

Original Article (Mixed)

# Modeling of Third Generation Human Resources Management Education in Medical Sciences

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**Abstract**

The aim of the present study is to model the third generation human resources education in medical universities of the country. This study is applicable-developmental in terms of its purpose, and descriptive-survey in terms of its data collection method. The participant society of the qualitative part of the study includes the managers of the country's medical universities, who were selected using purposive sampling. In the quantitative part, the perspectives of 384 experts from the country's medical universities were used. The data collection tools are semi-structured interviews and a researcher-made questionnaire. The content analysis method was carried out by MaxQDA 20 software to analyze the expert interviews. The partial least squares method with Smart PLS software was used to validate the model. The results showed that governance, politics and legislation, religion and culture, security and defense factors have an impact on social and economic factors. Social and economic factors also affect structure, readiness and infrastructure, interactions and communications, and research and technology. These factors also affect executive management, and executive management affects physical characteristics, scientific, intellectual, psychological, behavioral, spiritual and moral qualifications. These factors also affect educational leadership and management, and ultimately lead to the training of third-generation human resources in medical universities.

**Keywords:**

Education,  
Third-generation  
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## Extended abstract

### Introduction

One of the most important elements for the optimal use of human resources in any society is the challenge of employing individuals in various activities. The issue of employment, and on the other hand, unemployment, are among the most important elements that must be given more attention by individuals to create a prosperous society; because the necessary condition for growth and development in any society is the creation of employment in it (Khorsand et al., 2021). In the meantime, the higher education system plays an important role in employment and the labor market. Developed countries have moved towards third-generation universities to empower graduates and train efficient human resources that are in line with the needs of the labor market (Pietrzyk et al., 2023). In fact, it can be claimed that the dominant model of a successful higher education system in the present era is third-generation universities, which are also known as entrepreneurial universities (Meissner et al., 2022). It must be said that transforming first- and second-generation universities into third-generation ones is not only a basic necessity for all countries, but ignoring it will have adverse consequences. This issue is doubly important given the issue of unemployment among the educated class (Meshki Hasanabad et al., 2022). Unemployment among university graduates is a fundamental problem for all countries, including Iran; according to the results of the labor force survey by the Statistical Center of Iran in the spring of 2023, the unemployment rate in the age group of 18 to 35 years (who are mainly university graduates) has increased to the point that 16.6% of the active population of this age group is unemployed. Also, seasonal changes in the unemployment rate of these individuals show that this rate has increased by 1% compared to 2022 (Saba et al., 2023).

### Theoretical foundations of the research

An entrepreneurial university is a university in which knowledge and science entrepreneurship has been created as a force for economic growth and competition in global markets. Entrepreneurship is a focal element of the third-generation university and has occupied many fields of study (Alvin, 2022; Centobelli et al., 2018). Entrepreneurship is a process in which a new idea is transformed into a new product or service, and can lead to increased productivity, wealth creation, welfare, and job creation. On the other hand, entrepreneurship is an educational, nurturing, and long-term process that requires planning in the educational and research system. The implementation of entrepreneurship programs starts at the family and school levels and continues to the university and organizational levels (Kislyakov et al., 2021).

In fact, the fundamental role of universities in the world in training a skilled workforce has caused fundamental changes and developments in different countries, especially developed countries. Although it cannot be admitted that an entrepreneurial university is always profit-seeking or that a traditional university never seeks profit; it should be known that the important feature of an entrepreneurial university is its economic aspect, efficiency aspect, and competitiveness aspect compared to other universities (Klofsten et al., 2019). In fact, an entrepreneurial university is more responsive to economic and social needs than a traditional university. In knowledge-based societies, universities are expected to be more flexible in order to play their important role in social progress and to engage in more interactions with society, create innovation, transfer science and knowledge, and exploit scientific studies in order to increase welfare and economic competitiveness (O'Reilly et al., 2019; Lee et al., 2023). Job, employment, and unemployment of young people in society, due to the lack of mastery of the skills required by the labor market, are considered one of the main economic challenges of countries. To face these challenges, the world's economic systems have moved

towards third-generation universities (Mohammad Shafi'i et al., 2020). The entrepreneurial university is a place where new jobs are created. This university provides educational, financial, and marketing support to entrepreneurs, and provides them with employment conditions (Ja'fari et al., 2020). However, it seems that the reductionist and applicable approach to entrepreneurship in the educational system has led to the emergence of a small level of self-employment in society. This issue is considered an important challenge in the field of academic entrepreneurship, which is due to the unbalanced development of science and knowledge and a misunderstanding in the correct understanding of the third-generation university in the country. Third-generation universities were formed with the emergence of applicable and need-based studies, and are entrepreneurial and based on entrepreneurship and solving societal problems with a systematic and scientific approach in interaction with the surrounding environment (Calvo et al., 2019). One of the key perspectives of the aforementioned university is the development of individual job skills, professional development and competencies, and empowerment of students and professors in line with the national development process and solving societal challenges in a scientific way (Dalmarco et al., 2018).

### **Research Method**

**Type of Research:** This research is an applicable-developmental research in terms of its purpose, and seeks to model the education of third-generation human resources in the country's medical universities. Based on the data collection method, it is a non-experimental (descriptive) research conducted using a cross-sectional survey method. **Research sample and sampling method:** Participants in the qualitative part of the research include theoretical experts (university professors) and empirical experts (directors of medical universities in the country). Sampling was carried out using a purposive method and continued until theoretical saturation. Accordingly, 19 people participated in the qualitative part of the research. The statistical population of the quantitative part includes experienced experts in medical universities. The sample size was estimated at 384 people using the Cochran formula, and sampling was carried out by cluster-random method.

**Research data collection tools:** Semi-structured interviews and a researcher-made questionnaire were used to collect research data. And to analyze the expert interviews, thematic analysis method was used with MaxQDA 20 software. To validate the model, the partial least squares method was used with Smart PLS software.

### **Research Findings**

The results of the interviews were analyzed using qualitative thematic analysis based on the six-step method of Attride-Stirling (2001). In the open coding stage, 356 codes were identified. Finally, through axial coding, 4 overarching themes, 17 organizing themes, and 71 basic themes were obtained. Also, GOF in this study was obtained 0.631, which is higher than 0.36. The RMS-theta index was obtained 0.100; less than 0.12. SRMR index was also obtained 0.050; less than 0.08; therefore, the model fit is favorable.

### **Conclusion**

This study was conducted with the aim of modeling the training of third-generation human resources in the country's medical universities. Currently, the issue of examining and evaluating the educational needs of employees in the scientific and applicable system and their training, which is a large segment of the workforce employed in universities, has been recognized as an essential issue, and action must be taken to resolve it. Training is a set of planned efforts by a university to facilitate the learning of its employees about their job



competencies. These competencies include skills, knowledge, and behaviors that are essential for successful job performance. The results of the present study are consistent with the results of the studies of Mirjavani Zanganeh et al., (2021), Saba et al., (2023), Meshki Hasanabad et al., (2022), Mijani et al., (2022), Mousavi et al., (2017), Khosravi et al., (2021), and Ramezani et al., (2018). The results of the study of Al Jubouri (2023) showed that there is a strong relationship and influence of transformational leadership in the training process and in all dimensions except employee empowerment and materials. In fact, by understanding the dimensions of the research, in addition to preparing a catalog including the materials in which training is provided, trust between employees, management, and trained employees can be increased. The value of the study focuses on adding some knowledge to leaders, practitioners and managers, transformational leadership and the education process.

According to the results of the study, the following suggestion is made:

Regarding security and defense factors, it is suggested that in addition to establishing offensive and defensive management of health hazards, attention should also be paid to the occupational safety of human resources. Creating economic security is an important element in reducing their stress, and by increasing environmental security, the goals of third-generation human resource education can be achieved more quickly.

Regarding religion and culture, it is suggested that, considering Islamic and cultural values in the field of science and technology, the words of religious elders in this field should also be interpreted. Third-generation human resource education requires the position of religious cultural structures in the field of science and technology, and this can be achieved by honoring and venerating the elders of the scientific and technological elite.

Regarding policy and legislation, it is suggested that by increasing the quality and quantity of policy/law formulation in science and technology, the important and essential needs and elements in this area should be identified, and necessary measures regarding the quality and quantity of policy/law implementation in science and technology should be taken.

Regarding governance, it is suggested that while improving the structures of government, public and international institutions; stability and governance also be created. What is important in the education of third-generation human resources is the administrative-executive coordination between the three branches to develop educational, research and technological infrastructure; because achieving technological goals in medical universities depends on strengthening infrastructure and improving technology-based systems.