

## **Investigating factors affecting psychological empowerment of employees (Case Study: Qazvin Province Water and Wastewater Company)**

Emad Masoomi VERKI<sup>1</sup>, Mahdi NASROLLAHI<sup>2</sup>

<sup>1</sup>Executive Master of Business Administration, Islamic Azad University of Rasht.

<sup>2</sup>Assistant Professor of Industrial management Imam Khomeini International University (IKIU)  
34149-16818 Qazvin, Iran

### **Abstract:**

Empowerment, which means authorizing, giving autonomy or legal power to the person, is a process by which people beliefs in their effectiveness are improved, and more sense of responsibility of employees for better organizational performance. The main purpose of this study, which is a survey research, is investigating factors affecting the increase in psychological empowerment of employees in Qazvin Province Water and Wastewater Company. This is a survey research. According to Morgan table, 125 individuals were selected from the statistical population of 195 people through convenience sampling method. The level of variable validity is confirmed by Cronbach's alpha. The results of the statistical hypothesis testing show that sense of competence, sense of independence, sense of effectiveness, sense of value, and sense of confidence have an impact on the level of psychological empowerment. Meanwhile, prioritizing the factors affecting psychological empowerment by the Shannon entropy shows that sense of effectiveness and sense of independence, respectively have the highest and lowest priority from the employees' view.

**Keywords:** psychological empowerment, hypothesis testing, prioritizing, human resources, Qazvin Province Water and Wastewater Company.

### **Introduction:**

In the knowledge economy of the twenty-first century, intellectual property and especially human capital is among the most important organizational assets, and organizational success is rooted in the intellectual capabilities (Elfenbein & Ambady, 2002). In addition, with the advent of new technologies, increasing the legal rights of customers and also their awareness of the rights, the use of management practices to improve the quality of organizational services has been unavoidable.

---

<sup>1</sup> Email address : [emad\\_shahsavari@yahoo.com](mailto:emad_shahsavari@yahoo.com)

<sup>2</sup> Corresponding author: phone: +989125652670; email address; [m.nasrollahi@soc.ikiu.ac.ir](mailto:m.nasrollahi@soc.ikiu.ac.ir)

Therefore, organizations need to employ skilled and motivated workforce. On the other hand, they tend to attract participation and conformity of employees through making an internal commitment and increasing confidence (Vasant, 1999). Inefficient use of intellectual resources, intellectual power, and available human potentials are of the most important challenges for administrators. Accordingly, empowering human resources is one of the main strategies for increasing employees' participation and improving the quality of services, because the organizations are subject to rapid and unpredictable changes. These changes in circumstances lead to a change in their attitude to the workforce. As a result, employees are not tools for success of managers, but as organizational capital, they have become the main operators of work flow and organization partners (Roy & Sheena, 2005).

Empowerment, which means authorizing, giving autonomy or legal power to the person, is a process by which people beliefs in their effectiveness are improved (Ansari et al., 2011). Today's organizations need not only a much wider knowledge and information, but also more independence, self-reliance, confidence, creativity and innovation (Abtahi & Abbasi, 2007). To achieve these features, organizations should empower their most important resource and competitive factor, namely workforce (Ergenli et al., 2007). Workforce is the most important asset of any organization which plays a unique role in organizational development and growth (Amabile, 1988).

In modern organizational structure, empowering employees is evaluating in various aspects which the effect of each of these aspects needs to be studied. In addition, in today's business world, it is inevitable to develop and improve human resources and empowerment is recognized as a means by which managers will be able to manage today's organizations efficiently.

Empowerment is the most proper ways of sharing power with employees. In this way, sense of confidence, doubled energy, pride, commitment and self-reliance are created among the staff and thus, sense of participation in organizational affairs is increased which eventually improves performance of the organization (Nerdrum & Erikson, 2001). Hence, organizations are doing many actions aimed at modification and improvement. In this way, paying attention to the role of employees and their capacity to accept the changes and keeping up with them is an important matter. Thus, this paper aims to examine various aspects of psychological empowerment of employees in Qazvin Province Water and Wastewater Company.

#### *Literature review:*

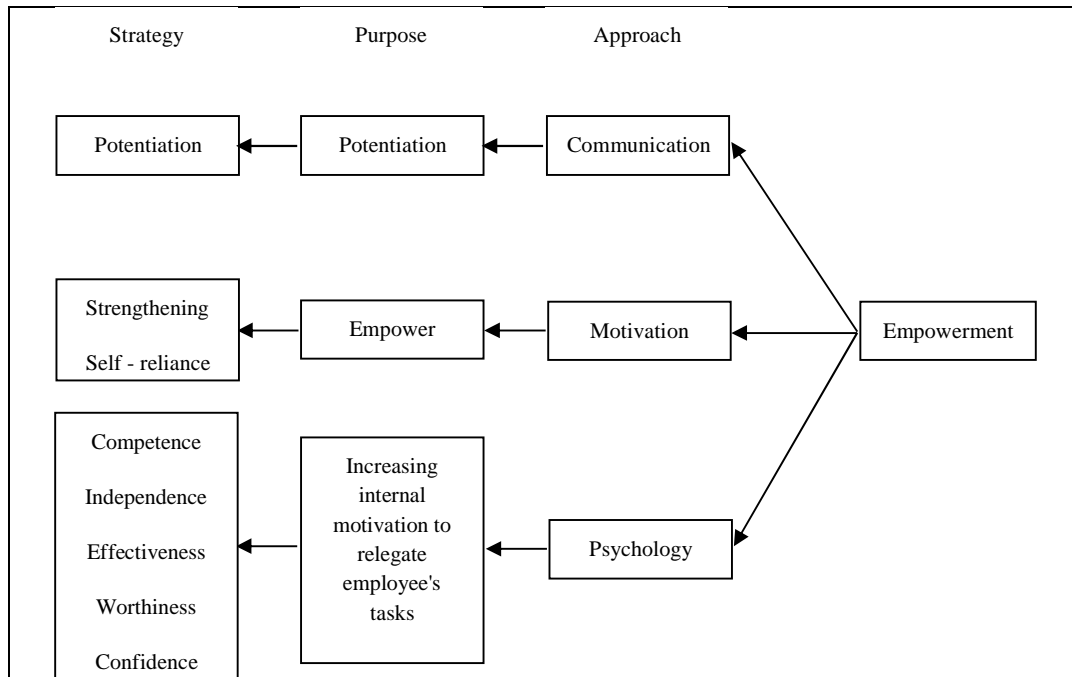
Nowadays, organizations are forced to increase dynamism and flexibility in dealing with the increasing technology changes, increasing complexity and uncertainties and they should increase their compatibility. Therefore, having capable human resources brings many benefits to the organizations. Although the word empowerment is widely used in organizational areas, there is not a broad consensus on it among experts.

The first studies of empowerment can be seen in the 1980s. The first approach to the empowerment called mechanical approach (Quinn & Spreitzer, 1997), but since the 1990s, theorists have defined human resource empowerment as a complex and multifaceted concept and distinguished between situational characteristics and employees' perceptions (Abdollahi, 2005). Empowerment usually means giving more power, responsibilities, and authority to staff and managers to decide, do some activities and more control over their jobs (Ziaee et al., 2008); however, some researchers consider empowerment as empowering employees (Whetten & Cameron, 1998). Accordingly, although the manager can provide conditions such as delegation of authority to empower employees, providing such conditions would not mean empowerment because empowerment should be considered from the perspective of the beliefs and feelings of employees. This approach to the empowerment is called the organic approach (Quinn & Spreitzer, 1997). For this purpose, conditions should be provided to strengthen the sense of confidence in employees, eliminate their sense of helplessness, and create internal motivation in them to perform tasks. This is called psychological empowerment which includes sense of confidence (Whetten & Cameron, 1998) besides the sense of effectiveness, sense of competence, sense of meaning, and sense of autonomy (Thomas & Velthouse, 1990; Spreitzer, 1996) include feelings of confidence (Whetten and Cameron, 1998).

In 2010, Zahedi et al. analyzed the relationship between psychological empowerment and organizational commitment. They showed that people feel more psychological empowerment, are less committed to the organization. In another study, the relationship between aspects of psychological empowerment and knowledge management has also been examined. The results showed a significant relationship between these two items with each other (Salajeghe et al., 2014). Another group of researchers examined the influence of psychological empowerment on the organizational performance of the employees in the Law Enforcement Force of Islamic Republic of Iran (NAJA). The results showed that attention to the empowerment will bring about performance development and improve working conditions in both employees and organizations (Moradi & Jalilian, 2014).

In a study, all aspects of psychological empowerment have been investigated and how these factors influence the performance and also how to overcome the concerns of the employees in this area has been described. The results of this study indicate that without empowerment, managers and organizations cannot achieve long-term success (Tohidi & Jabbari, 2012). In other research, the factors affecting the capacities of employees of Yasouj University have been elaborated. Researchers have shown using path analysis that many environmental factors directly affect employee's capacities (Soltani & Janipour, 2014). In 2015, Ramaswamy and Schiphorst investigated empowerment programs in India. According to the research, intense competitive pressure has forced many organizations to empower their employees. However, the study found that employees who work at the lowest levels of the pyramid organizational structure are less interested in sharing power and authority, and empowerment systems. The authors, in the end, have identified useful motivators. As can be deduced from the literature, empowerment refers to creating an internal sense into people who can independently take decisions in their working

process. In addition to these definitions, referring to independence in decision-making and internal power is of the most important aspects of capacity. Although definitions of capacity are greatly diverse, as shown in Figure 1, humanities researchers have discussed it from three different approaches (Gagne & Deci, 2005).



**Fig.1:** The main approaches in defining empowering

### **Research Methodology:**

This research examines and measures empowering employees of Qazvin Province Water and Wastewater Company. This applied research aims to collect data through hypothesis testing and present a descriptive conclusion. The statistical population consists of 195 employees of Qazvin Province Water and Wastewater Company. According to the Morgan table, 125 individuals were selected from the statistical population through convenience sampling method. Data collection is done by using a questionnaire. Spreitzer (1995) measured and validated psychological empowerment aspects, which are competence, autonomy, effectiveness, and worthiness. Spreitzer's standard empowerment questionnaire consists of 12 items. Then, confidence was added by Whetten and Cameron. Next, Mishra (1994) designed a questionnaire for confidence variable consisting of three items (Abdollahi, 2005). Finally, the questionnaire for psychological empowerment assessment consists of 15 items. The Cronbach's alpha coefficient was used to determine validity and reliability of the questionnaire. The alpha obtained for all propositions of the study is over 70% (Table 1) that is high in social science research.

**Table 1:** Reliability of the research tool

Row	Variable	Cronbach's alpha
1	Effectiveness	0.780
2	Confidence	0.862
3	Worthiness	0.736
4	Competence	0.841
5	Autonomy	0.818

After collecting data, the analysis was performed using hypothesis testing and SPSS Statistics v22. Finally, factors affecting the psychological capacity were weighted and prioritized by Shannon entropy.

### Research Findings:

Descriptive results show that the highest number of employees (62.5%) is in the range of 25 to 35 years old. In addition, almost 92% of employees are university graduates and of those, about 85% of employees have a bachelor degree or higher. To examine the factors affecting employee empowerment, five hypothesis tests were conducted as follows.

In these tests, null hypothesis denotes that average scores of studying factors are moderate, while alternative hypothesis shows that studied factors were at a level higher or lower than average.

$$\begin{cases} H_0 : \mu = 4 \\ H_1 : \mu \neq 4 \end{cases}$$

Table 2 shows the results of hypothesis tests. In this test, the null hypothesis is studied at the level of 5% and t-statistic has  $n-1$  (119) degrees of freedom which is calculated using Equation 1. In the equation,  $\bar{x}$  stands for sample mean and  $S_{\bar{x}}$  also denotes standard error of  $\bar{x}$  which is calculated by:  $S_{\bar{x}} = \frac{s}{\sqrt{n}}$ .

$$t = \frac{\bar{X} - \mu_0}{S_{\bar{x}}} \tag{1}$$

**Table 2:** The results of hypothesis testing to identify affecting factors

	t-statistic=4					
	t-statistic	degree of freedom	sig	distance from the mean	confidence interval 95%	
					lower bound	upper bound
competence	17.909	119	0.00	1.4833	1.3193	1.6473
autonomy	14.989	119	0.00	1.24167	1.0776	1.4057
effectiveness	9.430	119	0.00	1.01667	0.8032	1.2301
worthiness	13.563	119	0.00	1.30000	1.1102	1.4898
confidence	8.969	119	0.00	0.96667	0.7533	1.1801

Results pointed out in Table 2 show that sig equals 0.00 for all studied factors and is less than 5%. Therefore, the null hypothesis is rejected and the claim of mean equality can be dismissed. Since the lower and upper bounds are positive, we conclude that the t - statistic average is greater than tested value. As a result, all studied factors have an impact on empowerment.

There are several ways to weight the indices or prioritize indices and factors affecting decision making. Among various methods, Analytic Hierarchy Process (AHP) and Shannon entropy are the most applicable ones. To prioritize, AHP needs a pairwise comparison matrix of indices which is mainly formed based on expert opinions. The most important disadvantage of this method is the risk of incompatibility between judgments. Shannon entropy does not need pairwise comparison matrix for weighting indices and can weight by data given in the decision matrix. In this study, the Shannon entropy was employed to weight and prioritize factors. Entropy in information theory is a measure of the uncertainty expressed by a discrete probability distribution  $P_i$  (Hwang & Yoon, 1985). Its main idea is that the greater the dispersion in amounts of a factor, the more the importance of the factor. Thus, it is for calculating the weights of the number of options. First, information given in the decision matrix is calculated in the normalized form as follows:

$$P_{ij} = \frac{a_{ij}}{\sum_{i=1}^m (a_{ij})}; \forall i, j \quad (2)$$

Also,  $E_{ij}$ , entropy of  $j$ th factor, from the set  $P_{ij}$  is written as

$$E_j = -k \sum_{i=1}^n (P_y \ln P_y); \forall j \quad (3)$$

Which  $k$  is a positive constant calculated by

$$k = \frac{1}{\ln(m)} \quad (4)$$

To satisfy  $0 < E < 1$ . Now, uncertainty or created degree of deviation from information jth factor  $d_j$  is written as follows:

$$d_j = 1 - E_j; \forall j \tag{5}$$

Since the Shannon entropy gives the most weight to factors with the greatest degree, the weight of each factor is determined as:

$$W_j = \frac{d_j}{\sum_{i=1}^n (d_i)}; \forall j \tag{6}$$

Table 3 illustrates the results obtained from of prioritizing the factors affecting the capacity of employees by using Shannon entropy.

**Table 3:** Results of prioritizing the factors

Factor	$E_j$	$d_j$	$W_j$	Priority
competence	0.996503	0.003497	0.138616	4
autonomy	0.996516	0.003484	0.138098	5
effectiveness	0.993100	0.006900	0.273520	1
worthiness	0.995388	0.004612	0.182840	3
confidence	0.993266	0.006734	0.266926	2

As can be seen, effectiveness and confidence are in the first and second priority with a slight difference relative to each other. Also, there is a negligible weight difference between competence and autonomy, which put them respectively in the fourth and fifth priorities. In the end, worthiness is the third priority.

**Conclusion and Suggestions:**

Empowerment creates potential capacities to exploit human capital capabilities and organization manager can employ them to improve productivity of employees and thus promote the organization. The main objective of the research was to study the factors influencing psychological empowerment increase and using empirical studies and theoretical foundations of empowerment, efforts were devoted to developing a theoretical model of the research.

The results indicate that competence, autonomy, effectiveness, worthiness, and confidence influence on increasing capacity. The more individuals feel above senses in the work environment, the higher people feel empowered. Answers given to the survey questions provide guidelines to managers that will help them to choose proper methods for managing and administrating human resources of the organization. What managers are looking for today, is finding a solution for work problems by using less of the scarce resources of the organization. On the other hand, expectations of employees are sense of

ownership, meaningful work, more frankness and honesty in work, self-discovery and self-actualization.

Empowerment is a multidimensional and complex process and for its successful implementation, necessary backgrounds should be provided. In other words, by creating culture of empowerment, conditions should be provided for its implementation and with the support of senior managers and their belief, empowerment should be extended in the organization.

Identifying barriers to empowering staff in public organizations can have a positive effect on the process of projects implementation and empowerment programs. Therefore, these barriers can be identified and classified in future research to find fitting solutions.

### **References:**

- Abdollahi, B. (2005). Psychological Empowerment: Dimensions and Validation on the Structural Equation Model. *Quarterly Journal of Research and Planning in Higher Education*, 11(1). 37-64. (In Persian).
- Abtahi, H. & Abbasi, S. (2007). *Personnel Empowerment*. Institute of management research and education, Tehran.
- Ansari, M., Rahmani, H., Oskoe, V. & Hoseini, A. (2011). Identifying the Factors and Developing the Human Resource Empowerment Conceptual Model in ICT Ministry (Case Study). *Journal of Public Administration*, 3(7), 23-40.
- Amabile T. M (1988). A model of creativity and innovation in organizations. In B.M. Staw and L. L. Cummings (Eds.), *Research in organizational behavior*; 10: 123-167.
- Elfenbein, H. & Ambady, N. (2002). Predicting workplace outcomes from the ability to eavesdrop on feelings. *Journal of applied psychology*, 87(5), 963–969.
- Ergenli, A, Saglam, G & Selin, M (2007) 'Psychological empowerment and relationship to trust in immediate managers, *Journal of Business Research*, 60, 41-9.
- Gagne, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26, 331–362.
- Hwang C.L. & Yoon, K. (1985). *Multiple Attribute – Decision Making*, springer-Verlag.
- Moradi, M. & Jalilian, H. (2014). The effect of psychological empowerment on organizational performance employees in Police, the mediating role of job stress, job satisfaction and organizational commitment. *Supervision and Inspection*, 31, 73-98.
- Nerdrum, L. & Erikson, T. (2001). Intellectual capital: A human resource perspective. *Journal of Intellectual Capital*, 2(2), 127-135.
- Quinn, Robert E. & Gretchen M. Spreitzer (1997); *The Road to Empowerment: Seven Question Every Leader Should Consider*; *Organizational Dynamic*, 26(2), 37-51.
- Ramaswamy E.A. & Schiphorst, F.B. (2015) Human resource management, trade unions and empowerment: two cases from India, *The International Journal of Human Resource Management*, 11(4), 664-680.
- Roy, YJC & Sheena S (2005). Empowerment through choice? A critical analysis of the effects of choice in organizations, *Research in Organizational Behaviors*, 27, 41-79.
- Salajeghe, S.; Pour Rashidi, R. & Mousaei, M. (2014). Analysis of Employees Psychological Empowerment and Its Relationship with Knowledge Managemen. *Management Studies in Development and Evolution*, 72, 99-118.



- Soltani, D.I., & Janipour, V. (2014). Factors affecting the staff empowerment of Islamic azad of yasuj. *Indian Journal of Scientific Research*, 7(1), 204-211.
- Spreitzer, G.M. (1995). Psychological Empowerment in the Workplace: Dimensions, Measurement, and Validation. *Academy of Management Journal*, 3(1), 1372-1445.
- Spreitzer, G.M. (1996); Social Structural Characteristics of Psychological Empowerment; *Academy of Management Journal*, 39(2), 483-504.
- Thomas, K.W. & Velthouse, B.A. (1990). Cognitive Elements of Empowerment: An Interpretive Model of Intrinsic Task Motivation; *Academy of Management Journal*, 15(4), 666-681.
- Tohidi, H., & Jabbari, M.M. (2012). The aspects of empowerment of human resources. *Procedia-Social and Behavioral Sciences*, 31, 829-833.
- Vasant, R. (1999). Information Strategy in service Focused Organization, *Information Strategy: The Executives Journal*, 16(1), 36-40.
- Whetten, D.A. & Cameron, K.S. (1998). *Developing Management Skills*; New York: Addison – Wesley, Wheelan.
- Zahedi, S., Boudlaei, H., Sattari Nasab, R. & Kooshki Jahromi, A. (2010). An Analysis on the Relation between Psychological Empowerment and Organizational Commitment. *Roshd-e-fanavari*, 24, 59-69.
- Ziaee, M.S.; Nargesian, E. & Aybaghi Esfahani, S. (2008). The Role of Spiritual Leadership on Human Resource Empowerment in the University of Tehran. *Journal of Public Administration*, 1(1), 67-86.