

# Identifying dimensions and components of organizational agility based on the development of human resources to provide a model of organizational agility in the Islamic Azad University of Tehran province

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#### Abstract

**Background and purpose:** This problem of how organizations can succeed in a dynamic and unpredictable environment is an issue that is known as the most important challenge in today's world. Therefore, the purpose of this research was to identify the dimensions and components of organizational agility based on human resources development to provide a model of organizational agility in the Islamic Azad University of Tehran province. Methodology: In this regard, the statistical population of the research included all employees of the Islamic Azad University of Tehran province, which was about 6735. Among these, using Morgan's table, Cochran's formula, and multi-stage and proportional cluster sampling methods, 386 university employees were considered the sample size. The data collection method was based on a researcher-made questionnaire, research literature, and semi-structured interviews. Cronbach's alpha coefficient of the research tool was calculated as 0.919. After distributing and collecting the questionnaires, the information was checked, and the hypotheses were tested using the structural equation modeling method and with the help of SPSS and LISREL software. Results: Finally, the research findings confirmed the five dimensions, strategic, information technology, human, organizational and cultural, as the dimensions affecting organizational agility based on the development of human resources. **Conclusion:** The research results showed that the strategic dimension has the highest average, and dimensions of information technology, human, organizational and cultural are placed in the next ranks. Finally, confirmatory factor analysis showed that dimensions of organizational agility based on human resources development explain up to 71.282% of the variance of existing indicators of organizational agility based on human resources development.

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## Introduction

In every country, the educational system is one of the most complex social, economic, and cultural sub-systems, which always involves many people as learners and teachers directly or indirectly in some way with its activities (Maqdasi, Mohammad Khani, and Dawoodi, 2016). Universities, as one of the significant centers of science, are of special importance; for this reason, the main management of any country is the responsibility of its universities as the center of production of science and training of specialized personnel (Aghapour, Mohd Mohammadi, Alam Beigi and Shabanali Femi, 2012). Therefore, attention to organizational agility with the major role of human resources and attention to the importance of growth and promotion of employees in the form of human resource agility has become more visible in the university and should be given serious attention (Maghdasi et al., 2016).

Today, technological and technological transformations, informational and educational, globalization and instability, the diversity of learners' needs and expectations, the faster process of change, the need for universities to be accountable, their social and moral responsibility towards society, etc. have created conditions that the traditional methods and paradigms of universities, as in the past, can no longer adequately respond to their client's needs (Bagheri & Abbaspour, 2012). By studying the current situation in the Islamic Azad Universities of our country, it is clear that successful efforts have been made by their officials to identify changes and transformations to create effective challenges in this field and to take advantage of these changes and transformations in order to improve and develop their human resources. In other words, our educational system is a non-dynamic and singlecentered system with a traditional and quantitative structure (Sahami, 2012). The question is how organizations (especially universities and scientific centers) can achieve agility. By examining previous studies in organizational agility, it has been determined how an organization can gain and maintain the advantage of agility. From the tools mentioned by the specialists of these organizations to achieve agility, we can mention flexible structure, human resources development, technology, information technology, innovation, and creativity. Despite the importance of these factors and tools for making the organization agile, researchers have emphasized that the development of human resources is one of the most important of them (Dair & Shafer, 2003). The concept of agility in the dictionary means fast movement, agile, active, and the ability to move quickly and easily and think quickly and intelligently (Hornby, 2000). Agility means the ability of any organization to feel, perceive and anticipate changes in the business environment. Such an organization should be able to recognize environmental changes and see them as factors of growth and prosperity (Sharifi & Zhang, 1999). The problem of how organizations can succeed in a dynamic and unpredictable environment is an issue that is known as the most important challenge in today's world. In such an environment, agility has become an important capability that affects the organization's performance (Roichandran, 2007).

In this way, one of the most basic mistakes is ignoring the prominent role of human resources in improving agility. Although human resource agility has been declared as a profitable strategy in the business environment, still, the lack of agile human resources has been identified as one of the main reasons for the failure of organizations to keep pace with market and technology changes (Tureng, 2005).

Agile organizations try to enrich their product to increase the value customers receive from the product. This makes the position of agile organizations inaccessible to competitors (Christo & Youssef, 2003). The foundation of an agile organization is to align information technologies, employees, work processes, and facilities in a flexible organization. Quickly responding to changing conditions will complement these capabilities (Dyer & Shafer, 2003). Also, agility is the organization's ability to balance and maintain compliance and commitment. Agile organizations do not commit themselves to the rigid conditions of an aimless perspective focused on routine actions. According to Doz and Kosonen (2010), strategic agility results from three organizational characteristics. The term hyper capability has been used to describe these three characteristics closely aligned with the concept of dynamic capability. These three meta-capabilities include strategic sensitivity, resource fluidity, and collective commitment. Dyer and Shafer (2003) investigated the behavioral factors for organizational agility by employees and concluded that organizational agility requires a change in behavior in the organization's human resources. Sherehyi et al. (2007) have considered a range of inclusive agility capabilities: 1) Flexibility 2) Responsiveness 3) Change culture 4) Speed 5) High integration and low complexity.

Ambrose and Morilla (2004) consider agile organization design possible by balancing order and change in the business environment. They declared: that formulation of sourcing strategy, management of resources, creation and strengthening of competence in employees, training and identification of leaders, central process, the establishment of structure based on the information system, and coherence in the field of preparation for change are essentials of the agile organization. Sumokados and Savoni (2014) presented a theoretical model that showed the impact of human resource management measures on human resource agility. In fact, the impact of actions that lead to involving employees in work (which is called IE actions for short) and increases their motivation and commitment; The results of the research showed that organizational power-sharing methods, including job enrichment and development, self-management teams, quality circles, and suggestion systems have a strong and significant impact on human resource agility.

On the other hand, in traditional management texts, human resources development is considered a set of individual and organizational actions, the purpose of which is to increase the potential contribution of people in the organization. In the current dynamic environment, knowledge-based organizations demand that organizations develop their learning capacity more effectively and faster than their competitors and find methods and skills to solve complex problems. Therefore, relying on human and intellectual capital is a sustainable competitive advantage in a knowledge-based economy and requires developing skills and empowering the organization's human resources (Zha, 2004). Human resource development believes that organizations are artificial institutions that rely on human expertise that was formed in order to determine and achieve their goals. Meanwhile, human resource development supports the organizational, group, and individual cohesion and work processes. Abtahi, 2004). Human resource development functions are different from HR functions. Rao (2007) enumerates the following roles for the human resources development manager: 1) development of empowerment capabilities in people and systems; 2) integration of individual development and organizational development; 3) maximizing the learning opportunities of people in the organization through various mechanisms; 4) working autonomy and shared responsibility; 5) creating a balance between change and adaptation; 6) Providing feedback and reinforcement mechanisms, etc. (Rao, 2007).

This research seeks to answer the following questions: 1) What are the different components affecting organizational agility based on human resource development? 2) What are the different dimensions affecting organizational agility based on human resource development? 3) How is the model of organizational agility based on the development of human resources in Islamic Azad University of Tehran province? 4) How valid is the model presented in Islamic Azad University of Tehran province?

# Methodology

The current research is a mixed type (quantitative and qualitative) and simultaneously applied research. In terms of the environmental dimension, it is of the field type. This descriptive research is a survey type, and descriptive statistics and inferential statistics methods have been used in different stages of the research. The statistical population of this research in the quantitative part includes all staff members of the Islamic Azad University of Tehran province in 2017-2015, whose number was 6735. A sample size equal to 386 people was selected using Cochran's formula and Morgan's table and calculated using the multi-stage and proportional cluster sampling method. In this research, a researcher-made questionnaire was used to collect data. The validity of the research questionnaire was confirmed by using the content validity method and with the opinion of the supervisors and advisors, as well as several of the author's experts in the field of organizational agility and human resource development, after applying limited amendments. In order to measure the reliability of the tool, the research questionnaire was

distributed among 40 samples and was evaluated by calculating Cronbach's alpha. Cronbach's alpha was calculated as 0.919.

The questionnaire contains 84 items and has a four-point Likert scale (very low 1, low 2, high 3, very high 4). Due to the fact that in this research, the average variance index extracted for all research variables is above 0.5, therefore, the convergent validity of the model structures is confirmed.

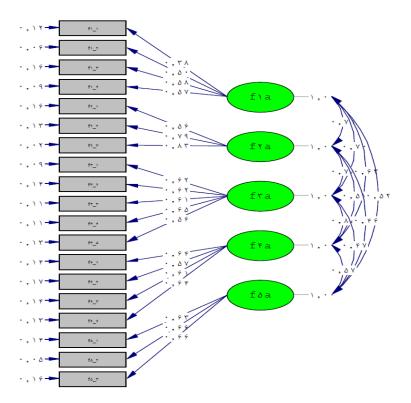
Table 1: dimensions and components extracted from research literature and interviews

Dimensions	Components	Sources
Strategic	Strategic vision	Jazni and Rostami (1390), Sayadi Turanlu (1393), Youssef et al. (1999), Amirhosseini et al. (1388)
Strategic	Policy and politics	Hasnawi, Nejatian and Zanjerchi (2013), Alfat and Zanjerchi (2018), Sharifi and Zhang (1999)
Strategic	Mission and mission and values	Sayadi Turanlo (1393), Alfat and Zanje Chi (1388), Kiaei (1388)
Strategic	Values	Plonka (1997), Bro et al. (2002), Sharifi and Zhang (1999)
human	Continuous training and development of employees	Amirhosseini et al. (2018), Youssef et al. (1999), Dyer and Shafer (2003), Sherihai (2007), Azar et al.
human	Innovation and creativity	Nejadian, Hasnawi and Zanjichi (2011), Tsangvelin (2011), Yusuf et al. (1999), Plonka (1997), Morgan and Hunt (1994)
human	Professional ethics and responsibility	Plonka (1997), Bro et al. (2002), Somokados and Savoni (2014)
human	Attitude to learning and self-actualization	Plonka (1997), Hossein Sayadi Turanlou (2013), Zahra Amirhosseini and colleagues (2018)
human	Sharing knowledge, transferring experiences	Boro et al. (2002), Hossein Sayadi Turanlu (2013), Ghorbanzadeh et al. (2010)
cultural	The culture of change	Sherhai et al. (2007), Bro et al. (2002), Yusuf and Croctio (2003), Agrawal et al. (2007).
cultural	A culture of flexibility	Sherhai et al. (2007), Bro et al. (2002), Brown and Besant (2003), Tseng and Lin (2011).
cultural	Providing solutions to face problems related to change	Griffin and Heskett (2003), Khosravi (2010), Agrawal et al. (2007), Shrihai et al. (2007)
organizational	Performance evaluation system	Butani (2010), Khosravi (2010), Stewart and Brown (2011)
organizational	Corporate Communications	Kartoria and Partui (1999), Butani (2010), Khosravi (2010), Youssef and Croctio (2003)
organizational	Employee participation	Kartoria and Partui (1999), Gunaskaran (1999), Bro et al. (2002), Lin et al. (2009), Morgan and Hunt (1994), Agrawal et al. (2007).
organizational	Improving job skills	Moghdisi, Mohammad Khani and Davoudi (2015), Youssef et al.
Technology	The existence of	Sayadi Turanlu (2013), Gunaskaran (1999), Butani (2010), Kiaei (2018),
	regular communication networks	Bro et al. (2002), Lin et al. (2009), Agrawal et al. (2007), Tseng and Lin (2011)
Technology	Enhancement technologies for knowledge and skill development	Sayadi Turanlou (2013), Youssef et al. (1999), Kiaei (2018), Tseng and Lin (2011)
Technology	The reshaping of technologies	Sayadi Turanlu (2013), Butani (2010), Bro et al. (2002), Kiaei (2018), Tseng Velin (2011)

Figure 1. Research concept

## **Results**

The research results showed that the "strategic" dimension, from the point of view of the studied sample, with an average of 3.21 and a variance of 0.2704, had the greatest impact in achieving organizational agility based on the development of human resources. The "Information technology" dimension is known as the second most important and effective dimension, with a mean of 3.14 and a variance of 0.4489. The "human" dimension, with an average of 3.10 and a variance of 0.3969, was identified as the third most important and effective dimension. The organizational dimension, with an average of 3.06 and a variance of 0.4225, has been identified as the fourth practical dimension, and the "cultural" dimension, with an average of 2.99 and a variance of 0.5776, has been identified as the fifth dimension.



Chi-square = 483.33, degree of freedom = 142, significance = 0.00000, RMSEA= 0.079

Figure 2. 5 implicit dimensions and 19 apparent components

Table 2. Implicit and explicit dimensions and factor loading

Current dimensions	Obvious components	Factor load
human dimension	Creative, professional and responsible	27/089
	Continuous training and learning	
	Knowledge sharing and	
	information transfer	
	Innovation	
	Attitude towards learning and	
	self-actualization	
Organizational dimension	Performance evaluation system	17/019
	Employee participation	
	Corporate Communications	
	Improving job skills	
Information Technology	Regular communication	10/882
	networks	

	Technologies that promote	
	knowledge and information	
	The reshaping of technologies	
Strategic dimension	Strategic vision	10/415
_	Policy and politics	
	Mission and mission	
	Values	
Cultural dimension	The culture of change	5/872
Current dimensions	A culture of flexibility	
human dimension	A solution to deal with problems	
	related to change	

Figure 2 shows the measurement of organizational agility dimensions based on human resource development prepared using the Lisrel software. The estimation results (lower part) indicate the appropriateness of the model. According to Lisrel's output, the calculated chi-square value is equal to 483/33. The low level of this index indicates a small difference between the conceptual model and the observed research data. Also, the value of RMSEA (root mean square of estimation errors) is equal to 0.079, and considering that the limit of RMSEA is 0.09, and this value is smaller than this limit, it indicates a good fit.

Table 3. Index range and goodness of fit

Fitness index	Good fit	Acceptable fit
P-value	P<0.05	$P0.05 \le P \le 0.01$
$\chi^2$	It is always significant in a large sample size	
$\chi^2/df$	$0 \le \chi^2/df \le 2$	$2 \le \chi^2/df \le 3$
RMSEA	$0 \le RMSEA \le 0.05$	$0.05 \le \text{RMSEA} \le 0.09$

## **Discussion and Conclusion**

According to the studied sample, the following dimensions were obtained: strategic with an average of 3.21, information technology with an average of 3.14, human with an average of 3.10, organizational with an average of 3.06 and cultural with an average of 2.99. On the measuring scale (1-4) it has been very important in organizational agility based on human resource development. The combination of the mentioned five dimensions showed the highest factor loading in the exploratory factor analysis (explaining 71.28 percent of the variance). However, the order mentioned in the organizational agility training has changed. That is, in order of dimensions: human, with a factor load of 27.09, organizational, with a factor load of 17.02, information technology, with a factor load of 10.88, strategy with a factor load of 10.41, and culture with a factor load of 5.88 (total 71.28 percent) are effective in organizational agility based on the development of human resources. The results of this

research in the human dimension align with the results of the research of Amirhosseini et al. In the strategic dimension, the research results are aligned with their findings. According to him, the existence of a common vision (one of the important factors of the strategic dimension) is one of the important factors in achieving organizational agility. He concludes that the creation of a common vision among employees is one of the most sensitive stages in the evolution of the organization towards organizational agility. He also concluded in the information technology aspect of his research that the basis of the agile organization is the alignment of information technologies, employees and work processes. The results of this research are in line with the research of Lin (2005). These results are also consistent with the research results of Hamidi et al. (2009). In their research, they concluded that it is one of the five levers to create agility in the information technology organization, and these results are in line with the results of Goldman (1995), Stewart (1996), and Somokados and Savoni (2014) had achieved. Bagheri Karachi (2013) also stated that an agile university needs a high-quality, innovative, and learning workforce to deal with environmental stimuli such as technological changes and transformations, continuous changes in customer expectations and preferences, and continuous changes in student expectations. Universities need a series of enablers to realize agile capabilities. One of these enablers is an agile organizational structure, which has been the focus of university employees in the current research. Also, these results are consistent with the research of Dyer and Shafer (2003) on the agility of the organization's human resources. They stated that proactive initiative means looking for suitable opportunities to participate in the organization's success and actively pursuing possible and promising opportunities. In addition, in the dimension of constructive behaviors, employees should simultaneously acquire and learn the necessary competencies and skills in several areas and improve their ability and education level by actively sharing knowledge and information.

In their research, Abir Hamoud Al-Fawri and Marwan Mohammad (2014) concluded that out of these three factors, according to the three factors that Dayer and Shafer (2003) paid attention to, activism had the greatest impact on organizational memory. The results of their research showed that the action-oriented workforce has a positive and significant effect on organizational instructions and procedures and organizational memory. In turn requires managers who promote proactivity and increase the proactivity of the workforce through selection, training, or other organizational interventions. The research of Morgan and Hunt (2007) showed that the management of the organization has no other way to create an organization with efficient and capable human resources than to pay attention to the issue of education, strengthening the power of creativity and initiative, raising morale and motivation, developing the personality of employees and issues of this kind. They stated that to achieve the goals of human resources development, in the first stage, the performance of the employees should be evaluated and measured in a good way

(performance evaluation). After determining the strengths and weaknesses of the employees in the above fields, action should be taken to eliminate the weaknesses and strengthen the strengths. These results are consistent with the findings of the present study. Ganavi and Hariri's research (2014) also showed that, in line with the results of the current research, the design and transformation of the organizational structure should be done in such a way that it is possible to improve the attitude of the employees toward their duties and to develop appropriate behavior in them. Such a structure can improve employees' creativity and thus strengthen the processes of innovation and the development of human resources. It will draw the organization's strategic vision towards the development of human resources and a better future. The results of Janavi and Hariri's research also considered organizational culture as the second most important factor in achieving the development of human resources in the organization, which can provide appropriate interaction methods to achieve the desired level of human resources development.

The research results in the information technology dimension align with the results of Khatami Firouzabadi et al. (2013). Their research concluded that information technologies had been recognized as one of the most important enablers of organizational agility in Bahman Automotive Group. Also, these results align with the results obtained in the research of Jazni and Rostami (2013). In their research, they concluded that the strategic factor plays the most crucial role among the factors affecting the empowerment and development of human resources. These results are also in line with the research findings of Ambrios and Morilla (2004); according to them, the strategy of sourcing and knowing the strategies of the organization is one of the general principles for creating an agile organization. Also, in the research results of Croatia and Youssef (2003), it is indicated that strategic leadership can use the organization's culture to achieve a competitive advantage. Also, the organization's management must maintain its employees' readiness to face various customers. Doz and Kosonen's (2008) research showed that strategic agility results from three organizational characteristics. These characteristics include strategic sensitivity, fluidity of resources, and collective commitment. The research of Tseng and Lin (2010), who paid attention to the mechanism, strategy, and infrastructure as the basis of agile tools, is also aligned with the present research results. In their research, Jafarnejad and Darwish (2009) used the indicators of measuring agility and supply chain related to Lin and his colleagues (2005) and Sharifi and Esmaili (2006). They presented a model on agility capabilities under responsiveness, competence, flexibility, and speed. They have pointed to results such as the importance of a culture of flexibility in achieving organizational agility.

Suppose the university in question pays attention to the presented model for achieving organizational agility based on human resources development. In that case, it will be able to move towards the goals of development and agility in the university according to the

evaluations and opinions of the employees. The priority of the identified factors. What has been observed so far in the Islamic Azad University of Tehran province is a quantitative and mechanical improvement. As we know, constructing new faculties and buildings includes most of the developments. However, the planners of the Islamic Azad University of Tehran province should give attention to the developed and agile university to achieve the goals and visions of the country. Due to the nature of their work, universities face different demands and needs, pressures, and constant environmental changes. On the other hand, one of the differences between the universities in the past and the present is the flexibility and dynamism in adapting the services to the needs of students, professors and employees. Therefore, the need to work flexibly with the human resources development approach is felt in these universities' administration. By using this model, the university will put the promotion of qualitative goals on the agenda and gain the ability to face the challenges ahead due to global changes and social competition and technological advances.

#### **Ethics**

This research observed ethical standards, including obtaining informed consent and ensuring privacy and confidentiality. Also, while completing the questionnaires while emphasizing completing all the questions, the participants were free to withdraw from the research at any time and provide individual information. They were assured that the information would remain confidential, which was strictly adhered to.

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### **Conflict of Interest**

According to the authors, this article has no financial sponsor or conflict of interest.

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