

Company Sustainability Model Based on Financial Efficiency: Combination Technique DEMATEL-FANP¹

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INTRODUCTION

In today's world, due to the ever-increasing expansion of business units as well as the industrialization of these units, many problems have arisen for the environment and society, which are caused by the business consequences of these business units to earn profit. The sustainability of the company based on financial efficiency means maximizing the value of the company with the highest growth rate. Therefore, the aim of the present research is the company's sustainability model based on the financial efficiency model based on the combined technique of Dematel and Fuzzy ANP.

MATERIALS AND METHODS

In line with the aim of the research, the data of 91 companies admitted to the Tehran Stock Exchange during the period of 1390 to 1397 were collected, and the variables and indicators were analyzed using Dematel and Fuzzy ANP techniques. This research is descriptive and correlational in terms of practical purpose and in terms of data collection.

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The present research was carried out quantitatively and used two methods for data analysis, including the DIMTEL technique and fuzzy NP. The fuzzy NP method is also one of the multi-indicator decision-making methods related to the fuzzy environment. In this method, using the super matrix technique, the NP-fuzzy method is performed. The weights of the criteria can be obtained from methods such as Chang's method or the improved method. Then, using the ANP super matrix technique, calculate the final weight. The steps of the fuzzy NP method are done as follows.

Step 1) Building the model and structuring the model

Step 2) Pairwise comparisons of priority vectors

Step 3) Formation of super matrix

Step 4) Choosing the best option

The statistical population is all the companies admitted to the Tehran Stock Exchange between 2010 and 2017, of which 91 companies were selected as a statistical sample by systematic elimination method. In order to give weight to the secondary indicators and variables, Dematel's technique has been used. In order to enter the variables into the software, each company is considered as an expert and the data of 91 companies were entered into the software separately. Therefore, the analysis is based on the data entered for each company. After weighting the variables and secondary indicators, prioritization of these indicators and variables was done by the fuzzy NP technique to provide an index evaluation system to optimize the financial efficiency from the perspective of the company's sustainability. The DEMATEL technique was performed by BT DEMATEL Solver software and the fuzzy NP technique was performed by Super Decisions software.

RESULTS AND DISCUSSION

The findings of the research show that among the variables, asset management, and efficiency, and among the secondary indicators, operating cycle, accounts receivable cycle, and operating profit ratio, have the highest importance in evaluating financial efficiency and optimization from the perspective of company sustainability. . In a general summary, the results of the weighting and ranking of secondary indicators and identified variables are as described in the picture (4).

Also, according to the obtained results, the final model is based on Figure (3).

Picture 4. The final results of Dematel and Fuzzy ANP techniques

variables	Secondary index of
Profit per share (0.0414)	Profitability (0.140)
	Dividend paid per share (0.0406)
	Price to profit ratio (0.0478)
	Net assets per share (0.0731)
Performance (0.278)	Profit margin ratio (0.0379)
	Goods turnover (0.0556)
	operating profit ratio (0.0818)
debt management (0.164)	Asset to debt ratio (0.0106)
	debt to equity ratio (0.0137)
	The ratio of net fixed assets to debt (0.0257)
	Interest rate coverage ratio (0.0265)
Accounts receivable cycle (0.168)	Inventory turnover ratio (0.0626)
	asset management (0.418)
	operating cycle (0.314)

CONCLUSION

The results of the combined technique of Dematel and Fuzzy ANP show that to evaluate the financial efficiency and optimize it from the perspective of the company's sustainability, the most important factor is asset management. According to the results obtained from the research, it is suggested that companies should fully implement asset management in their company, considering that the most important factor is asset management to evaluate financial efficiency and optimize it from the perspective of company sustainability. The implementation of asset management is done in various ways.

These methods include 1) asset monitoring in real time, 2) asset management in the form of cloud technology, 3) obtaining details and accurate information, 4) detecting false assets, 5) performing operational activities with greater efficiency, 6) Forecasting the cost and budget of the company and finally, 7) recognizing the trends in the business. Therefore, organizations should consider these seven items to improve asset management in their organization. Due to the fact that efficiency is very important from the point of view of the company's sustainability, in order to increase the efficiency of the company, all

available resources should be used optimally and waste of resources should be avoided. Companies can increase the efficiency of their company through internal efficiency and allocation efficiency, which helps to improve the sustainability of the company the application of sustainability causes the theoretical expansion of sustainability concepts in the company based on financial efficiency.

Keywords: Company Stability, Financial Efficiency, Stability Pattern, Dematel, FANP.

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