

Prioritization of Factors Influencing Job Motivation in Employees of a Military Center Using Analytical Hierarchy Process (AHP)

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Abstract

Aims: The aim of this study was to identify factors affecting job motivation and the prioritization of them using Analytical Hierarchy Process (AHP).

Methods: This study was a cross-sectional descriptive study done in 2012 in a military center. The sample size consisted of 115 participants. Data collection instruments included two questionnaires designed based on Herzberg motivation theory. Analytical Hierarchy Process Model (AHP) was used in order to prioritize the identified factors.

Result: The results showed that among factors affecting job satisfaction, 'job security' and 'proportional salary' stood first and second with an importance coefficients of 0.29 and 0.20 respectively, and the 'organization's policy' and 'social relations with colleagues' stood last with an importance coefficient of 0.02.

Conclusion: By ensuring personnel's job security and considering their living and financial conditions as well as making their salary correspond with their responsibility, an organization can provide a secure platform for achieving its pursued goals by improving its personnel's efficacy.

Keyword: Job Motivation, Military Center, Analytical Hierarchy Process (AHP)

Introduction

The literal meaning of the word 'motivation' is dynamism and movement. From the organizational point of view, however, motivation is an internal force that can shape movements and help pursuing an organization's goals. In any organization, the resources are divided into two categories; the human resources and the physical resources. However, since the physical resources are used by the human resources, making the best use of these physical resources seems impossible without having motivated human resources. In today's modern world, human resources constitute the major part of an organization's investments and have an effective role in achieving that organization's objectives [1]. In order to achieve the specified objectives, one needs to identify the motivating factors in human beings. Something that is evident is that due to individual differences, people's motives are different from each other. Therefore, in order to identify one's motivating factors, it is necessary to identify his or her individual characteristics first. The management in any organization needs to know that motivated personnel can be very influential in the organization's survival, dynamism, and its pursuit of policies and strategies [2]. Managers who care about humanistic values and pursue their personnel's job satisfaction as one of their organizational goals believe that, it is possible to improve the organizations' efficacy by improving their employees' motivation [3]. Due to an organization's unique conditions, the job satisfaction factors in that organization will differ from other organizations. In military organizations, human resources are one of the most critical resources and need utmost attention because a thoughtful employee can use his/her creativity, innovation, commitment, and faith to have a tremendous effect on the efficacy of the organization. Though most employees' capabilities are

similar, some of them have better efficacy in an organization, which is the reason why there exist different levels of job satisfaction [4].

Job motivation is one of the most influential variables in an organization's success or failure. If it is neglected, it can result in a waste of resources. Studies show that 20% effort and 80% motivation on the part of employees is the key to success in any organization. That's why dealing with unmotivated and irresponsible personnel has been managers' biggest challenge [5].

Considering the fact that the military forces in any country are responsible for protecting the independence and security of that country, having a powerful government would be impossible without having powerful military forces. As such, the right use of such human resources takes a more important role. If the forces are not motivated enough to do the assigned missions, achieving organizational objectives will be impossible. Therefore, improving their motivation level needs more profound research on the definition of motivation and its effect on military forces, though the previous studies in Iran have shown that the motivational factors are different in different contexts [6]. In the case of armed forces, due to differences in their work place conditions, doing more thorough analyses seems necessary. The obtained results, could help commanders and authorities in policy making and designing the needed motivation system for their organization.

Regarding the variables affecting individual's level of motivation and job satisfaction, there are a number of theories which fall into two categories: the *content theories* which talk about how of motivating and improving job satisfaction (such as the theories proposed by *Mazlow* and *Herzberg*), and *process theories* which talk about its

processes (including theories proposed by *Adams* and *Victor Verroom*) [7]. The most common and used theory in the case of job satisfaction is that of *Herzberg*. *Herzberg* believes that job motivation is affected by both internal (those responsible for creating motivation) and external (those responsible for keeping motivation alive) factors whose study can help identify the most important factors in job satisfaction [8]. Since there were a number of theories and definitions for motivation in the literature, the researchers had to choose those which match with the context and the population of the study. In the present study, *Herzberg's* theory was used because it had appropriate classifications of job factors and individual characteristics.

People have different motives with different prioritization for what they do [9]. The job motivation of people in the same organization may not be the same. Among the variables affecting job motivation, one can name employees' salary, workplace atmosphere, job security, interest in job, social relations at workplace, the nature of the job to be done, and appreciation [10-12]. It is not possible to separate job motivation from other spiritual, social, and physical needs which need to be met. People will not continue doing anything if they do not feel motivated for. Therefore, to achieve its goals, any organization needs motivated human resources, and if an organization's staff members are not motivated enough, they will lower the efficacy of that institute [13].

The literature indicates that motivated employees have both higher mental and physical strength, and from an organizational point of view, an organization is successful only if it can cause a high job satisfaction level for its staff so that it can recruit and keep good staff [14].

Studies examining the relationship between employees' job motivation and their job

efficacy indicate that low motivation can result in lower job efficacy [15]. This factor may also cause absence in workplace and a decrease in the quality and the quantity of the job to be done [16]. The previous studies indicate that long working hours, low salary, lack of job security, lack of job independence, and inadequate resources are among the factors resulting in disappointment and low motivation on the part of an organization's human resources [17, 18].

In order to improve the personnel's job efficacy and job satisfaction, one needs to identify the influential factors in creating job motivation [19]. This can result in higher efficacy, achieving the organization's objectives, and a more energetic workplace atmosphere. Having a dynamic and healthy organization is only possible when you have a mentally and physically healthy employees [20]. The human resources are the most important organizational tools [21] which need special attention in order to be kept motivated [22].

Considering the significance of this subject, the present study was carried out in a military center with the aim of identifying the influential factors in job motivation and prioritizing them according to AHP model based on *Herzberg's* theory of motivation. The obtained results will be used to have a better planning and to improve the personnel's job satisfaction and capabilities in order to achieve the institutional goals.

Methods

The present study is a cross-sectional study which was carried out in a military center in 2010 for descriptive-analytical purposes. The sample of the study consisted of 115 participants. The questionnaire used was based on *Herzberg's* two-variable theory according to which there are two groups of variables affecting job motivation. One group

of variables includes those that prevent from dissatisfaction but do not necessarily cause satisfaction. These variables are called *Maintenance* variables and include salary, organization's policy, personal relations with colleagues, job security, and supervision. The second group of variables includes those that cause satisfaction. The lack of these variables seldom results in dissatisfaction. We call this group the *Stimulating* variables which can include job essence, job appreciation, success, responsibility, and promotion [8]. The questionnaire items and subscales were checked with experts and then piloted. No subscale or item was added or deleted. Then, the second questionnaire was designed for the prioritization of the factors in the first questionnaire based on AHP. The first section of the questionnaire checked respondents' biographical information. The second section including 55 items checked 11 factors in Herzberg's theory in the form of paired comparison between each two factors and the preference of one over the other. The preference of each factor over the other was specified by choosing a number: 1 (of the same importance), 3 (slightly more important), 5 (more important), 7 (quite more important), and 9 (absolutely more important). (Table 1)

Table 1. Prioritization Scale in AHP

Importance level in 2 by 2 Comparison	Frequency
Of the same importance	1
Slightly more importance	3
More importance	5
Quite more importance	7
Absolutely more important	9

Before data collection, each participant's consent was obtained and he was briefed about the questionnaire he was to complete. Out of the 115 participants in the sample who were all male, 15 did not return the questionnaire. As a result, only 100

participants' data were used in the data analysis using SPSS 18 and Expert Choice 11. The AHP used is one of the procedures used in decision making. In this process, first a model is designed for decision making, and then different options are contrasted based on the decision making variables and the priorities are specified accordingly. As such, the first step is to design a decision making hierarchical tree which consists of 3 levels: the first level represents the decision makers' goals, and the third level represents the competing options. The final objective of this process is the prioritization of these options in the form of numerical weightings. The middle level in a tree, which is the most important level, represents the criteria based on which the competing options are compared with each other. This is called hierarchical because the process starts with an organization's goals and strategies on the top and after identification of the comparison criteria, it reaches down to the competing options [23, 24]. Since in AHP the competing options are contrasted two by two, the participants were asked to compare each factor against the other factors and specify its significance by assigning a number to that. For example, if 'job satisfaction' was absolutely more important than 'proportional salary,' they were asked to choose 9. Finally, the validity of the questionnaire was checked and confirmed by 5 experts, and the reliability of that was observed to be high (Cronbach $\alpha = 0.81$).

Results

The results showed that the mean score for each factor was higher than 75% of the highest possible score. In other words, all experts agreed with the suggested factors affecting job motivation, and no new factor was suggested ($p = 0.0001$; see Table 2).

Table 2. Expert's Opinion about Affective Factors in Job Motivation

Variables in Job Motivation	Agreement					Mead	S.D	P-Value	Final result
	Completely agree	Agree	No idea	Disagree	Completely disagree				
1 Policy	13	11	4	0	2	4.17	0.91	0.018	significant
2 Communication	18	11	1	0	0	4.57	0.56	0.0001	significant
3 Salary	17	11	2	0	0	4.50	0.63	0.0001	significant
4 Job security	18	10	1	0	1	4.50	0.73	0.0001	significant
5 Condition	16	14	0	0	0	4.53	0.50	0.0001	significant
6 Supervision	16	9	4	0	1	4.33	0.84	0.001	significant
7 Appreciation	21	7	2	0	0	4.63	0.61	0.0001	significant
8 Promotion	24	6	0	0	0	4.47	0.81	0.0001	significant
9 Job nature	15	13	2	0	0	4.43	0.62	0.0001	significant
10 Responsibility	13	13	4	0	0	4.30	0.7	0.0001	significant
11 Job Position	19	10	1	0	0	4.60	0.56	0.0001	significant

The mean age of the participants was 37 with the highest frequency (43 participants) in the age group of 31-40. Regarding participants' work experience, the highest frequency (30 participants) was in the group with 11-20 years of experience. In the case of marital status, 88 were married while 12 were single. 73 participants were officially employed. The highest frequency in education belonged to BA/BSc with 57. The participants had studied different majors such as Accounting, Food Industry, Nutritional sciences, Veterinary, and Management, with Management having the highest frequency (30 participants). For more details see Table 3.

Table 3) Participants Demographical Information

Characteristic	Variable	Frequency	Percentage
Age	<30	20	20
	30-40	43	43
	41-50	31	31
	>50	6	6
Marital Status	Married	88	88
	Single	12	12
	Official	73	73

Characteristic	Variable	Frequency	Percentage
Type of employment	Non-official	27	27
	Official	46	46
Experience in year	<5	20	20
	5-10	18	18
	11-20	30	30
	21-30	29	29
	>30	3	3
Education	Diploma	6	6
	AA	22	22
	BA/BSC	57	57
	MA/MSc	8	8
	PhD	7	7
Major	Nutritional Science	4	4
	Food industry	6	6
	Laboratory Science	15	15
	Veterinary medicine	22	22
	Management	30	30
	Accounting	16	16
	Other	10	10

Characteristic	Variable	Frequency	Percentage
Rank	Low ranking officer	66	66
	High ranking officer	34	34
Position	No position	26	26
	<14	14	14
	>14	60	60
Type of Liability	Purchasing agent	15	15
	Supervisor	12	12
	Quality controller	22	22
	Administrator	41	41
	Assistant Manager	9	9

The results of prioritization of the affective factors in job satisfaction showed that 'job security' and 'proportional salary' ranked first and second with an importance coefficient of .29 and .20 respectively. The 'organization's policy' and 'social relations with colleagues' stood last with an importance coefficient of .02 (see Figure 1). In general, though 73% of the employees in this organization were officially and permanently employed, they believed that job security was the most important factor affecting their job motivation. Therefore, it seems that for these participants, the role of external factors is more important than that of internal factors.

Discussion

Job satisfaction is the attitude, one has towards his or her job. A person with high job satisfaction, will have a positive attitude towards his or her job, while a dissatisfied person will have a low motivation for his or her job. Job satisfaction shapes the personnel's movement towards

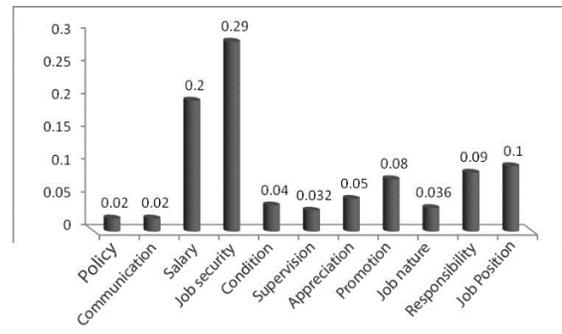


Figure 1. Prioritizing the Effective Factors on Job Motivation in Military Centers

organizational goals. As such, the study of the factors affecting individual's job satisfaction is of high importance. Employees expect to have a fair system of promotion and salary and responsibility distribution so that they can have better job satisfaction. There has been numerous studies checking the effect of both internal and external factors on individual's job motivation and satisfaction with some confirming the superiority of internal factors, as in Herzberg's theory, and some others supporting the preference of external factors [18].

One needs to note that job satisfaction can affect the society as well. When people are satisfied with their job and enjoy it, this enthusiasm and eagerness will be conveyed to their family and consequently to the society. The literature indicates that when job satisfaction is increased, individual's creativity and motivation increases, and their absence at work decreases [25]. People have different job motives and these motives change continuously. Being aware of the personnel's needs in an organization can help motivate them and predict and interpret their behavior. This is so important that it cannot be ignored because motivation is the most critical factor in having alacrity [17].

Paying attention to the personnel's job motivation and the factors affecting it has become a principle in most scientific and research centers, and many studies have been

carried out in this regard [26]. The present study was an attempt to identify and prioritize the factors affecting individuals' job motivation using AHP in a military organization. In this study, job satisfaction, proportional salary, and job status and position, ranked higher for the participants. Job satisfaction and proportional salary are among the external factors in motivation. This shows that for this group of participants, the external factors were more important than the internal ones. These results are in line with the results of the same study with the faculty members of Rafsanjan University of Medical Sciences [19], the employees in Beheshti University of Medical Sciences [27], and *Ghanei's* study [28] with physicians in Kordestan, Iran. However, the nurses in Beheshti University of Medical Sciences preferred the internal motivational factors [29]. Both *Smith et al* [30] and *Easom et al.* [31] reported 'proportional salary' as an effective factor affecting job satisfaction. In our study, this factor stood second after job security. Another study showed that considering teachers' job satisfaction at the beginning of a program can improve the quality and efficacy of personnel's instruction [32]. In the present study, job security received the most emphasis, which was also confirmed in some other studies [33]. Based on the results, it can be concluded that one needs to pay attention to both job security and salary as two important external factors in motivation. According to Herzberg's theory, such factors do not have a direct relationship with individual's job activities, but when the quality of these factors decreases, personnel's dissatisfaction will arise. However, the results of the present study do not support Herzberg's speculation because he believes that the external factors are necessary but lack of them will not cause problems. On the other hand, internal factors are stimulating and necessary, but in another study [34] Portuguese physicians were

observed to be willing to change job due to low salaries. Proportional salary can be regarded as an important stimulating external factor. If the salaries are perceived to be unfair by the employees, it will result in job dissatisfaction in the personnel [35]. Choosing 'salary' as the second most important factor by the participants shows their expectations in comparison with other occupations. *Golchini's* study also showed that 88% of nurses who took part in the study were dissatisfied with their salaries due to the hardship of their job [36].

Although most of the participants were officially employed, they ranked 'job security' first as the most important factor affecting their job satisfaction. Physicians have also been observed to report job security as the most important factor because they believed their future was blurred due to the lack of planning or long time policy in their occupation [16].

Job status stood third in this study. It is very important for individuals to be able to have promotion and be involved in the organization's decision making. This shows that employees are eager to improve their job status. If this enthusiasm is used appropriately by managers, the success of the organization is guaranteed. Individual's job and income affect their social status. If people's duties and offered services are neglected in an organization, they will feel disappointed. Young people (20-29 years) were reported to consider job status as the most important motivational factor because they were young, energetic, and ambitious about getting promotion [19]. Job position, freedom of speech, organization's openness to suggestions, being involved in the organization's decision making are all factors affecting employees' job satisfaction [37].

Conclusion

Based on the findings of the present study, it is suggested that in order to achieve the organization's predefined goals, the directors obtain a more inclusive picture of their personnel's job satisfaction and prioritize the factors affecting that for their organization. Organizations need to improve their personnel's job security and pay attention to their financial problems. This way, they will be able to foster creativity in their employees and help achieve the organizational goals.

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