# Identification of Effective Factors on Accountants Motivation and Prioritization of Them By Using Fuzzy TOPSIS

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## ABSTRACT

*In the global market, modern organizations are faced with high levels of competition. In the wake of increasing competition in the global market, the survival of many companies that depend on human resources. Performance like abilities, knowledge, skills and other abilities plays an important role in the success of the organization. Hence the human resources management system in any organization due to the continuous changes in the environment cannot be a static phenomenon. Subject of motivation of human resources issues that require special attention in the management of organizations. The aim of this study was to identify and rank the factors affecting the motivation of accountants with the first technique (FTOPSIS). in this study was used Herzberg's two-factor theory. The number of factors identified in this study is its 29 that 15 of health agents and 14 were other factors of motivating factors. The results showed that the most important health factors affecting the motivation of accountants was respected and appreciated by management and supervision, the system of payment of salary and fringe benefits and job security. Finally 3 of factors" respect and appreciation from the management and supervision", "pay the salary and fringe benefits" and "compatibility with educational background and skills working jobs" are the highest priority at the motivation of accountants.*

## 1. Introduction

Motivation was the basic concepts and issues in human capital management and many writings about the motivation of the scientists mentioned that they both theoretical as well as experimental, motivational techniques used by managers to improve performance, has been discussed. Motivation from the perspective of management science today is the most important field of work in organizations and, ultimately, productivity. Theorists know effective management of human resources as the key to organizational and they are very fast-moving organizations toward technology role of human as a vital and strategic organization is more and more considered. Thus, satisfaction and motivation and they are more interested in the job tenure and therefore it is important to meet the organization's objectives. One of the most important management tasks in organizations, identify talented potential employees and providing opportunities for promoting productivity growth and prosperity of those who provide. . Studies show an increase in labor productivity linked incentive. The performance is a function of ability and motivation. . Today, not without considering productivity, and without the knowledge of the factors affecting the increase, towards sustainable development. Since man has a key role in development and development

is done by human, psychological and spiritual needs of the people is very important. So one of the important duties of the manager is motivation of people, people with multiple needs to achieve organizational goals. In a general classification of motives into three groups (physical, social and psychological) is placed. As part of the humanitarian needs in the workplace, such as workplace facilities (the perfect place to work, air, light, etc.) refers to the physical incentives. The category of the needs of people relate to the behavior of others, especially the management and eliminates many social needs say social motivations and those that satisfy spiritual needs of people with it, is the psychological motivations.

The nature of the accounting profession is such that a set of tasks to be done routinely and regularly. . Due to the nature of the accounting profession is that by repeating a series of tasks, aspects of mental and specific motivational aspects are of great importance. Given the importance of motivational and psychological factors among accountants, the aim of this research is to identify and prioritize the factors that affect motivation accountants, with knowledge and manage it accountants have been in a good condition mentally and motivation.

**background research**

Bahadorie and others (2012) in a study titled "prioritize factors affecting job motivation a military base in the Analytic Hierarchy Process (AHP)", to investigate the factors affecting job motivation of employees have a military center. The sample size in this study was 135 and has been used Herzberg's two-factor theory in the questionnaire. The results show that components of job security and decent salary are in the first and second and components of the communication and policy and environment are the priorities.

Ahad Motlaghi and Shafeei (2014) in a study entitled "Understanding the factors that influence employee motivation Oil Products Distribution Company in the headquarters in Tehran" to review the factors influencing employee motivation. The population consisted of all personnel of the National Oil Products Distribution in every job category. The number of samples with limited sample size formula and simple random sampling were estimated 100 people. Statistical analysis showed that the study's assumptions base on significant and positive relationship with spiritual, material and organizational factors accepted and the factors of moral, material and organization has the greatest impact on increasing staff motivate  The results on the material showed that job security, amenities and privileges to have the greatest impact on increasing the motivation of employees.

Asghari Aghdam and Mahjob (2014) in a study entitled "The success of the superego and its impact on the motivation and performance of the National Iranian Gas Company workers" to check the success of the superego and its impact on the motivation and performance of employees in order to increase motivation and improve the functioning of National Iranian Gas Company they paid. In this work, the success of the superego as the independent variable and the dependent variable was introduced as a motivation and performance. The population of 150 staff of National Iranian Gas Company by Cochran and through random sampling, 110 samples were selected. To achieve validity, content validity and construct validity and reliability using The obtained using Cronbach's alpha coefficient0/941, which was confirmed. . Also in this study to test hypotheses of linear regression and Spearman correlation coefficient and structural equations model was used to determine the fitness of variables. The results show that the success of the superego by a factor of 0/885 on the motivation and performance of National Iranian Gas Company employees have a positive impact.

Syd amery (2015) in a study entitled "Explaining the process of motivation (motivators) and its relation to ethical behavior in sport and youth workers of West Azarbaijan province" to investigate the relationship between motivation process (motivators) and ethical behavior in sport and offices West Azarbaijan province's youth. The results showed that between triggers and ethical behavior of employees there is a significant and negative relationship. Therefore, the more factors to stimulate certain behavior in a person grows, so does the priority of these fits your needs falters and less adherence to ethical behavior from their shows.

Zamecnic (2014) in an article entitled "Measuring employee motivation by using statistical analysis Multi-Agent" by

which he was released were examined staff motivation and training issues. The main motivations identified in this study, as independent work, at rest, interpersonal relations in the workplace, a high degree of personal responsibility and good working environment.

Jurgita & leva(2014) In his article analyzes the factors affecting the motivation of human resources in the public sector. Their aim is to analyze the factors affecting the motivation of human resources in the public sector in order to strengthen the effectiveness of tasks and procedures. In this study, several aspects including analysis of theoretical basis, systematic and comparative analysis, qualitative and mixed methods research and analysis documents have been used.

## Research questions
The research questions include the following:
**The key questions**:
1 based on theoretical research, what are the factors influencing motivation of accountants?
**Sub questions:**
1. What are the factors affecting on motivation of accountants from health factors?
2. What is the prioritize the factors affecting on motivation of accountants from motivated and health factors?

## Research Methodology
Choose appropriate research methods depends on target and the nature and subject of research and administrative facilities (Khaki,2005). This research is descriptive research from method in the branches and sub-fields are case study. Descriptive research includes methods that aim to describe a situation or phenomenon of interest.

Descriptive studies can be run only for a better understanding of the situation or to help the decision making process. descriptive research divided 6 subcategories of survey, solidarity, action research, case studies, Causal, comparative(Sarmad,1997).

The purpose of this research is applied research. Applied Research are research's that theory, the rules, principles and techniques that are developed in basic research to solve real problems and to apply executive.( Gay,1992)

## Methods and tools for data collection
To collect data in this research used the library and field methods. The authors of the theoretical foundations of the library and through the study of books, scientific journals and scientific databases on the Internet is used. Statistics data of this study, using field collected through questionnaires distributed among them.

In summary, in this study the following two methods and tools used for data collection:
1-library: literature and theoretical foundations of reading books in English and Farsi issues and issues related to motivation and extraction of articles can be obtained.
- Questionnaires: to collect data in this research is questionnaire. The purpose of this questionnaire is to determine the priority factors influencing the motivation accountants.

## Community and sample
In this study worker city of Yazd are working in government agencies, as the population are considered. The statistical sample of the population is selected and to

calculate the sample size of the sample used Cochran formula.

**Methods and tools to analyze the data**

At the beginning of this study is to examine the theoretical foundations of the employee motivation. After reviewing the literature, factors affecting the motivation of accountants in the organization are identified. After identifying the factors influencing the motivation, the survey questionnaire is designed based on these factors. The questionnaire must be filled by a sample of accounting and the results is analysis by the fuzzy technique (FTOPSIS). Finally, the results of data analysis with the fuzzy technique shows the priority factors influencing the motivation accountants.

**Descriptive statistics**

Demographic information of respondents.

In order to better understand the nature of society in research, studies and learn more about the variables, the analysis of statistical data, it is necessary to describe this data. As well as data describing a step in the direction of the pattern recognition and the basis for explaining the relationship between the variables that are used in research. In this section, demographic characteristics of respondents described using descriptive statistics.

**Gender of respondents**

As the charts below is the most responsive accountability in this study were male. The results show that in a sample of 27 of them was men means90% of the total sample and women of 3 people, 10% of the total sample.

Table 1. Distribution of respondents according to their gender

| Gender | Distribution | Percentage |
|--------|--------------|------------|
| men | 27 | 90 |
| women | 3 | 10 |
| Total | 30 | 100 |

**Age of respondents**

As the data show that 30 percent of respondents in this study are in 46 to 50 years. The lowest prevalence of people aged more than 51 years that only 4% of the total sample included.

Table 2. Distribution of respondents according to their age

| Percentage | Distribution | age |
|------------|--------------|-----|
| 10 | 3 | 25-30 year |
| 20 | 6 | 30-35 year |
| 16 | 5 | 35-40 year |
| 20 | 6 | 40-45 year |
| 30 | 9 | 45-50 year |
| 4 | 1 | 50-55 year |
| 100 | 30 | Total |

**work experience of respondents**

As the information provided shows that the highest frequency of between 11 and 20 years of experience. The lowest frequencies of between 31 and 35 work experience that only 6% of the total sample included.

Table 3: Distribution of respondents according to work experience

| Percentage | work experience | work experience |
|------------|-----------------|-----------------|
| 16 | 5 | 5-11 year |
| 24 | 7 | 11-15 year |
| 24 | 7 | 16-20 year |
| 16 | 5 | 21-25 year |
| 14 | 4 | 26-30 year |
| 6 | 2 | 31-35 year |
| 100 | 30 | Total |

Statistics Analysis

Prioritization of factors with the fuzzy technique (TOPSIS)

In this step of research, the factors affecting the motivation accountants are prioritized. Priority factors to be carried out 3 as follows.

1) prioritize health factors affecting on motivation Accountants

A) a decision tree

At this stage, decision tree is the framework in the first technique used to prioritize, to be traced. The decision tree This research is presented in the figure below.

B) Summary of responses and decision matrix

In this field of research, the results of the questionnaire responses will be summarized and then a decision matrix that is considered input TOPSIS technique, caused. Decision matrix, the matrix is composed of decision criteria and options. In this study, the option of decision, factors influencing the motivation and decision making are accountability. The decision matrix is presented in the table below. The decision matrix for triangular fuzzy numbers fall.

| Respondent 30 | | | Respondent 29 | | | ... | Respondent 3 | | | Respondent 2 | | | Respondent 1 | | | Criteria / Options |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | ... | 0.7 | 0.8 | 0.9 | 0.7 | 0.8 | 0.9 | 0.8 | 0.95 | 1 | 1 |
| 0.5 | 0.65 | 0.8 | 0.7 | 0.8 | 0.9 | ... | 0.7 | 0.8 | 0.9 | 0.7 | 0.8 | 0.9 | 0.7 | 0.8 | 0.9 | 2 |
| 0.4 | 0.5 | 0.6 | 0.8 | 0.95 | 1 | ... | 0.4 | 0.5 | 0.6 | 0.5 | 0.65 | 0.8 | 0.5 | 0.65 | 0.8 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 0.7 | 0.8 | 0.9 | 0.8 | 0.95 | 1 | ... | 0.7 | 0.8 | 0.9 | 0.8 | 0.95 | 1 | 0.7 | 0.8 | 0.9 | 27 |
| 0.4 | 0.5 | 0.6 | 0.8 | 0.95 | 1 | ... | 0.8 | 0.95 | 1 | 0.8 | 0.95 | 1 | 0.8 | 0.95 | 1 | 28 |
| 0.4 | 0.5 | 0.6 | 0.8 | 0.95 | 1 | ... | 0.8 | 0.95 | 1 | 0.8 | 0.95 | 1 | 0.7 | 0.8 | 0.9 | 29 |

C) the calculation of fuzzy techniques TOPSIS and prioritize options

In this step-by-step techniques based on fuzzy TOPSIS, the options are prioritized. TOPSIS fuzzy calculation results are presented in the following breakdown.

**1) Prioritize health factors affecting motivation Accountants**

In this section the results of prioritizing health factors are provided in the questionnaire. the number of agents are 15 that can be seen in the table below

Table 4: Prioritize health factors affecting motivation Accountants

| Rank | CCi | D- | D+ | Factor | Row |
|---|---|---|---|---|---|
| 1 | 0.787 | 0.929 | 0.251 | Respect and appreciation from the management and supervisors | 1 |
| 2 | 0.786 | 0.960 | 0.261 | Pay wages and benefits | 2 |
| 3 | 0.718 | 0.725 | 0.285 | Job security | 3 |
| 5 | 0.713 | 0.921 | 0.371 | Culture and values of the organization | 4 |
| 6 | 0.694 | 0.793 | 0.350 | Work environment | 5 |
| 10 | 0.674 | 0.411 | 0.199 | Relations between staff | 6 |
| 8 | 0.675 | 0.804 | 0.387 | Reward and punishment | 7 |
| 15 | 0.261 | 0.162 | 0.459 | Sports and recreational facilities | 8 |
| 14 | 0.522 | 0.360 | 0.330 | Equality and equity between staff | 9 |
| 9 | 0.675 | 0.760 | 0.366 | Participatory Management | 10 |
| 11 | 0.673 | 0.656 | 0.318 | Policy of Organization | 11 |
| 4 | 0.713 | 0.958 | 0.386 | The prestige of organization | 12 |
| 12 | 0.659 | 0.425 | 0.220 | organizational structure | 13 |
| 7 | 0.679 | 0.692 | 0.328 | According to the organization's performance | 14 |
| 12 | 0.659 | 0.353 | 0.183 | The quality of relationships with supervisors | 15 |

Analysis of the results of the analysis of data

**A) health factors**

Based on the results of data analysis with the first technique, the health factors 5 factors that accountants are in the motivation of the other factors are more important, is provided in the table below.

Table 7: Most important health factors affecting the motivation of Accountants

| CCi | Factor | Row |
|---|---|---|
| 0.787 | Respect and appreciation from the management and supervisors | 1 |
| 0.786 | Pay wages and benefits | 2 |
| 0.718 | Job security | 3 |
| 0.713 | The prestige of organization | 4 |
| 0.713 | Culture and values of the organization | 5 |

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