

Evaluation of financial performance using ISM and BWM¹

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Research Paper

Summary of the research

The quality of management basically depends on the quality of decision-making because the quality of plans and programs, the effectiveness and efficiency of strategies, and the quality of the results obtained from their application are all dependent on the quality of the decisions made by the manager. In most cases, decisions are desirable and satisfactory to the decision-maker when the decision-making process is based on several criteria. In the multi-criteria decision-making methods that have attracted the attention of researchers in recent decades, instead of using an optimality measurement criterion, several measurement criteria are used. One of these criteria, which was recently designed by an Iranian scientist from the Netherlands University of Technology, is the best-worst method, which has advantages. It is multi-criteria more than other methods and in this research, we first combined the criteria using interpretive structural modeling method and then put its output as the input of the best and worst model so that finally a model can be designed that can evaluate the performance of companies. Therefore, considering the topic of correct performance evaluation in the financial and investment fields, the question arises as to which of these criteria is the best. It can also be stated which are the best criteria that should be given more weight in performance evaluation. According to these contents and their importance, the present research is looking for a method to evaluate the performance using interpretative structural methods and also the best and worst in the companies admitted to the Tehran Stock Exchange.

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Research results

This research had one main hypothesis and six sub-hypotheses, all of which examined the ability of different financial ratios to evaluate the financial performance of companies admitted to the Tehran Stock Exchange. And in fact, this research was looking for two things. First, examining the information content of financial ratios, and secondly, whether the financial performance of listed companies can be evaluated and ranked with the information available in the financial statements.

The results of the research hypotheses are as follows:

First, based on the analysis of the opinions of experts and using the structural-interpretive method, criteria and their relationship with each other were examined in the form of a self-interaction matrix. In fact, the impact of each measure on other criteria was determined. Then, using the best-worst method, the criteria were categorized and weighted using the Lingo software, and based on this, the criteria of the profitability category with a weight of 0.436 won the first rank. Consolidation and liquidity have won the second and third positions with weights of 0.177 and 0.141, respectively. And at the end, it is economical and risk-based at the rate of 0.1 and 0.045.

And among the 49 financial ratios, EPS of each share with 0.0829 is the largest and most important criterion for evaluating performance and the worst criterion is current debt to total debt with a ratio of 0.0029.

Finally, using Ara's technique and ideal ratios for each ratio, the ranking was done and 104 companies were analyzed using 49 financial ratios.

Based on this, Amlah Mining Company of Iran was placed at the top of this ranking, and Aluminum Rolling Company was placed at the lowest level.

In fact, the results show that all research hypotheses have been confirmed, but their degree of importance has been classified and based on the worst and best and structural-interpretive methods, this evaluation can be and was finally done.

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In fact, the results show that the entire main hypothesis, as well as six sub-hypotheses of the research, were confirmed and the methods of the methods in question had the necessary ability to evaluate the performance. And the importance of each criterion was different. Which is given above.

Keyword: Performance Evaluation, Financial Ratios, Best Worst Method, Tehran Stock Exchange.

JEL Classification: C39, G24

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