
Original Article

Factors Enhancing Manpower Efficiency from the Viewpoint of Clinical and Non-clinical Faculty Members at Guilan University of Medical Sciences in 2011

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Abstract

Introduction: There are various factors that affect manpower efficiency. Identification of the most important and influential factors on efficiency is quite essential. Analysis of factors affecting manpower efficiency from the viewpoint of clinical and non-clinical faculty members at Guilan University of Medical Sciences in 2011.

Methods: This descriptive, analytical, cross-sectional study was performed in October and November in 2011. The study sample consisted of 186 faculty members, including 128 clinical and 58 non-clinical. Instruments used to collect library data were questionnaire and field studies. Exploratory factor analysis with Varimax rotation was utilized to determine the factors influencing manpower efficiency as well as loading level of each of the variables.

Results: Among clinical faculty members, 70.66% of changes in manpower efficiency, and among non-clinical faculty members, 79.57% of changes in manpower efficiency were explained by 9 and 8 factors, respectively

Conclusion: Staff empowerment and organizational culture were recognized as the most important factors enhancing manpower efficiency from the viewpoint of clinical and non-clinical faculty members, respectively.

Keywords: Efficiency, Manpower, Faculty

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Introduction

Efficiency, which is based on improvement strategy, constitutes the most important objective of every organization. Attempts to promote efficiency aimed at providing a better life for the individuals and society. Effective use of various resources such as manpower, capital, materials, energy, and information accounts for the goal of all the managers of economic organizations and manufacturing, industrial, and service plants (1).

Among the production factors, manpower, unlike other enterprise resources, is recognized as a live and coordinating factor for other elements (2). Also, manpower is the main factor for increasing and decreasing efficiency in every organization (3). There are many influential factors involved in development and improvement of manpower efficiency in an organization for which their role can be evaluated to improve manpower efficiency (4).

Present statistics indicate that medical universities and institutions in Iran, unlike industrial and commercial organizations, have rarely scrutinized the effective

factors and methods of increasing manpower efficiency (5). Evidence obtained from the studies performed at universities from other countries cannot be generalized to Iran's higher education institutions due to cultural, social, and economical differences (6). Wichian et al. (2009), in a descriptive analytic study, analyzed the factors influencing the research efficiency of teachers at state universities. Their findings revealed that factors such as empowerment, motivation, and demographic characteristics had a significant relationship with teachers' research efficiency (7).

Daneshvar (2005) investigated the factors influencing manpower efficiency in Tabriz University of Medical Sciences in Iran. Study population of the research included all healthcare professionals at university. The study indicated that factors such as management and leadership style, performance evaluation, appropriate wage, and facilities were the most influential in manpower efficiency (8).

University of Texas (2005), in a cross-sectional survey titled "strategies to promote efficiency and annual evaluation of the faculty members" considered the evaluation criteria of the university as improving educational productivity of the faculty members (9). Also, in another cross-sectional study entitled "determining manpower efficiency of faculties and departments at Islamic Azad University", Khodayari (2008) demonstrated that attention to input indices like budget plays a major role in determining the productivity of the faculty members (10).

In a descriptive study, Alaolmaleki & Yousefi (2002) indicated that motivational material factors, education, and organizational structure are effective in increasing manpower efficiency (11). Further, Mosadegh Rad (2005) examined the relationship between managers' leadership styles and efficiency of university hospitals in Isfahan. The results revealed that application of collaborative management style, if supplied with management stability and commitment, would improve the efficiency of hospital (12).

Mehrabian (2010) identified and prioritized the factors affecting manpower efficiency. Their findings showed that organizational culture, staff empowerment, motivation, management style, and environmental conditions are the most influential factors in increasing productivity (13). In addition, in their cross-sectional study, Wright et al. (2008) indicated that organizational culture is the most paramount component in improving manpower efficiency (14).

Allahverdi et al. (2010), in their research titled "prioritization of factors influencing efficiency of

human resources from the view of junior managers at Isfahan University of Medical Sciences" analyzed the factors affecting manpower efficiency. The results of their study manifested that empowerment and motivational factors are important elements influencing efficiency (15).

Based on evidence from previous research, the purpose of the present study was to investigate the factors improving manpower efficiency from the viewpoint of clinical and non-clinical faculty members of Guilan University of Medical Sciences (GUMS) in 2011.

Methods

In this cross-sectional study library data were gathered in August and September, and questionnaires were distributed in October and November in 2010. The questionnaire used in this study comprised of two sections, the first section dealt with demographic information and the second section concerned variables affecting manpower efficiency.

To evaluate the reliability of the questionnaire, test re-test method was used; questionnaires were delivered to 10% of research population at interval of two weeks. The reliability index acquired was 0.91. Validity of the questionnaire, however, was approved by applying the comments of five authorities in management sciences. A number of 300 questionnaires were distributed among all clinical and non-clinical faculty members at medical, dentistry, and nursing and midwifery faculties at Shahid Beheshti University of Medical Sciences, and health and paramedicine faculties at GUMS, from whom 186 faculty members (128 clinical and 58 non-clinical faculty members) filled in and returned the questionnaires. The questionnaire was designed based on three-point Likert scale consisting of high (3), average (2), and low (1).

Data were analyzed using descriptive statistics, exploratory and confirmatory factor analyses. Also, matrix analysis was performed with Varimax rotation. To analyze the appropriateness of the data and adequacy of sample size, Kervit Bartlett test and Kaiser-Meyer-Olkin scale were applied, respectively. The sample size obtained for clinical and non-clinical faculty members were 82% and 80%, respectively. Sampling was performed through census method. Further, Kolmogorov-Smirnov test was used to analyze the normality of data. P-value <0.05 was considered significant.

Results

Results of demographic data for clinical and non-clinical faculty members (Table 1). Results of factor analysis from the viewpoint of clinical faculty members at GUMS (Tables 2). In clinical faculty

members' group, 70.64% of changes in manpower efficiency were explained by above mentioned nine factors. Results of factor analysis from the viewpoint of non-clinical faculty members of GUMS (Tables 3). In non-clinical faculty members' group, 79.57% of changes in manpower efficiency were explained by above eight factors.

Table 1: Results of demographic data for clinical and non-clinical faculty members

Demographic data Population	Clinical faculty members		Non-clinical faculty members		Total	
	Count	Percentage	Count	Percentage		
Age	<30	4	3.1	6	10.3	186
	31-40	39	30.5	23	39.7	
	41-50	59	46.1	22	37.9	
	>50	26	20.3	7	12.1	
Sex	Male	115	89.8	46	79.3	186
	Female	91	71.1	18	31	
Marital status	Married	115	89.8	46	79.3	186
	Single	13	10.2	12	20.7	
Education	Candidate flow and post doctoral	43	33.6	3	5.2	186
	Specialist and Ph.D.	75	58.6	19	32.7	
	M.Sc.	10	7.8	36	62.1	
Employment	Official	61	47.7	26	44.8	186
	Semi-official	43	33.6	18	31.0	
	Contractual	6	4.7	13	22.4	
	K coefficient	14	10.9	1	1.7	
	Other	4	3.1	-	-	

Table 2: Factor analysis of main factors influencing manpower efficiency from the viewpoint of clinical faculty members of GUMS

Factor	Number of variables	Variance after Varimax rotation	Equity
Staff empowerment	8	14.17	2.15
Environmental conditions	5	7.26	1.10
Organizational culture	4	7.56	1.15
Motivation	4	9.25	1.40
Leadership style	3	6.58	1/0
Transparency and documentation	2	8.12	1.23
Creativity and innovation	4	5.74	0.87
Supervision and control	2	6.11	0.93
Training managers and staff	2	5.81	0.88

Table 3: Factor analysis of main factors influencing manpower efficiency from the viewpoint of nonclinical faculty members of GUMS

Factor	Number of variables	Variance after Varimax rotation	Equity
Organizational culture	8	15.97	2.69
Creativity and innovation	7	14.52	2.44
Leadership style	5	11.25	1.89
Transparency and documentation	7	11.27	1.89
Staff empowerment	3	8.08	1.36
Environmental conditions	2	7.45	1.25
Motivation	2	60.94	1.17
Accountability	1	4.07	0.68

Discussion

Findings of the present study revealed that, in the eyes of the clinical faculty members of GUMS, factors such as empowerment, environmental conditions, organizational culture, motivation, leadership style, transparency and documentation of services, creativity and innovation, supervision and control and staff training were the most influential factors enhancing manpower efficiency. Among these factors empowerment of faculty members explained most of the changes in manpower efficiency.

However, for non-clinical faculty members of the same university, eight factors, including organizational culture, creativity and innovation, leadership style, transparency and documentation of services, staff empowerment, environmental conditions, motivation, and accountability were most effective in improving manpower efficiency, among them organizational culture explained most of the changes in manpower efficiency.

It seems that clinical and non-clinical faculty members have different perspectives about factors affecting manpower efficiency. Wright et al. considered organizational culture as the most crucial factor enhancing manpower efficiency which seems to be in line with the findings of the present study, particularly in terms of non-clinical faculty members' viewpoints (14).

Mehrabian found that five factors explained most changes in manpower efficiency (13). This is, however, in contrast with the results of present study in which most of the changes were explained by nine factors among clinical faculty members and eight factors among non-clinical faculty members. Further, Mehrabian reported organizational culture as the most influential factor promoting manpower efficiency which is in contrast with clinical faculty members' view and is in line with that found among non-clinical faculty members. Moreover, findings of this study are in contrast of findings of Wichian et al. (2009) that found factors such as researcher's personal characteristics, organizational supports, and environmental conditions to be the most important ones (7).

In addition, Nasiripour et al., in their study entitled "the relationship between organizational culture and manpower efficiency in Iran University of Medical Sciences", demonstrated that there was a significant relationship between organizational culture and manpower efficiency which seems to be compatible with the findings of the present research (16).

Furthermore, Allahverdi et al. (2010), in a cross-sectional study titled "prioritization of factors influencing manpower efficiency from the view of junior managers at Isfahan University of Medical Sciences", reported management and leadership style as the most important factor improving manpower efficiency, and consequently introduced components such as individual characteristics, organizational culture, organizational structure, motivation, and staff training as effective factors enhancing manpower efficiency that is in line with our findings (15).

Additionally, Abili & Jahed introduced education and empowerment as organizational factors affecting enhancement of manpower efficiency (17). It should be pointed out, however, that the findings of the present study are appropriate for educational sectors and should not be generalized to other sectors.

Conclusion

It seems that factors such as empowerment, organizational culture, motivation, environmental conditions, transparency and documentation of services, and creativity and innovation, in the opinion of both clinical and non-clinical faculty members, that play a pivotal role in promoting manpower efficiency, should be taken into account by senior and junior managers of organizations. Also, manpower efficiency should be evaluated regularly in order to provide a desirable ground for enhancing efficiency. In this regard, the researchers recommend that senior managers support the development of efficiency culture as the most influential factor enhancing manpower efficiency in Medical Sciences Universities.

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