fund managers. On the contrary, Zhu (2016) stated that there is a negative relationship between social relationships and performances. Bai *et al.* (2019) indicated that the fund managers who are high self-confidence have high social relationship skills and more information related to funds. They emphasize that these features are the determinants of high fund return.

Wahal and Wang (2011) found that the performance of fund managers decreased as new investment funds entered the sector. Alda *et al.* (2017) also stated that fund managers perform better when they work on a single fund or mutual fund.

In terms of demographic factors; Niessen-Ruenzi and Ruenzi (2019) stated that if female fund managers perform poorly, investors associate the skills of managers with gender. Also, they found that there is a decrease in fund flows when man managers are replaced by female managers. At the same time, they were reported that mutual fund investors directed less money to funds controlled by female managers. In contrast, Atkinson *et al*. (2003) and Niessen-Ruenzi and Ruenzi (2015) did not find a significant difference between the performance of female and male fund managers in the management of mutual funds. Likewise, Aggarwal and Boyson (2016) stated that professional investors such as hedge fund managers do not show significant differences according to gender in terms of risk and performance. Alda *et al.* (2017) stated that the performances of the managers are affected by the level of expertise of the managers rather than the demographic features such as gender. Bai *et al*. (2019) found that relatively older mutual fund managers perform better. Similarly, Andreu *et al*. (2019) stated that experienced managers tend to achieve better performance when they maintain a stable risk level in the overall portfolio. They stated that the same situation was valid for the age of the managers. In other words, older managers perform better than younger managers at a stable risk level. Chuprinin and Sosyura (2018) found that mutual fund managers born in wealthy families performed worse. Gottesman and Morey (2006) found that between 2000 and 2003, there was a positive and significant relationship between the average GMAT scores of the MBA program which fund managers graduated and fund performances. In contrast, they could not find a relationship between the quality of undergraduate graduation (based on average SAT score) and fund performance. There were various studies in the literature on the term of tenure of managers (Graham, 2019). Porter and Trifts (2014) stated that the tenure of managers does not have a significant effect on performance.

Hung *et al*. (2020) have investigated how the skills of fund managers and portfolio density will affect fund performance in the long and short term and whether portfolio density will affect the continuity of fund performance. They found that the portfolio density is more closely related to the market selection abilities than the fund managers' stock collection capabilities.

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3. METHODOLOGY

3.1. Research Aim

In this study, it was aimed to measure the performances of 15 fund managers who worked as stock fund managers in every year between 2008-2017. In addition, it was aimed to look for the answer to the question of are the success of managers continue by years.

3.2. Research Method

Finnet Analysis Expert program was preferred in determining the fund managers to be evaluated within the context of the research. Finnet Analysis Expert is a financial analysis program that enables using and reporting the detailed data sets which are related to Turkey capital market instruments in the Excel. The program works as an extension on Excel. It uses all of the special 1200 functions that handle the huge dataset and includes various modules such as Stock Expert, Fund Expert, Bond Expert, Warrant Expert, Macro Expert. Also, it provides instruments to professionals with the help of rates customized according to sectors, markets or different investment instruments, and helps to create time series, organize data sets and perform analysis quickly (www.finnet.com.tr).

Using the Finnet Analysis Expert Program, the number of people who worked as stock fund managers between 2008 and 2017 was determined. It was found that 15 of them worked as fund managers uninterruptedly in the relevant period. It was observed that 4 of the related managers are women and the remaining 11 are men. In order to evaluate the performance of these managers, four different indicator values that are frequently preferred in the literature (Chitra, 2018; Arora and Raman, 2020) are used: the return of manager (%), Sharpe ratio, upside capture ratio and downside capture ratio. Finnet Analysis Expert Program was used to calculate these ratios. TOPSIS, one of the multi-criteria decision-making methods, was used to rank among the fund managers' performances and calculations were made with Microsoft Office Excel. In addition, the weights needed in step 3 related to the creation of the weighted normalized matrix of TOPSIS were calculated using the Entropy Weight Method.

3.2.1. Sharpe Ratio

The Sharpe ratio developed by Sharpe (1966) is a rate that use to measure investment performances and measures the relationship between the average of the excess returns and the standard deviation (Agudo and Sarto Marzal, 2004; Chuang *et al*., 2008; Auer and Schuhmacher, 2013). It can be considered as the first measurement tool that combines risk and return that are the two main characteristics of financial investment. Accordingly, Arora and Raman (2020) stated that the Sharpe ratio is a criterion used for calculating the risk-adjusted return. Unlike the Treynor and Jensen indexes, it can measure performance without the need to verify a previous model (Agudo and Sarto Marzal, 2004). However, Zakamouline and Koekebakker (2009) stated that it is meaningful to measure performance with Sharpe ratio when the risk can be measured sufficiently with standard deviation.

Sharpe ratio is calculated as follows;

$$Sharpe\ Ratio = \frac{\mathrm{R}p - R_r}{\sigma_r}$$

R_p: Return of portfolio

R_r: Risk-free return

σ_r: Standard deviation of portfolio's excess return

Graham *et al.* (2019) stated that funds with low management or other fees have more attractive Sharpe rates and higher returns. At the same time, it is recommended to investors that to prefer funds with higher Sharpe ratios as funds with high Sharpe ratios provide higher returns than others in the same risk environment (Auer and Schuhmacher, 2013). In contrast, Chuang *et al*.

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(2008) stated that the traditional Sharpe ratio does not adequately capture the downside risk and therefore may lead to serious prejudices in times of financial crisis.

3.2.2. Upsıde and Downsıde Capture Ratios

Upside and Downside Capture ratios are rates that determine whether a particular fund performs better when the market is strong or weak and, if a fund is performing better, helps to determine what rate it is (Cox and Golf, 2013). These rates provide investors with information on fund performances during periods when markets are high or low. Also, Marlo and Stark (2016) found a strong relationship between mutual fund flows and upside and downside capture ratios. Nelson (2009) conducted a survey study on whether capture ratios are used by professional investors and as a result, reported that capture rates are widely accepted and used.

The upside capture ratio is calculated by proportioning annual fund returns in high market period (Bull Runs) to benchmark returns.

$$Upside\ Capture\ Ratio = \frac{Fund\ returns\ during\ bull\ runs}{Benchmark\ retuns} x100$$

The downside capture ratio is a rate calculated by proportioning annual fund returns during the period when the market falls (Bear Runs) and benchmark returns. It is used in analyzing the performance of fund managers as in the rate of Upside Capture.

$$Downside\ Capture\ Ratio = \frac{Fund\ returns\ during\ bear\ runs}{Benchmark\ retuns} x100$$

3.2.3. TOPSIS Method

TOPSIS method was developed by Hwang and Yoon in 1981 as one of the multi-criteria decision-making methods (Ayaydın *et al*., 2018). TOPSIS is a method to determine the best alternative by sorting according to the criteria determined among the decision units. It is the most practical and useful method of ordering alternatives (Sharma and Sudhanshu, 2019). The TOPSIS method has also been used frequently to facilitate decision making in various sectors such as banking and health, as multi-criteria decision-making methods have attracted many years of interest (Dandage *et al.,* 2018). In other words, this method was preferred in this research because it is both a practical and useful method and a method that is frequently used in performance evaluation and decision-making processes.

In TOPSIS method, the aim is to calculate the relative proximity value to the ideal solution by using the two main characteristics, ideal distance and non-ideal distance values, and to determine the best decision unit according to this value. In this way, the alternative closest to the ideal solution is tried to be determined (Dumanoğlu and Ergül, 2010; Chitnis and Vaidya, 2016; Bilbao-Terol *et al*., 2019). This alternative should be the closest to the ideal solution and the most distant from the non-ideal solution (Lai *et al*., 1994; Sharma and Sudhanshu, 2019).

The steps of the TOPSIS method are as follows (Hwang and Yoon, 1981);

Step 1: Creating the Decision Matrix

In the first stage of the method, a decision matrix is created in such a way that the criteria are in columns, and the decision units are in lines according to the predetermined decision units and criteria.

$$K = [k_{11}\ \cdots\ k_{11}\ \vdots \ddots \vdots\ k_{11}\ \cdots\ k_{11}\,]$$

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Step 2: Creating the Normalized Decision Matrix

In the decision matrix, the criteria values corresponding to each decision unit are squared, and the column total is calculated for each. After the square roots of the column totals are taken, the normalization process is performed using the formula below and the N_{ij} matrix is obtained.

$$n_{ij} = \frac{k_{ij}}{\sqrt{\sum_{i=1}^{m} \quad {k_{ij}}^2}}$$

$$N = [n_{11} \cdots n_{11} \ \vdots \ddots \vdots \ n_{11} \cdots n_{11}\,]$$

Step 3: Creating the Weighted Normalized Matrix

The weighted (V) matrix is obtained by multiplying the n_{ij} values found after the normalization process and the w values.

$$V = [w_1 v_{11} \cdots w_n v_{11} \ \vdots \ddots \vdots \ w_1 v_{11} \cdots w_n v_{11}\,] = [v_{11} \cdots v_{11} \ \vdots \ddots \vdots \ v_{11} \cdots v_{11}\,]$$

(Note: $\sum_{i=1}^{n} \quad w_i = 1$)

Step 4: Calculation of Ideal Solution Value and Non-Ideal Solution Value

Ideal solution values are calculated by taking the maximum value of each column in the weighted normalized matrix. Likewise, the non-ideal solution values are also calculated by taking the minimum value of each column.

$I^+ = \{\max v_{ij}\}$

$I^- = \{\min v_{ij}\}$

Step 5: Calculation of Ideal Distance (S^+), Non-Ideal Distance (S^-) and Relative Proximity Value to Ideal Solution (C)*

After finding ideal and non-ideal solution values, ideal distance (S^+), non-ideal distance (S^-) and relative proximity to the ideal solution (C*) are calculated with the formulas given below.

$$S_i^{\ +} = \sqrt{\sum_{j=1}^{n} \quad \left(v_{ij} - v_j^{\ +}\right)^2} \quad S_i^{\ -} = \sqrt{\sum_{j=1}^{n} \quad \left(v_{ij} - v_j^{\ -}\right)^2} \quad C_i^{\ *} = \frac{S^-}{S^- + S^+}$$

3.2.4. The Entropy Weight Method

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The weighting process, which shows the importance levels of the criteria in multiple decision making methods, can be determined both subjective and objectively (Shemshadi *et al*., 2011). While the evaluations of the researcher are taken into account in subjective weighting, calculations are made using the quantitative data of alternatives in objective weighting (Bakır and Atalık, 2018). In this study, objective weighting was taken into consideration and the "Entropy Weighting Method" was chosen to calculate the importance weights of the criteria.

The entropy weight method is a method used in the application of multiple decision-making methods. The strength of this method allows the calculation of weight values independent of the subjective judgments and opinions of experts or researchers (Perçin and Sönmez, 2018; Bakır and Atalık, 2018). This method allows calculating the weight values objectively, that is, independent of the subjective judgments and thoughts of the researchers (Perçin and Sönmez, 2018; Bakır and Atalık, 2018). In addition, this method is used to measure the amount of information provided by the available data (Wu *et al*., 2011).

The stages of the entropy weight method were explained below (Wu *et al*., 2011; Li *et al*., 2011; Karami and Johansson, 2014):

Step 1: Creating Decision Matrix
The values of each decision unit regarding the relevant criteria are calculated and a decision matrix is created with these values.

$$X = [x_{11} \cdots x_{11} \vdots \ddots \vdots x_{11} \cdots x_{11}]$$

Step 2: Obtaining the Normalized Matrix
For the normalized matrix, first, the sum of each column in the decision matrix is calculated separately. Then, normalization is performed by dividing each value in the columns separately by its own column total. The formula for this process was shown in equation (8).

$$P = \frac{x_{ij}}{\sum_{i=1}^{m} x_{ij}}$$

Step 3: Finding Entropy Value Regarding Criteria
In this step, each normalized value (p_{ij}) is multiplied by its "ln" value. Then the total value of the columns is taken. The entropy coefficient (k) needed to calculate the entropy value is calculated by the formula given in Equation (9). The entropy value (E_j)) of the criteria is obtained by multiplying the -k value with the total value of the columns (Equation (10)).

$$k = \frac{1}{ln\,(n)}$$

$$E_j = -k * \left[\sum \quad p_{ij} ln p_{ij}\right]$$

Step 4: Calculating the Degree of Differentiation of Information
The degree of differentiation of information (d_j)) is calculated by subtracting the entropy values obtained in the previous step from 1 as shown in equation (11).

$$d_j = 1 - E_j$$

Step 5: Weights Regarding Criteria

Finally, as shown in equation (12), the $d_j$value of each criterion is divided by the total d_j value and the weights (W_j) of the criteria are calculated.

$$W_j = \frac{d_j}{\sum_{j=1}^{n} \quad d_j}$$

In addition, the sum of the weight values for the criteria is always equal to 1 (Çatı et al., 2017).

4. ANALYSIS

The performances of the fund managers are calculated separately for each year using the TOPSIS method. In this context, the performance calculations of the fund managers for 2008 were made in detail and the same processes were repeated in other years. Then, the performance rankings of the fund managers of all years were presented in a summary Table 2.

Firstly, the criteria and decision units to be used in the TOPSIS were determined and shown in Table 1.

		Descriptions	**Abbreviations**
Decision Units	Fund Manager 1 (Male)	People who were fund managers for ten years between 2008 and 2017.	FM_1 (M)
	Fund Manager 2 (Female)		FM_2 (F)
	Fund Manager 3 (Male)		FM_3 (M)
	Fund Manager 4 (Female)		FM_4 (F)
	Fund Manager 5 (Male)		FM_5 (M)
	Fund Manager 6 (Male)		FM_6 (M)
	Fund Manager 7 (Male)		FM_7 (M)
	Fund Manager 8 (Male)		FM_8 (M)
	Fund Manager 9 (Male)		FM_9 (M)
	Fund Manager 10 (Male)		FM_10 (M)
	Fund Manager 11 (Male)		FM_11 (M)
	Fund Manager 12 (Female)		FM_12 (F)
	Fund Manager 13 (Male)		FM_13 (M)
	Fund Manager 14 (Male)		FM_14 (M)
	Fund Manager 15 (Female)		FM_15 (F)
Criteria	Return of Manager		RM
	Sharpe Ratio	A risk-free return is subtracted from the return of the portfolio, and then the ratio is calculated by proportioning the result to the standard deviation of the excess return of the portfolio.	SR
	Upside Capture Ratio	It is calculated by proportioning annual fund returns in high market period (Pull Runs) to benchmark returns and multiplying 100.	UCR
	Downside Capture Ratio	It is calculated by proportioning annual fund returns during the period when the market falls (Bear Runs) and benchmark returns multiplying 100.	DCR

TABLE 1: Decision Units and Criteria.

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The performance calculations of the stock fund managers for 2008 were calculated using the TOPSIS method. First of all, after determining the research criteria and decision units, the decision matrix for the TOPSIS method was created. Then, normalization was performed by squaring each value in the decision matrix (Equation 1). In the 3rd step, the weighted normalized matrix was formed by multiplying the weight values of the criteria calculated by the entropy weighting method with the relevant values in the normalized matrix (Equation 2). In the 4th step, the ideal solution value and the non-ideal solution value were calculated according to the Equation 3 and 4. In the next step, the ideal distances (S^+) and non-ideal distances (S^-) for each decision unit using Equation 5 and 6 were calculated and shown Table 2. In the last step, using the Equation (7), the relative proximity value to the ideal solution (C*) was calculated and all of these values were shown in Table 2. Finally, the results were ranked from good to bad.

Fund Managers	S^+	S^-	C^*	Ranking
FM_1 (M)	0,3836	0,2905	0,4310	15
FM_2 (F)	0,2906	0,3780	0,5654	6
FM_3 (M)	0,2456	0,3487	0,5867	1
FM_4 (F)	0,2859	0,3794	0,5703	4
FM_5 (M)	0,2881	0,3653	0,5591	10
FM_6 (M)	0,2741	0,3351	0,5501	13
FM_7 (M)	0,2437	0,3136	0,5628	8
FM_8 (M)	0,2206	0,3096	0,5839	3
FM_9 (M)	0,2806	0,3613	0,5629	7
FM_10 (M)	0,2749	0,3315	0,5467	14
FM_11 (M)	0,2478	0,3138	0,5587	11
FM_12 (F)	0,2813	0,3502	0,5546	12
FM_13 (M)	0,2809	0,3663	0,5659	5
FM_14 (M)	0,2436	0,3427	0,5845	2
FM_15 (F)	0,2792	0,3555	0,5601	9

(**Note:** M = Male F= Female)

TABLE 2: Results and Rankings for 2008.

When the performance of the fund managers for 2008 was examined, it was that the number 3 fund manager is in the first rank. However, when it was examined the C* values, it is noteworthy that in 2008 there was not a big difference between the performances of all fund managers.

The calculations made for the performance of fund managers in 2008 were repeated in the same way in other years. The summary results were shown in Table 3.

Fund Managers	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
FM_1 (M)	15	1	1	15	1	1	1	1	1	15
FM_2 (F)	6	7	8	1	15	6	10	2	11	13
FM_3 (M)	1	4	3	13	6	13	3	8	3	2
FM_4 (F)	4	8	12	3	12	4	13	6	14	12
FM_5 (M)	10	11	15	2	13	8	15	7	15	14
FM_6 (M)	13	15	6	9	9	2	14	4	7	5
FM_7 (M)	8	6	7	14	4	10	6	13	8	7
FM_8 (M)	3	2	2	12	3	5	8	12	4	4
FM_9 (M)	7	12	11	4	10	15	5	10	5	3
FM_10 (M)	14	14	13	7	14	3	12	3	13	9
FM_11 (M)	11	5	4	11	2	7	2	5	2	1

FM_12 (F)	12	13	14	8	11	9	11	15	12	11
FM_13 (M)	5	9	10	6	7	12	7	11	9	8
FM_14 (M)	2	3	5	10	5	14	4	9	6	6
FM_15 (F)	9	10	9	5	8	11	9	14	10	10

(**Note:** M = Male F= Female)

TABLE 3: Performance Rankings of Fund Managers Between 2008-2017.

Table 3 shows the performance rankings of fund managers between 2008-2017. The performance rankings calculated with TOPSIS point attractive findings. In the ten years, although fund manager 1 ranked first in 7 years, he is in the last rank in the other three years. While fund manager 2 was in the first rank in 2011, she dropped to the last rank a year later. Similarly, the 2nd and 3rd fund managers were able to find themselves in the lower ranks before or after the successful year. These findings support the view that the success of fund managers, as frequently stated in the literature, is mostly accidental (Berk and van Binsbergen, 2015).

5. CONCLUSION

In this study, it was aimed to measure the performance of stock fund managers, who have been managing continuously between 2008-2017. In this context, the performances of 15 fund managers in related years that determined with the help of the Finnet Analysis Expert program were calculated with the TOPSIS method and the performance of managers was ranked.

According to the results of the analysis, it was found that Fund Manager 1 ranks first in seven years, but in the last rank in other years. There is a certain continuity for only this manager regarding the continuity of success. However, it is noteworthy that this manager is in the last rank in the remaining years. When other managers were examined, it was found that managers (such as Fund manager 8, Fund Manager 11 and Fund Manager 14) were in the top three for two consecutive years and then dropped to the last ranks in other years. Fund Manager 1 was put aside as an exception and when the performances of the managers were examined in general, it was seen that there was no continuity regarding their success, which means, they were in the top ranks in some years incidentally. This finding supports the opinion of the literature that the success of fund managers is accidental (Osei, 2017). Similarly, Clare (2017) also found that the high performance of managers who serving long-time deteriorated over time and there is little evidence that performance is persistent. In addition to these, Grinblatt (2020) found evidence of the persistent performance of only well-performing hedge fund managers. They stated that there is no persistence in the performance of fund managers other than this. Also, this finding is consistent with Warren Buffett's recommendation that individual investors who want to choose a fund company should choose those who demand the least commission (Osei, 2017).

In addition, when the gender of the managers included in the study was examined, it was seen that four managers were women and eleven managers were men. According to the general table with performance rankings for years, it can be said that male managers are in the top three more than female managers. However, this does not give us a chance to compare performance and gender. We can only say something about their place in the rankings. However, the relationship between gender and performance was examined in the literature and Andreu *et al*. (2019) found that male managers exhibit a statistically significant and positive performance, especially in the bear market. On contrary, Atkinson *et al.* (2003) and Niessen-Ruenzi and Ruenzi (2019) did not find a significant difference between the performance of female and male fund managers in the management of mutual funds.

The results that are shown by the TOPSIS method indicate a point that needs further investigation. Managers who make different choices from the market will either be stars or scapegoats. Therefore, for future research, determining and comparing fund preferences by the following researchers will also provide more useful information. Also, in case of the fund managers' premium gains are achieved, comparing the premiums earned by the managers who

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follow the herd with the premiums earned by the managers who became stars one year and ranked lower in the next year may provide significant findings for the fund managers to determine the right investment strategies in terms of their gains. In addition to these, the specific features of the fund that should reflect the management style of the manager / managers can be looked at further. The relative size of the funds, the underlying assets and focal points (asset class such as stocks, bonds, commodities or markets such as EU, US, developing) can be examined and specific connections can be discussed in line with these dimensions.

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