

## Presenting and Validating Human Resources Empowerment Model with Emphasis on Education in the Ornamental and Building Stone Industry

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**Purpose:** education plays a key role in empowerment of human resources. Thus, the present research was done to present and validate the human resources empowerment model with emphasis on education in the ornamental and building stone industry.

**Methodology:** this descriptive-analytical study was of correlation type. The statistical population consisted of the staff at Iran's stone statistics and information center as many as 425 persons in 50 companies. The sample size was determined 200 according to Cochran formula; this number was chosen through stratified random sampling method based on the occupational unit. The research instruments included demographic information form capturing gender, age, level of education, years of working background, and a researcher-made questionnaire (50 items), whose face validity was confirmed based on expert opinion, while its reliability was calculated using Cronbach alpha method on 30 staff as 0.95. The data were analyzed by exploratory factor analysis and structural equations modeling methods in SPSS-25 and Smart PLS-3 software.

**Findings:** the findings indicated that empowerment of human resources has 10 factors of change and innovation, managerial functions, learning, development of human resources, behavioral factors, organizational factors, the strategic factors of organization, environmental factors, cultural and leadership factors as well as knowledge beyond the technical knowledge. The factor load of all of its items was above 0.40; the convergent validity of the factors was found above 0.60 using the average variance extracted method. The reliability of all of the factors using Cronbach alpha and mixed method was above 0.70. Furthermore, the human resources empowerment model with emphasis on education in the ornamental and building stone industry had suitable and acceptable fitting, and the empowerment of human resources with emphasis on education had a direct and significant effect on all of the 10 factors ( $P < 0.001$ ).

**Conclusion:** given the suitable model of human resources empowerment with emphasis on education in the ornamental and building stone industry, experts and planners can take effective steps for empowerment of human resources through the 10 identified factors.

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## 1. Introduction

Today, since human resources are the main factor behind the persistence, success, and fulfillment of organizational goals, it has been established that in all organizations human resources are of high importance. This is because no organization wants to employ unsuitable and nonspecialized human resources, and they seek to employ as many powerful human resources as possible (Munawar, Yousaf, Ahmed and Rehman, 2022). In recent decades, the term empowerment has changed into a part of the daily language of management, and it can be considered as an important movement for management of human resources, quality management, and organizational effectiveness. Today, it has become so important that more than 70% of organizations have accepted empowerment programs at least for part of their business (Gerlach, Hammerle and Schuler, 2019). Having a major strategy for development and acquiring competitive advantage is essential in today's tumultuous world which is accompanied by extensive environmental transformations. For this purpose, empowerment of human resources can be used (Suprpto and Widigdo, 2021). Thus, attention to human resources and its development is considered one of the most valuable organizational capitals, and the cornerstone of empowerment is knowledge enhancement and establishing competitive advantage (Song, 2022). One of the important reasons behind the failure of organizations and inability or weakness in achieving productivity and the reason behind inability to accomplish competitive advantage is lacking a proper plan by these organizations for human resources empowerment (Zaraket, Garios and Malek, 2018). Efficient human resources are a major indicator of superiority of the organization compared to other organizations and creating competitive advantage. Indeed, powerful human resources cause considerable enhancement in the performance and effectiveness of the organization plus achieving organizational goals and ideals (Khodeir and Nabawy, 2021). Empowerment of human resources is a kind of inner occupational motivation and active motivational tendency with the aim of improving performance through enhancing the opportunities of participation and involvement in decisions that are made (Kumar, Liu and Jin, 2022).

Today, it has been accepted that empowerment of human resources is a solution for success and growth of organizations, and organizations through empowering their human resources can use the resources they have for enhancing productivity, creating competitive advantage, satisfying stakeholders, improving customer satisfaction, and enhancing the profit of shareholders in the best way (Pradhan and Panda, 2019). The history of use of the term empowerment traces back to establishing a democratic system and involving the staff in the decisions made by the organization under different titles of team making, participation, and comprehensive quality management. The latest changes that have been made on this issue involved creation of the term staff or human resources empowerment. Thus, the term human resources empowerment has a long history (Gong, Wu, Huang, Yan and Luo, 2020). Up until the 1990s, empowerment meant the managerial strategies and measures such as delegation of authority and decision-making power to managerial classes such as delegation of authority and decision-making power to the lower classes of the organization and involvement of staff in the information, knowledge, rewards, and power. However, after the 1990s, empowerment attracted attention regarding thoughts, beliefs, and emotions of staff as well (Hanaysha, 2016). Empowerment based on research can be thought to include sense of qualification (the competence and skill for successful fulfillment of tasks and having a sense of efficiency in doing the task), sense of meaningfulness (the individual achieving their self-actualization, sense of belonging, and dependence in response to working), right to choose (sense of independence, right to choose, and ability of decision-making for their work), as well as influence (the person's power of influence on the strategic, administrative, and operational outcomes of the organization) (Shukla, Singh, Rai and Bhattacharya, 2018).

Empowerment means a set of systems, methods, and measures which are applied through development of competence and qualifications of individuals for improving and enhancing productivity, growth, and prosperity of the organization and human resources according to the organizational goals (Archana, Tuteja, Shilpashree, Khandwe, Gupta and Sharma, 2021). Empowerment is a kind of macro and acceptable strategy which is used for constant improvement of human resources and is an indicator for utilizing the competences of experts in creative and innovative methods in all functional aspects of the organization (Dust, Resick,

Margolis, Mawritz and Greenbaum, 2018). Empowerment means that necessary freedom and information should be provided to people so that they can do what they want successfully, rather than compelling them to do what the organization wants (Ibrahim, 2020). Regarding the empowerment of human resources, there are two approaches: one of them is a structural approach to empowerment in which empowerment is viewed as an outcome of a process, where the organization manager is responsible and determinant of the extent, dimensions, as well as manner of establishing empowerment of human resources. The other one is a multidimensional approach to empowerment, based on which it cannot be examined solely based on a special concept. Therefore, empowerment is defined as the inner motivation process toward the tasks of the human resources, and is incarnated in a set of cognitive features (Su, Houghton, Chen and Zou, 2022). Empowerment is a process with two stages: the first is boosting the self-esteem of the members of organization through identifying and introducing the conditions and factors that induce a sense of lack of power in individuals, and the second stage is an attempt for rectifying the mentioned conditions and factors using both formal and informal measures of the organization (Ju, Ma, Ren and Zhang, 2019). Human resources empowerment plays a key role in providing feedback, creative collaboration, innovative behavior, and enhancement of active behaviors (Kumar and Kumar, 2017). Powerful human resources are often more efficient, effective, productive, innovative, and satisfied, and also provide higher quality services and products compared to other human resources (Murray and Holmes, 2021).

### **Research Background**

Mirzadeh and Asgharzadeh (2020) researched the model of human resources empowerment in nursing profession. They concluded that the mentioned model includes three classes of behavioral (with components of creativity and innovation, responsibility, commitment, effectiveness, self-control, discipline, and qualification-based promotion), underlying (with components of experience transfer, development of novel technologies, organizational culture, exchange of students with other countries, social status, occupational security, and shared understanding of the nurse's mission), and structural (with components of organizational structure, education and research system, service compensation system, a specialized division of tasks, as well as absorption and retention system). Hashemzadeh, Foroughipour and Sabounchi (2020) conducted a research for empowerment of human resources of the youth and sport organization. They identified eight factors including environmental, systemic, educational, job-related, personal, technical, organizational support, and organizational Islamic culture factors.

Latifi, Mohammad Beigi, Alahbakhshian and Davaridolatabadi (2020) studied strategic excellence model of human resources empowerment of libraries. They concluded that the mentioned model covered three dimensions of personal (with two components of occupational pathway with subcomponents of enhancement of occupational skills and occupational flexibility plus personal development component with the subcomponents of qualifications, choice, influence, and being meaningful), organizational (with two components of operational with subcomponents of motivation, education, performance, occupational engineering, plus control and feedback, and the structural component with the subcomponents of organizational knowledge, communications, and information circulation) and strategic (with subcomponents of vision, mission and value, policy and policymaking, competitors, staff, and processes).

Pradhan and Panda (2019) researched development and validation of an instrument for empowerment of human resources in the occupational environment. They identified two dimensions and seven components including dimensions of structural empowerment (structural framework, decision management in the occupation, and transparency in sharing of information) and psychological dimensions (meaning, qualification, self-determination, and effectiveness),

Mansoori, Shaemi Barzoki, Moshref Javadi and Kianpour (2019) researched the model of organizational empowerment based on human resources processes of electricity industry staff in dimensions of attitudes and views including attitude to organizational humans, introducing strategic view to human resources, professionalism view to human resources, and institutionalism view to human resources, in the dimension of

human resources processes including recruitment, provision, and retrenchment of human resources, retention of human resources, improvement of human resources, effective utilization of human resources, as well as improving and correcting the human resources measures, in the dimension of organizational empowerment including intraorganizational empowerment, interorganizational empowerment, and meta-organizational empowerment, in the dimension of underlying conditions it included organizational features, organizational cultures, structure, commitment of the organizational actors and infrastructures, in the dimension of confounding conditions it included managerial factors, organizational factors, variables associated with human actors, factors related to the industry/upstream, along with environmental conditions, and in the dimension of outcomes it included outcomes of staff, customers, organizational, and societal consequences.

Fazel, Kamalian and Rowshan (2018) studied the dimensions and components affecting academic human resources empowerment. They concluded that in the mentioned model, for professors, three dimensions were identified including personal (with components of knowledge, emotional arousal, motivation and attitude, skills, satisfaction and respect, security and serenity, creativity, innovation and being generative, personal independence, risk-taking, as well as value and wealth creation), along with organizational (with components of appreciation, rewards and salary, leadership, managerial measures, training and growth, specificity of goals, information and interactions, organizational equity, occupational culture, and value creation), and environmental (with components of environmental changes, socio-cultural status, economic status, and support by authorities). For the staff, three dimensions were identified including personal (with components of knowledge, emotional arousal, skills, self-confidence, satisfaction and respect, sense of security and serenity, creativity, innovation and generativity, personal independence, risk-taking, as well as value and wealth creation), organizational (with components of appreciation, rewards and salary, leadership, managerial measures, education and growth, specificity of goals, information and interactions, occupational structure, occupational culture, and value creation), and environmental (with components of environmental changes, sociocultural status, economic status, and support by authorities).

Rad, Hesaam and Jadidi (2018) researched the factors affecting empowerment of human resources of the central headquarters of the University. They concluded that all of the three examined variables including the personal factors, collective factors, and organizational factors played a determined role in interpreting the human resources empowerment.

Roshandel Arbatani, Farhangi, Rabiee and Radfard (2017) studied the factors affecting empowerment of human resources in communication and media organizations. They concluded that influential factors included economic, personal, organizational, strategic, and strategic empowerment factors.

Huis, Hansen, Otten and Lensink (2017) researched three-dimensional model of women empowerment. They concluded that this model included three dimensions of microlevel (actions and personal beliefs of individuals), middle level (actions and beliefs of individuals in relation to others), and macrolevel (the outcomes of empowerment in the wide social context).

As can be seen in the review of literature, relatively extensive studies have been performed about empowerment of human resources. However no research has dealt with this issue with emphasis on education especially in the ornamental and building stone industry. Indeed, the population of most of studies has consisted of other organizations including university, media, library, hospital, electricity industry, etc. Since there are differences between the mentioned organizations and the ornamental as well as building stone industry, thus their results cannot be generalized to this organization. Accordingly, it is essential to conduct some research regarding empowerment of human resources especially with emphasis on education, whereby specialists and planners of the ornamental and building stone industry organization can harness its results and provide the grounds for improving their organization. Therefore, improvement of empowerment of human resources at any organization is of high importance, and since education plays a key role in empowerment of human resources, thus based on the points mentioned above, the present research was performed to present

and validate the model of human resources empowerment with emphasis on education in the ornamental and building stone industry.

## 2. Methodology

This descriptive-analytical study was of correlation type. The research population consisted of the staff at Iranian stone statistics and information center, as many as 415, in 50 companies. The sample size was determined 200 based on Cochran formula; this number was chosen via stratified random sampling method based on occupational units. In this study, there were five occupational units including mine-processing, processing-trade, processing, mine - processing - trade, and service units claiming 15, 39, 11, 31, and 4% of the total sample size respectively. According to the volume of each class and the sample size of 200, samples were taken from that class with the same ratio.

The research instruments included demographic information form capturing gender, age, level of education, years of working background, along with researcher-made questionnaire of human resources empowerment with emphasis on education in ornamental and building stone industry. The aim of the demographic information form was to better understand the present research subjects as well as their possible role in the results. The researcher-made questionnaire included 50 items prepared based on the theoretical principles and interview with 14 experts specializing empowerment of human resources with emphasis on education in ornamental and building stone industry. They had at least a Master's degree and a minimum working background of five years. In order to respond to each item, 5-option Likert scale was used ranging within absolutely disagree (score 1), disagree (score 2), neither agree nor disagree (score 3), agree (score 4), and absolutely agree (score 5). The score of the researcher-made questionnaire of human resources empowerment with emphasis on education in the ornamental and building stone industry was calculated through summing up the score of all items and the score of each component or factor with the total score of the constituent items of that component or factor. Higher scores meant better status in that element or factor. The face validity of the researcher-made questionnaire of empowerment of human resources with emphasis on education in ornamental and building stone industry was confirmed based on the opinion of 14 experts who had at least a Master's degree and minimum background of five years. Its reliability was calculated 0.95 with Cronbach alpha method on 30 staff.

Regarding the executive stages of the research, first after approval of the proposal and theoretical study, the questionnaire was designed for interview with experts. Based on the theoretical principles and interview with experts, a 50-item questionnaire was designed about empowerment of human resources with emphasis on education in ornamental and building stone industry. Next, the researcher tried to understand the population and estimate its size based on occupational units. Considering the sample size determination, samples were taken from the occupational units with the same ratio, whereby the stratified random sampling method was adopted. The importance and significance of the research was explained to the subjects and they were asked to respond to the research instruments including demographic information form plus the researcher-made questionnaire of human resources empowerment with emphasis on education in ornamental and stone building industry. Their participation in the research was also highly appreciated. Note that in addition to the researcher's commitment to observation of ethical principles and expression of data analysis generally, the researcher also explained that there is no right or wrong answer and the best answer is the one that actually represents their status. Ultimately, the instruments were examined in terms of comprehensivity and the data were prepared for computerized data entry. The resulting data were analyzed by exploratory factor analysis and structural equations modeling in SPSS-25 and Smart PLS-3 software.

### 3. Findings

No dropout or attrition occurred in the present research subjects since the instruments were fully controlled regarding completion, and the analyses were performed for 200 subjects. The frequency and frequency percentage of the demographic information of the present research subjects are presented in Table 1.

Table 1. The frequency and frequency percentage of the demographic information of the present research subjects

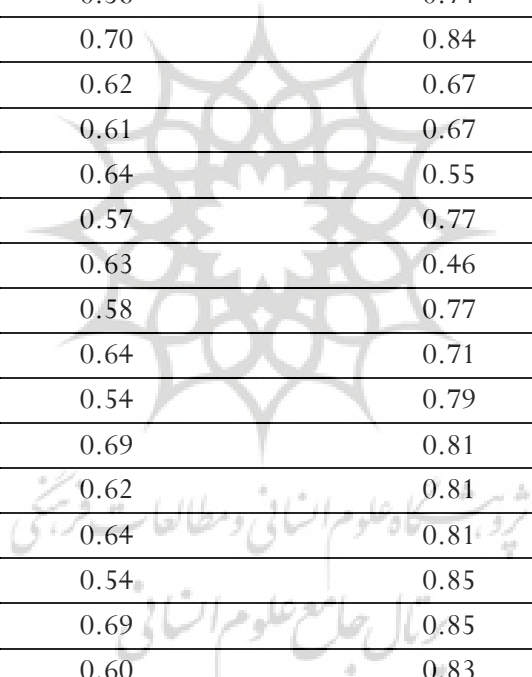
Variable	Category	Frequency	Frequency percentage
Gender	Male	180	90
	Female	20	10
Age	Younger than 30	15	7.5
	31-35 years	26	13
	36-40 years	52	26
	Above 40 years	107	53.5
Education	Subdiploma	21	10.5
	Diploma	44	22
	Associate degree	2	1
	Bachelor's	64	32
	Master's	57	28.5
	PhD	12	6
Working background	1-5 years	30	15
	6-10 years	24	12
	11-15 years	41	20.5
	16-20 years	37	18.5
	21-25 years	40	20
	26-30 years	24	12
	More than 30 years	4	2

According to the results of Table 1, most of the present research subjects were male (90%), had age above 40 years (53.5%), bachelor's degree (32%), and working background of 11-15 years (20.5%). The results of factor load, standard deviation, and t statistic for the human resources empowerment model with emphasis on education in ornamental and building stone industry are shown in Table 2

Table 2. The results of factor load, standard deviation, and t statistic for the model of empowerment of human resources with emphasis on education in ornamental and building stone industry

T statistic	Standard deviation	Factor load	Item
10.27	0.68	0.79	1
12.19	0.56	0.82	2
10.33	0.70	0.79	3
17.29	0.60	0.93	4
10.66	0.59	0.66	5
15.79	0.59	0.78	6
16.58	0.56	0.73	7
8.58	0.67	0.53	8

12.61	0.55	0.85	9
13.13	0.69	0.87	10
18.97	0.60	0.94	11
13.54	0.61	0.91	12
11.20	0.59	0.88	13
12.64	0.56	0.72	14
12.92	0.67	0.67	15
12.85	0.55	0.82	16
9.65	0.71	0.76	17
13.95	0.60	0.83	18
12.97	0.61	0.85	19
10.58	0.60	0.79	20
10.27	0.58	0.58	21
12.69	0.68	0.81	22
9.56	0.56	0.74	23
12.62	0.70	0.84	24
9.08	0.62	0.67	25
10.34	0.61	0.67	26
7.39	0.64	0.55	27
9.04	0.57	0.77	28
4.88	0.63	0.46	29
9.57	0.58	0.77	30
9.19	0.64	0.71	31
10.64	0.54	0.79	32
10.31	0.69	0.81	33
17.43	0.62	0.81	34
16.20	0.64	0.81	35
12.67	0.54	0.85	36
12.82	0.69	0.85	37
19.50	0.60	0.83	38
9.99	0.68	0.75	39
11.00	0.62	0.80	40
8.51	0.59	0.67	41
10.71	0.68	0.80	42
4.58	0.56	0.49	43
9.95	0.65	0.74	44
12.53	0.68	0.75	45
5.02	0.63	0.51	46
13.69	0.62	0.75	47



12.91	0.66	0.73	48
15.90	0.64	0.80	49
18.28	0.68	0.82	50

Based on the results of Table 2, the factor load of all items was above 0.40 and the t statistic of all of them was above 1.96. Thus, no item was eliminated from the researcher-made questionnaire of empowerment of human resources with emphasis on education in ornamental and building stone industry to perform the subsequent analyses. The results of exploratory factor analysis for the model of empowerment of human resources with emphasis on education in ornamental and building stone industry are provided in Table 3.

Table 3. The results of exploratory factor analysis for the model of empowerment of human resources with emphasis on education in ornamental and building stone industry

Q <sup>2</sup>	R <sup>2</sup>	Mixed reliability	Cronbach alpha reliability	AVE	Factor or component
0.36	0.67	0.72	0.72	0.63	Change and innovation
0.37	0.76	0.91	0.91	0.63	Managerial functions
0.35	0.74	0.81	0.80	0.61	Learning
0.32	0.79	0.92	0.92	0.68	Development of human resources
0.37	0.75	0.77	0.77	0.68	Behavioral factors
0.33	0.73	0.82	0.82	0.65	Organizational factors
0.45	0.60	0.80	0.79	0.67	Strategic factors of organization
0.44	0.45	0.76	0.75	0.66	Environmental factors
0.45	0.46	0.74	0.74	0.63	Cultural and leadership factors
0.40	0.70	0.78	0.78	0.60	Strategic factors of organization
-----	-----	0.95	0.95	0.65	Total

Based on the results of Table 3, empowerment of human resources with emphasis on education in the ornamental and building stone industry has had 10 factors or components including change and innovation, managerial functions, learning, development of human resources, behavioral factors, organizational factors, strategic factors of organization, environmental factors, cultural and leadership factors, as well as knowledge beyond technical knowledge. The convergent validity of the factors using the average variance extracted method was found above 0.60, and the reliability of all factors using Cronbach alpha and mixed methods was found above 0.70. Furthermore, the R<sup>2</sup> value was above 0.33, and the Q<sup>2</sup> was greater than 0.15. Also, the value of GOF index found as 0.52, which is larger than 0.25, suggesting that the model of empowerment of human resources with emphasis on education in ornamental and building stone industry has had suitable and



acceptable fitness. The results of structural equations modeling for the model of empowerment of human resources with emphasis on education in ornamental and building stone industry in standard coefficients state are presented in Fig. 1 and the model effects in Table 4.

Fig. 1. The results of structural equations modeling for the model of empowerment of human resources with emphasis on education in ornamental and building stone industry in the standard coefficients state

Table 4. The results of structural equations modeling for the model of empowerment of human resources with emphasis on education in ornamental and building stone industry in the standard coefficients state

Significance	T statistic	Standard coefficients	Paths
<0.001	13.02	0.82	Effect of model of empowerment of human resources with emphasis on education on change and innovations
<0.001	15.62	0.87	Effect of model of empowerment of human resources with emphasis on education on managerial functions
<0.001	14.19	0.86	Effect of model of empowerment of human resources with emphasis on education on learning
<0.001	17.24	0.89	Effect of model of empowerment of human resources with emphasis on education on development of human resources
<0.001	15.49	0.86	Effect of model of empowerment of human resources with emphasis on education on behavioral factors
<0.001	10.81	0.56	Effect of model of empowerment of human resources with emphasis on education on organizational factors
<0.001	8.46	0.50	Effect of model of empowerment of human resources with emphasis on education on strategic factors of organization
<0.001	10.73	0.52	Effect of model of empowerment of human resources with emphasis on education on environmental factors
<0.001	11.09	0.60	Effect of model of empowerment of human resources with emphasis on education on cultural and leadership factors
<0.001	7.16	0.45	Effect of model of empowerment of human resources with emphasis on education on knowledge beyond technical knowledge

According to the results of Fig. 1 and Table 4, in the model of empowerment of human resources with emphasis on education in ornamental and building stone industry, it was found that empowerment of human resources with emphasis on education had a direct and significant effect on all 10 factors or components including change and innovation, managerial functions, learning, development of human resources, behavioral factors, organizational factors, strategic factors of organization, environmental factors, cultural and leadership factors, as well as knowledge beyond technical knowledge ( $P < 0.001$ ).

#### 4. Discussion

Considering the importance of empowerment of human resources especially with emphasis on education, the present research was done to present and validate a model of empowerment of human resources with emphasis on education in ornamental and building stone industry.

The findings of the present research showed that empowerment of human resources had 10 factors of change and innovation, managerial functions, learning, development of human resources, behavioral factors, organizational factors, strategic factors of organization, environmental factors, cultural and leadership factors, as well as knowledge beyond technical knowledge. The factor load of all of its items was above 0.40; the convergent validity of loads based on the average variance extracted method was larger than 0.60; and the reliability of all factors based on Cronbach alpha and mixed methods was greater than 0.70. Further, the model of empowerment of human resources with emphasis on education in ornamental and building stone industry had suitable and acceptable fitness, where the empowerment of human resources with emphasis on education had a direct and significant effect on all 10 factors. This was in line with the findings of other researchers Mirzadeh and Asgharzadeh (2020), Hashemzadeh et al (2020), Latifi et al (2020), Pradhan and Panda (2019), Mansoori et al (2019), Fazel et al (2019), Rad et al (2018), Roshandel Arbatani et al (2017), Huis et al (2017). Nevertheless, their population differed from that of the present research.

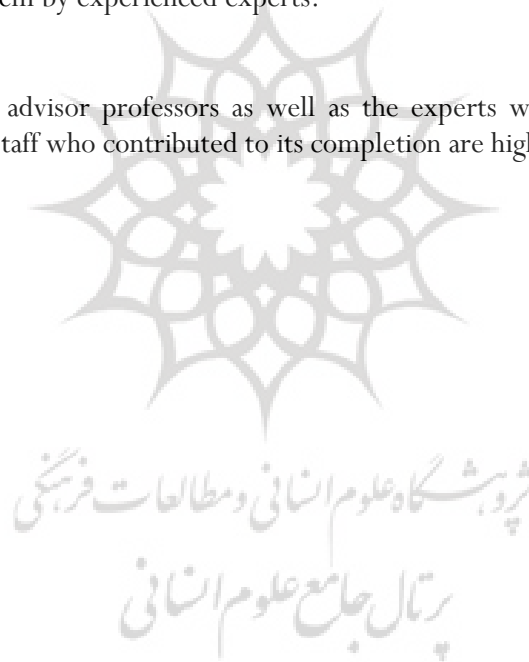
In interpreting and explaining the 10 components or factors for empowerment of human resources with emphasis on education including change and innovation, managerial functions, learning, development of human resources, behavioral factors, organizational factors, strategic factors of organization, environmental factors, cultural and leadership factors, as well as knowledge beyond technical knowledge, it can be stated that in the factor of change and innovation, the organizational changes and transformations can be harnessed, transformative leadership can be established in the organization, and a creative environment can be created in the organization. In the factor of managerial functions, the solutions of clarification of organizational goals, enhancing psychological competence, suitable organizational decisions, improving the quality of organizational processes, establishing open, transparent, and targeted communications, delegation of authority, suitable feedback and control, as well as up-to-date technology in line with the current and future needs of the organization can be used. Regarding the learning factor, suitable and effective functions can be learned for enhancing the occupational productivity. Also, novel ideas of staff can be identified and then utilized. The way relations can be developed can also be learned along with new abilities and competences. Regarding the factor of human resources development, specialized skills can be trained, the education processes can be supervised, qualified human resources can be employed, occupations can be developed, rewarding system can be applied, skilled workforce with high levels of education can be used, the performance of staff can be improved, and their motivation can be enhanced. Considering the behavioral factors, the attitude of staff can be improved, and the occupational skills as well as qualifications can be enhanced. Also, flexibility and job satisfaction can be improved in them, teamwork should be emphasized, and friendly relations could be established with colleagues. In the organizational factor, knowledge and information can be shared, civic behavior can be improved, knowledge management can be utilized, and organizational relations as well as communications can be improved. In the strategic factor of organization, the organizational values can be emphasized and rewards can be considered for doing them. Also, the organizational policies could be introduced to all staff and supervisory support strategy could be utilized for improving the staff performance. Regarding the environmental factor, the customer behavior can be understood, competition can be done with other organizations, the markets and their needs could be evaluated thoroughly, and customer satisfaction could always be set as an important criterion. Regarding the culture and leadership factor, sense of responsibility can be enhanced in all staff, organizational commitment could be improved in them, the influence of the leader can always be considered, and can be used, and all staff can be covered by the leadership support. Finally, regarding the factor of knowledge beyond technical knowledge, knowledge and information creation strategies, knowledge and information apportionment,

transfer of knowledge and information, as well as transfer of experience inside the organization and even with different organizations can be used.

Any research has some limitations. The limitations of this study included lack of finding research background about the model of empowerment of human resources with emphasis on education in ornamental and building stone industry, restriction of the research population to the staff of the Iran's stone statistics and information center, the cross-sectional nature of the research and not conducting analyses per each gender and even other variables including the organizational position, etc. Thus, further research about empowerment of human resources with emphasis on education in ornamental and building stone industry can examine other angles, use longitudinal research, and conduct studies on male and female staff and then compare them with each other or even compare per other demographic variables including organizational position. Considering the model of empowerment of human resources with emphasis on education in ornamental and building stone industry, experts and planners can take effective steps for empowerment of human resources through the 10 identified factors for it including change and innovation, managerial functions, learning, development of human resources, behavioral factors, organizational factors, strategic factors of organization, environmental factors, cultural and leadership factors, as well as knowledge beyond technical knowledge. Thus, the results of this research have many practical implications for specialists and organizational planners especially in the ornamental and building stone industry. For example, based on the results of this research, they can design educational workshops and programs on enhancing the human resources empowerment with emphasis on education, and implement them by experienced experts.

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