

INVESTIGATING AND RATING THE AGILITY FACTORS AFFECTING ISLAMIC AZAD UNIVERSITY, WITH A FOCUS ON HUMAN RESOURCES OF HAMEDAN BRANCH

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Abstract

Agility improves the ability of an organization to supply high-quality products and services, and therefore is an important factor for its effectiveness. To improve their organizational agility, and to become globally developed, many organizations tend toward approaches such as virtual organization and virtual teams. The main objective of this research is to extract agility indicators of the measurement of human resources in Islamic Azad University, Hamedan, and to prioritize these indicators. In this study, at first, using library studies, the indexes were determined in five main dimensions. As such, organizational authority, organizational rules and procedures, coordination, organizational structure and human resources management practices were chosen as the main criteria which are affected by agility. Then, using the DEMATEL technique, the indicators were ranked, and the issue was structured. In this regard, from the respondents' point of view, in terms of influencing the agility, the indicator of human resources management practices was

ranked as the first.

Keywords: agility, Human Resources, Islamic Azad University

Introduction

Change, in today's competitive market, is one of the largest properties of organizations and institutions. Agility is the ability of the organization to change, so as to exploit opportunities created by this change. While an agile organization is considered as the one which can change, and as a successful strategy can adapt itself with changes in the environment, little research has been done on what is agility, and how can an organization be agile. But, finding answers for such questions is always critical for scientists and theorists of organizational agility. However, unfortunately, little work has been done on measuring the agility of the organization. It is essential to measure indexes for strategic planning, to determine the organization's current agility, to determine the need for organizational agility, to identify this gap, and to make a program to fill this weakness.

Agility, in general, is the ability of an organization to sense environmental change, and respond it quickly and effectively. This change can be both a technological and business environment change, or a change in customer needs. The term "Agile" describes the speed and power to respond when encountering organization's internal and external events.

Agile organizations not only have to respond the existing changes, but with a proper array they should also be able to gain competitive advantages.

In recent years, most organizations have focused on reducing costs, many organizations have been able to maintain their profitability. In this regard, since the number of students has been reduced due to demographic changes over the past years, economic problems, and increased capacity at other universities, Islamic Azad University faces with a shortage of funds. So, in addition to the need to seek revenue from other sources, Azad University must reduce its operating costs, and increase its adaptability with these conditions. And this is not

possible, but with a focus on the development and organization agility, especially agility in human resources. Agility upgrade in human resources will help Azad University face fewer obstacles in achieving its financial and educational goals. And hence, the university can increase the quality of educational services, while there is no significant increase in tuition fees. Therefore, the University should seek to review and improve the agility of human resources because:

- An agile organization, will not simply burnout due to sudden events and changes.
- An agile organization is fast, consistent, and powerful, and responds rapidly to sudden changes, new market opportunities, and customer needs. Agile organizations are designed to understand and predict changes in the business environment, and in this regard, they consider their restructuring. Three basic elements which create, survive, and improve organizational agility are as follows: awareness, flexibility and productivity.

One of the issues raised in moving towards an agile organization is how to manage and motivate the workforce. The most difficult part in achieving the goal of agile management is not structural change or organizing, but a change in the culture and ways of management. The importance of this study is the investigation on the impact of factors affecting agility, and the segments of the university which are affected by agility, resulting from improved agility, these factors will be examined in various aspects. Given that, detailed research has not been done in this regard, besides, since there is no reliable theoretical resource, the importance of this study is revealed more than ever.

Literature

Agility: Agility concept has been introduced by researchers Yakoka Foundation (1991), and after the first introduction, was increasingly considered by researchers and industrial communities. So far, in an attempt to provide a definition of agility, many publications have been made on this subject. Commonly accepted definitions have linked agility to the ability of organizations in responding quickly and effectively to changes in market demand, with the aim of finding customer requirements in terms of price, features, quality, quantity, and delivery. Agile organizations respond quickly and effectively to changing markets. In addition, the agility influences the ability of organizations to produce and deliver new products at the expense of productivity. Lower production costs, increased customer satisfaction, eliminated non-value- adding activities, and increased competition are among the benefits that can be achieved through agility strategy (Bottani, 2009).

Human resources (HR): Include human physical and mental efforts his mental emanations. Success will not be achieved even if materials and resources, as well as work methods and procedures are available, but there is not good and efficient workforce. Unlike this, good workforce can compensate the lack of materials, resources, and methodologies. Japan is the most obvious example of this issue. If the material and technology are not available, or they need to be renewed, they can be imported, but good and efficient workforce cannot be renewed, and it takes time to train skilled workforce.

Human resources is the most valuable and important asset of an organization, and individual and collective efforts of individuals comes from acquired knowledge, thinking, creativity and efficiency of human resources which make the organization's goals nearer or farther. Human resource management is a strategic and coherent approach in the process of managing people in organizations, and in terms of theory and practice, it determines the practical and theoretical techniques of managing the workforce.

The basic premise of human resource management theory is that humans are not machines. Therefore, using scientific and applied topics and disciplines such as psychology, sociology, human relations, etc. in human resources management is a necessity.

HR Agility: Although several definitions have been proposed for Human resource agility, none of them are opposite of the other, and they do not violate the other. Generally, these definitions show a focus on speed and the ability of staff to coordinate with changes in the business environment. Regarding the novelty of human resources agility, there is no comprehensive definition approved by everyone. Human resource agility is the ability of human resources in the organization in sensing, realizing, and predicting changes in the work environment. Such a workforce must be able to detect changes in the environment, and then, consider them as the factors of growth and flourishing (Brian Maskell, 2001).

Research design

This study is a cross-sectional and practical one. The aim of this study was to determine the factors affecting agility. Using library studies, we intended to identify the indicators, and then to assess them using DEMATEL Technique.

Taking the advantages of experts' judgment in extracting the factors of a system, and structuring these factors systematically, DEMATEL, a decision making technique which is based on paired comparisons, provides the hierarchical structure of those factors by applying the principles of graph theory, along with their mutual interactions, so that it can determine numerical ratings of the impacts of these interactions. DEMATEL method is used to identify and assess the mutual relationship and interactions between measures, and to make the mapping of a network .

So, given the important role of factors affecting agility, in this method, along with gathering experts' ideas, and using previous studies carried out for identifying the factors, experts and specialists' ideas in the subject are used in determining the interactive relationships between factors and structuring them as well, which shows more effective and more credible results. Since, on the one hand, the conditions of the problem of the present study corresponds with DEMATEL techniques, and we want to identify and structure the effective indicators of agility, on the other, so the DEMATEL method will be used.

Research questions

1. What are the main factors affecting agility of Islamic Azad University of Hamedan in terms of human resources?
2. How is the structure of main factors affecting agility of Islamic Azad University of Hamedan in terms of human resources?

Research Methodology

Regarding the topic and the objectives, present study, is considered as an applied one. In this research, first, using library studies, and resources related to agility, the factors were determined. Then, consulting with the elite and masters, the factors important to be raised and investigated in Islamic Azad University were selected, and then using the DEMATEL technique, the issue of structuring the problem was addressed. In the evaluation segment, DEMATEL method was used to prioritize them. DEMATEL can improve the understanding of the issue, and can identify scientific solutions through a network structure.

Based on the objective characteristics and features, this method, can identify relationships between parameters and variables. Since at this point, the intention of the researcher is to obtain information through library studies and paired comparisons questionnaires, statistical population of the study consists of elite and experts of Azad University, Hamedan Branch, including heads of departments and vice presidents who have the authority. After the interview, and agreement on indicators that have the ability to influence, a questionnaire was developed to give weight to those factors identified in the previous step. Sampling method in this research study is an available and targeted one. This method is based on informed choice of the specific participants by the researcher. As such, the participants must be identified with a given feature or phenomenon, or are rich in information about the specific topic of the research. This method is used when certified samples are needed (Green, 1993)

data analysis

The data analysis method used in this study is DEMATEL and BT Dematel Solver software. DEMATEL technique is a decision making technique which is based on paired comparisons. Taking the advantages of experts' judgment in extracting the factors of a system, and structuring these factors systematically, this technique, provides the hierarchical structure of those factors by applying the principles of graph theory, along with their mutual interactions, so that it can determine numerical ratings of the impacts of these interactions. DEMATEL method is used to identify and assess the mutual relationship and interactions between measures, and to make the mapping of a network. Since directed graphs can better show relations between elements of a

system, the DEMATEL technique is based on charts that can divide the involved factors into two groups of cause and effect, and make the relationship between them as an understandable structural model. Ranking the index of the organizational authority

In this study, four measures are used to verify the index of the organizational authority, whose names are in Table 1 below.

Table 1: names of measures of organizational authority

No.	Symbol	Title
1	C1	control and decentralized knowledge
2	C2	Downturn of organizational titles and levels
3	C3	commitment and loyalty to the organization
4	C4	change of authority based on tasks

Figure 1 shows the importance, impact, and effectiveness of the measures. The horizontal axis of the graph shows the importance of the measures, and the vertical axis shows the impact or effectiveness of the measures.

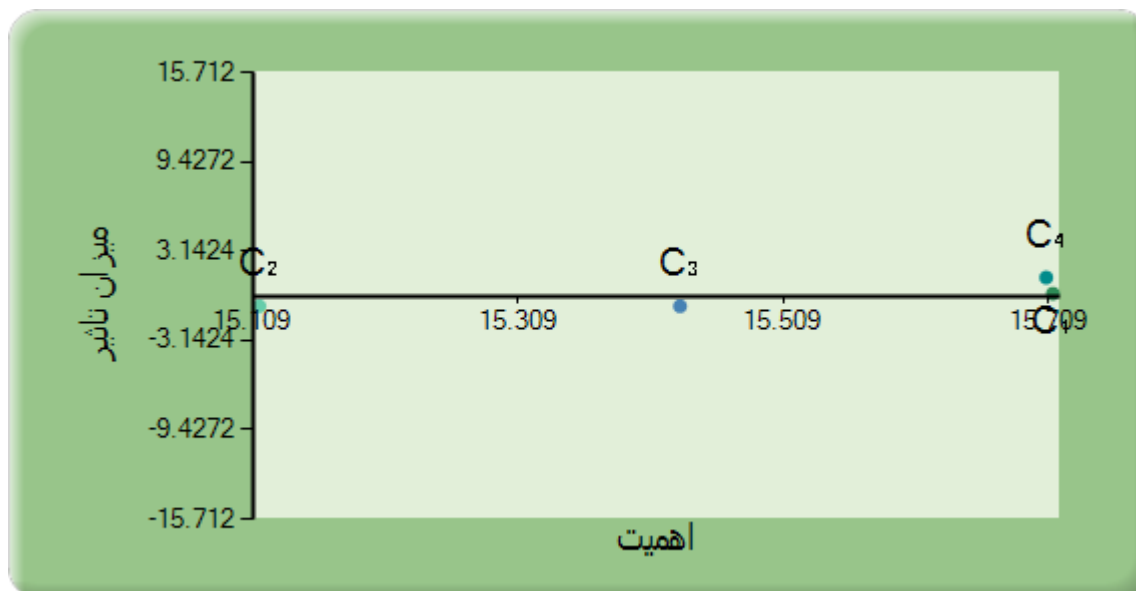


Figure 1: the relationships between and the importance of the measures of organizational authority index

Ranking the index of the rules and procedures

In this study, three measures are used to verify the index of the rules and procedures, whose names are in Table 2 below.

Table 2: names of measures of the rules and procedures

No.	Symbol	Title
1	C1	procedures and rules as necessary
2	C2	informal coordination along with official coordination
3	C3	Flexibility of organizational matters

Figure 2 shows the importance, impact, and effectiveness of the measures. The horizontal axis of the graph shows the importance of the measures, and the vertical axis shows the impact or effectiveness of the measures.

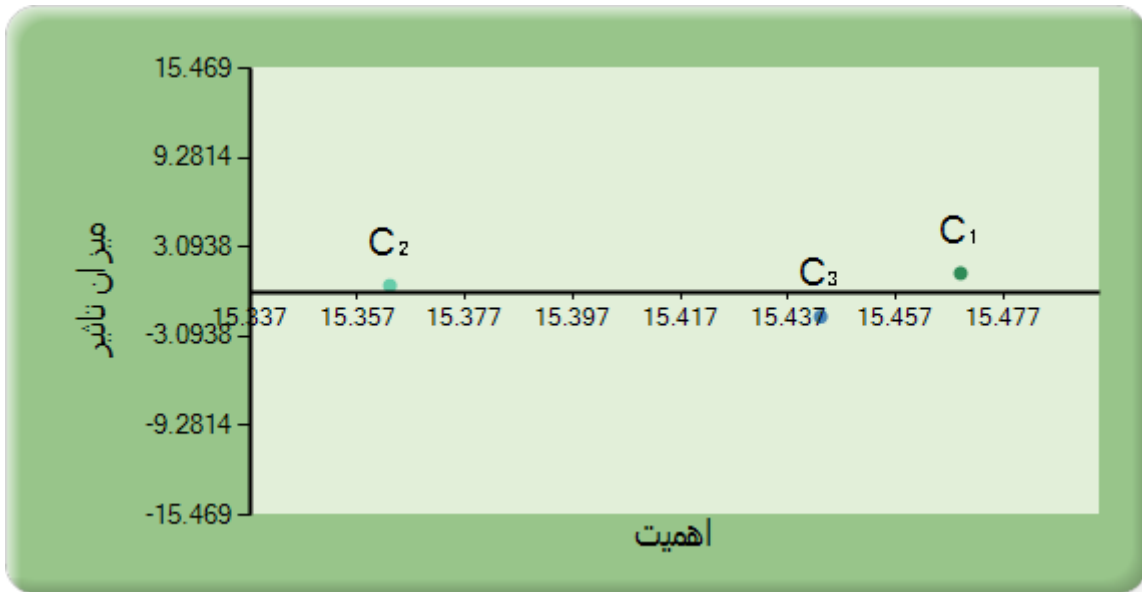


Figure 2: the relationships between and the importance of the measures of the rules and procedures index

Ranking the index of the institutional coordination

In this study, three measures are used to verify the index of the institutional coordination, whose names are in Table 3 below.

Table 3: names of measures of the institutional coordination

No.	Symbol	Title
1	C1	personal and informal coordination
2	C2	delegation of authority and decision-making
3	C3	Organizational communications

Figure 3 shows the importance, impact, and effectiveness of the measures. The horizontal axis of the graph shows the importance of the measures, and the vertical axis shows the impact or effectiveness of the measures.

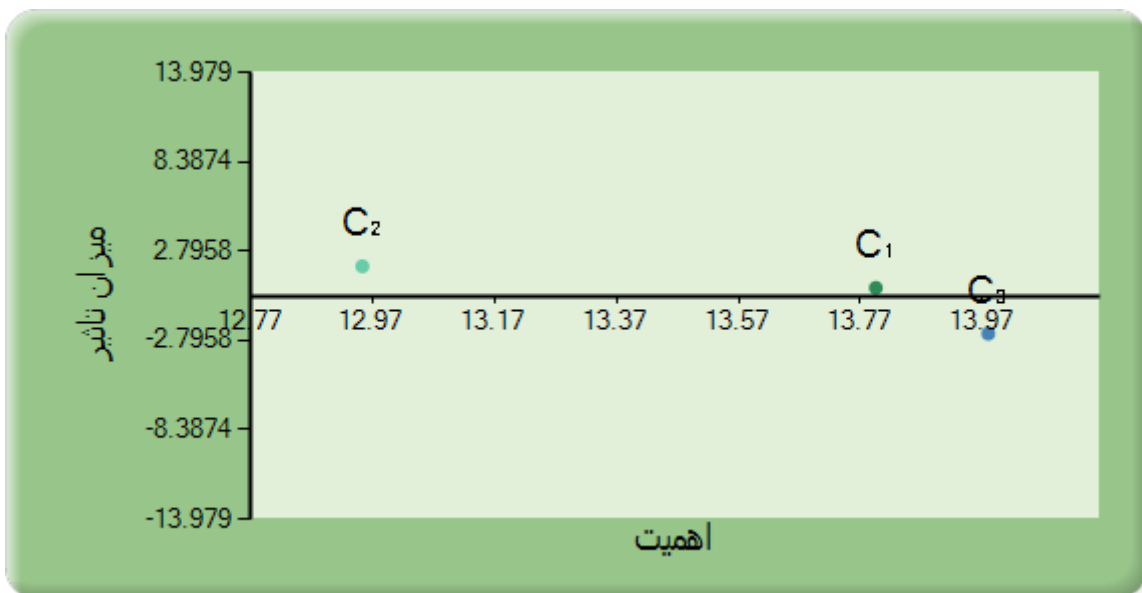


Figure 3: the relationships between and the importance of the institutional coordination index

Ranking the index of the organizational structure

In this study, three measures are used to verify the index of the institutional coordination, whose names are in Table 4 below.

Table 4: names of measures of the organizational structure

No.	Symbol	Title
1	C1	network or project structures
2	C2	teamwork
3	C3	floating and rotating roles

Figure 4 shows the importance, impact, and effectiveness of the measures. The horizontal axis of the graph shows the importance of the measures, and the vertical axis shows the impact or effectiveness of the measures.

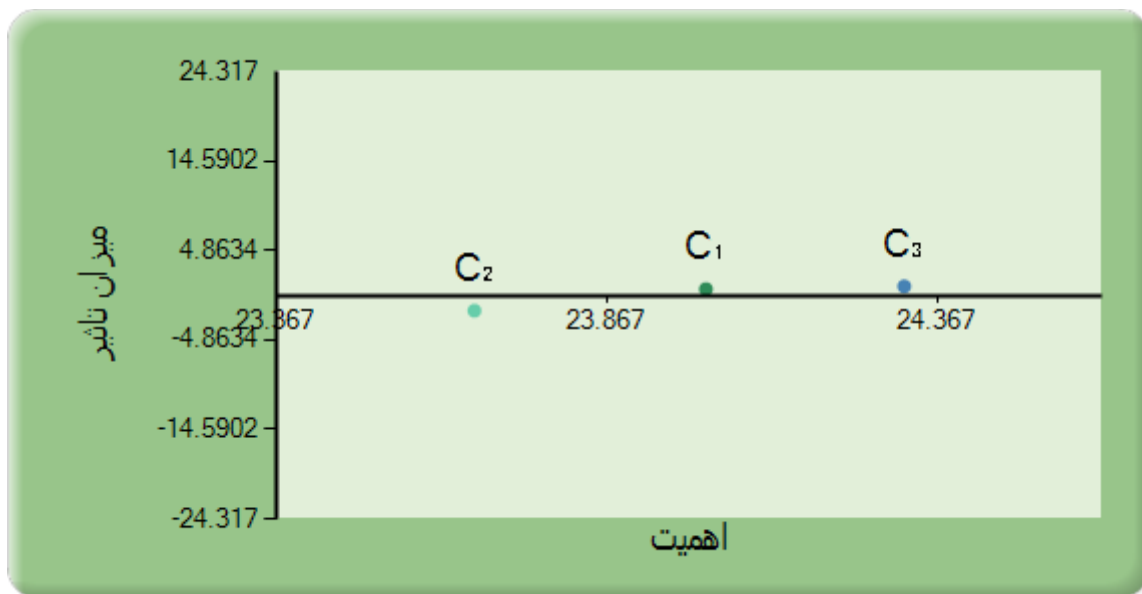


Figure 4: the relationships between and the importance of the organizational structure index

Ranking the index of the HRM practices

In this study, five measures are used to verify the index of the HRM practices, whose names are in Table 5 below.

Table 5: names of measures of the HRM practices

No.	Symbol	Title
1	C1	Staff empowerment
2	C2	job mobility and enrichment
3	C3	autonomy in decision-making
4	C4	access to knowledge and information
5	C5	Training and development of human resources

Figure 5 shows the importance, impact, and effectiveness of the measures. The horizontal axis of the graph shows the importance of the measures, and the vertical axis shows the impact or effectiveness of the measures.

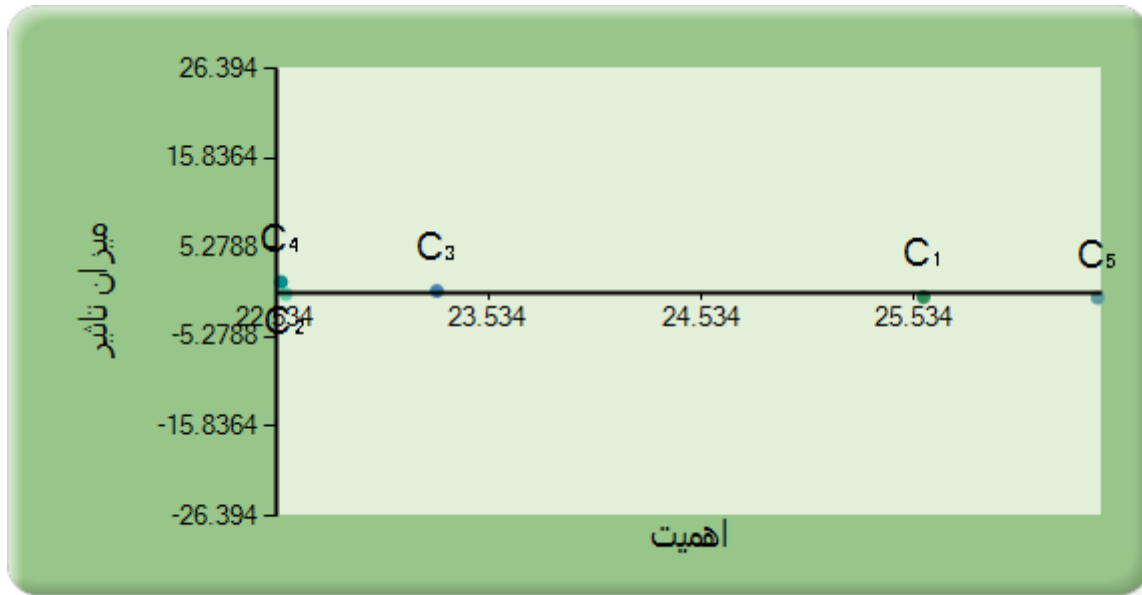


Figure 5: the relationships between and the importance of the HRM practices index

Ranking main index

In this study, five measures are used to verify the index of the main index, whose names are in Table 6 below.

Table 6: names of measures of the main index

No.	Symbol	Title
1	C1	organizational authority
2	C2	rules and procedures
3	C3	coordination
4	C4	organizational structure
5	C5	HRM

Figure 6 shows the importance, impact, and effectiveness of the measures. The horizontal axis of the graph shows the importance of the measures, and the vertical axis shows the impact or effectiveness of the measures.

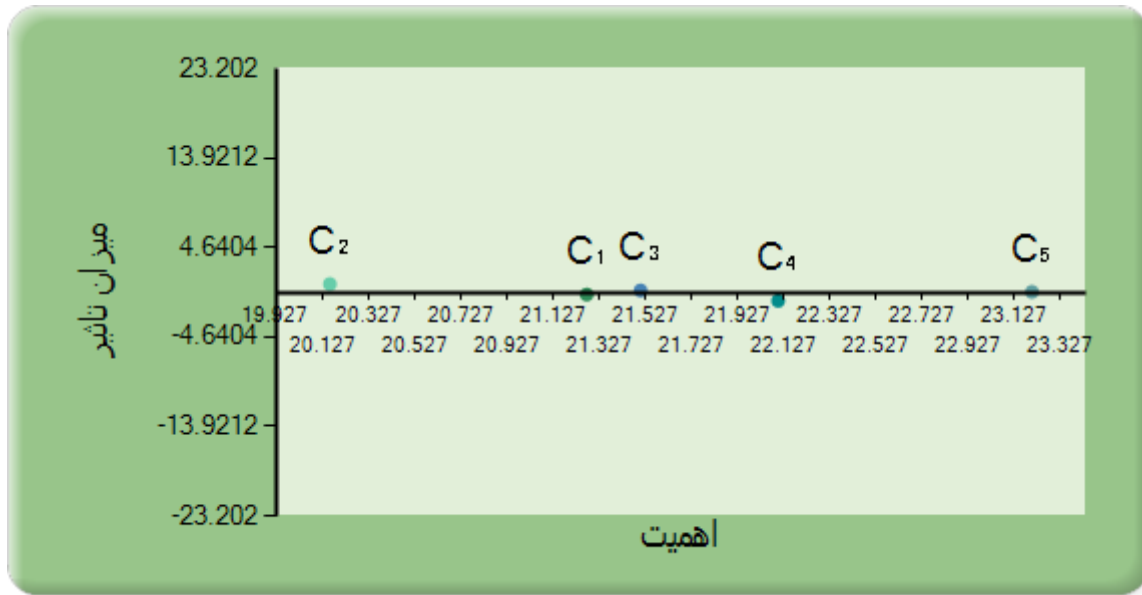


Figure 6: the relationships between and the importance of the main index

The first research question

1. What are the main factors affecting agility of Islamic Azad University of Hamedan in terms of human resources?

The main factors affecting the agility of human resources Islamic Azad University of Hamedan, were identified and classified in the form of five main variables, where each index has different indicators, all of which have been summarized in Table (1-5).

Table 7: Factors affecting the Agility system

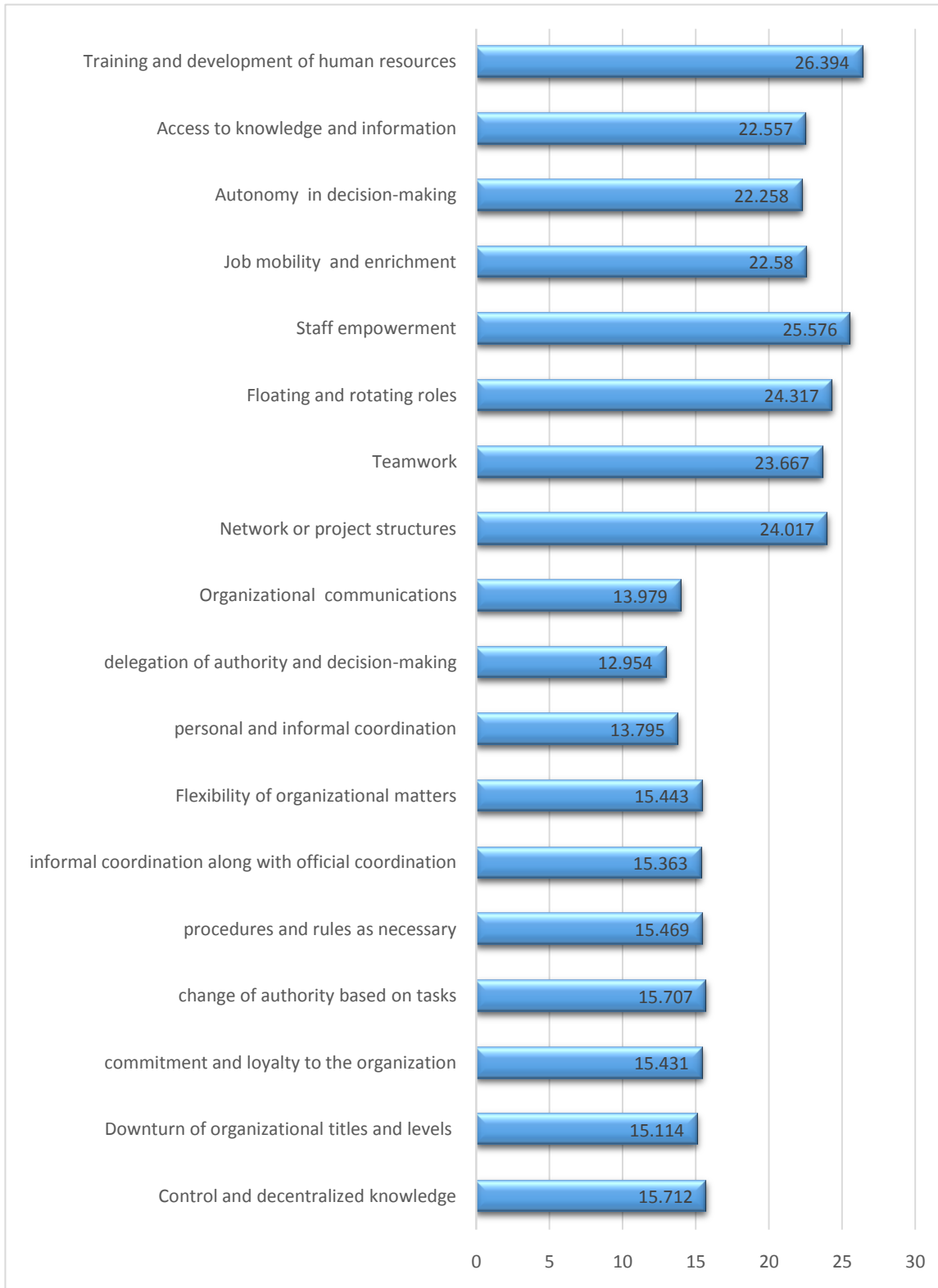
Index	Sub-index
organizational authority	control and decentralized knowledge
	Downturn of organizational titles and levels
	commitment and loyalty to the organization
	change of authority based on tasks
rules and procedures	procedures and rules as necessary
	informal coordination along with official coordination
	Flexibility of organizational matters
institutional coordination	personal and informal coordination
	delegation of authority and decision-making
	Organizational communications
organizational structure	Network or project structures
	Teamwork
	Floating and rotating roles
HRM practices	Staff empowerment
	Job mobility and enrichment
	Autonomy in decision-making
	Access to knowledge and information
	Training and development of human resources

The second research question

2. How is the structure of main factors affecting agility of Islamic Azad University of Hamedan in terms of human resources?

Table 7: Table of comparing and ranking the evaluation elements

Rank	Measure	Impact power
1	Training and development of human resources	26.394
2	Staff empowerment	25.576
3	Floating and rotating roles	24.317
4	Network or project structures	24.017
5	Teamwork	23.667
6	Job mobility and enrichment	22.580
7	Access to knowledge and information	22.557
8	Autonomy in decision-making	22.258
9	Control and decentralized knowledge	15.712
10	change of authority based on tasks	15.707
11	procedures and rules as necessary	14.496
12	Flexibility of organizational matters	15.443
13	commitment and loyalty to the organization	15.431
14	informal coordination along with official coordination	15.363
15	Downturn of organizational titles and levels	15.114
16	Organizational communications	13.979
17	personal and informal coordination	13.795
18	delegation of authority and decision-making	12.954



Discussion and conclusion

In this study, in order to achieve the influential factors, and ranking them, first, using the related literature and research in this field, as well as consulting with professors and experts in the field, the initial framework of agility of human resources, including dimensions and indicators related to it was developed. Then the

dimensions and indicators were evaluated and revised based on the experts' ideas. And finally, the final dimensions and indicators were developed.

These effective dimensions and indicators of agility were divided into five main parts, including organizational authority; organizational rules and procedures; coordination; organizational structure; and human resource management. According to their main indicators, these factors were evaluated in five categories, and the results are as follows.

From among the components of organizational authority and its four subfolders, namely the control and decentralized knowledge; downturn of organizational titles and levels; commitment and loyalty to the organization; and change of authority based on tasks, control and decentralized knowledge was placed at the top, which shows the high impact of this factor in the set. The other factors were change of authority based on tasks, commitment and loyalty to the organization, and downturn of organizational titles and levels, respectively. Considering the results obtained in this group, the university must consider a system for storage and sharing it.

Three measures of procedures and rules as necessary; informal coordination along with formal coordination; and flexibility of organizational matters are in the second dimension of effective factors, i.e. organizational rules and procedures, where, according to the results, procedures and rules as necessary is at the first place, which indicates that too much laws and rules make the organizational system cumbersome. Rules and procedures in an agile human resources, should only cover the necessary range, and lengthening the processes, or passing additional subjects or procedures that slow the system should be avoided.

In the third dimension, the elements of coordination were three indexes of personal and informal coordination; delegation of authority and decision-making; and organizational communications, where, after investigation, organizational communications came at top of the category, and, personal and informal coordination and delegation of authority and decision-making were the next factors respectively. This order indicates the importance of organizational communications in an organization's agility.

In the factors of the fourth dimension, that is, components of the organizational structure, there are factors such as network or project structure, teamwork, and the floating and rotating roles within which the floating and rotating roles was at the first place, the network or project structure in the second, and the teamwork was located as the third important factor.

The existence of floating and rotating roles in the organization makes the movement from one role to another very quickly, helps employees learn several multiple competencies, simultaneously, and by active learning they will share information and knowledge. Within network or project structures there are extensive connections, and this factor, increases system speed. Also regarding teamwork, we can say that teamwork makes the organization responsive and flexible, because teamwork creates a platform for agility, and decision-making through groups.

The fifth dimension of factors is human resource management practices, with its five elements of staff empowerment, job mobility and enrichment, autonomy in decision-making, access to knowledge and information, and the training and development of human resources. The results indicated that the factors and measures of human resources management have greater power of influence than any other factor. Within the group, training and development of human resources was ranked as the most important, and the other factors were ranked as follows; staff empowerment, job mobility and enrichment, access to knowledge and information, and ultimately, autonomy in decision-making respectively.

In the process of making an organization agile, while the systems and structures are experiencing transformation, individuals' jobs will change as well. In terms of job enrichment, it should be mentioned that job enrichment, as one of the techniques of sharing power and authority, will have a major effect on agility of human resources. Accordingly, while deepening the individuals' job can be studied in terms of motivation and organizational behavior, it is also of interest in terms of empowerment. In terms of education and its impact on agility, it should also be noted that the efficiency increase of human resources is successful in the dimension of education, development of knowledge and skills, and creating favorable behaviors for work. According to the findings of various researches, the role of constant and appropriate education in creating the necessary infrastructure for human resources is essential.

References

- Bottani, E. (2009). A fuzzy QFD approach to achieve agility. *International Journal of Production Economics*, 119(2), 380-391.
- Green, P. J., & Silverman, B. W. (1993). *Nonparametric regression and generalized linear models: a roughness penalty approach*. CRC Press.
- Maskell, B. (2001). The age of agile manufacturing. *Supply Chain Management: An International Journal*, 6(1), 5-11.