



Factors influencing academic autonomy and its dimensions in Isfahan Cardiovascular Medical and Research Center, Iran: A mixed-method study

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Original Article

Abstract

BACKGROUND: The issue of academic autonomy along with the reduced authority of the government for handling the service-providing section is considered an urgent demand for most of the organizations including hospitals.

METHODS: The method of research was a combination of quantitative and qualitative methods from sequential exploratory studies type. In qualitative part, descriptive-phenomenological method using seven-step Colaizzi method and in quantitative part, survey method was used. Statistical population of research of the first part included key experts of the academic autonomy field who were selected purposefully and based on the criterion. With 8 persons, data were saturated. Data collection tool of this part was semi-structured and deep interview. Validation of data was performed by outsider auditors as well as through returning to the interviewees. In quantitative part, a 60-question questionnaire made by the authors was used for data collection which was distributed among officials including hospital managers and key stakeholders of the academic autonomy process in a heart hospital who were 98 persons. Superficial and content validity of the questionnaire was estimated as much as 0.70 for all items. Modeling analysis in inferential level was done through Akaike scale regression.

RESULTS: Academic autonomy is in three dimensions: economic, scientific, and organizational and inter-organizational, intra-organizational, and extra-organizational factors contribute to it from which scientific autonomy is more important compared to other factors. Moreover, intra-organizational factors have more contribution to the academic autonomy of these centers.

CONCLUSION: The results of this study will be a good guide for academic autonomy of medical centers. In order to achieve academic autonomy, it is more important to pay attention to factors such as autonomy culture capacity, independent signing treaties and international documents, and science-centered society.

Keywords: Academic Autonomy; Scientific Autonomy; Economic Autonomy; Organizational Autonomy

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Introduction

Academic freedom or academic autonomy means that in the core activities or tasks of the university, teaching, and research, decisions are necessarily up to the academic personnel.¹ In Iran, this matter has become a challenge owing to the increasing social collaborations and important and strategic engaging persons, so that most of the universities try to become independent from the decision-maker organizations to reduce their expenses and improve their productivities. Researches mainly consider four dimensions: organizational, financial, staffing, and academic dimensions for academic autonomy. In recent century,

European Union (EU) took this definition as the basis of the academic autonomy and evaluates the European universities with these indices.²

According to studies performed in developing and developed countries, this presumption that health organizations must be solely administered by the governments has been doubted.³

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One of the effective solutions in this regard is to use the model of organizational reforms of the World Bank which includes five components: decision right, market confrontation, owner of the financial debt, response, and social functions.⁴ In this model, giving decision-making right to an organization such as a bank improves the management and allocation of the promoted resources and responsibility of these centers since most of the decision makings are transferred from governmental level to the management level.⁵

In 1995, actions are taken for implementation of the autonomy and according to the Article 24 of the Budget Law in 2009, after the evaluation of the university hospitals, ministry of health and medical education is responsible for administration of at least one university hospital with the maximum score with a board of trustees in addition to the available ones.

The purpose of this law was to continuously improve the quality and the performance of the clinical services, increase the productivity, and finally, provide satisfaction of the people of the society. It is estimated that through application of the management strategies for the function of the personnel, operational simplification, operational budgeting, services management, management of the maintenance, implementation of the comprehensive system of the information and health communications as well as the comprehensive system of the hospital management, a novel model can be presented for management.⁶

This new method of hospital management, that is autonomy, is realized through delegation of authority and responsibility as well as confrontation to the market. In fact, this matter results in change in the passive state of hospitals in competitive market.⁴

In 2017, a research was conducted in medical centers of Georgetown University, Washington, United States (US), and results and experiences of eleven countries for giving autonomy to hospitals confirmed the success of the implemented policies. Complete management autonomy and financing for effective handling of the demands is of the necessities of the success in this context.⁷ Results

suggest that autonomy is accompanied with increased income, increased expenses of personnel, and more investment for infrastructures and equipment.

However, uncertainty of the level of collaboration and more expenses are some of the challenges of the autonomy. Therefore, for the autonomy of the universities, it is necessary that hospitals have an insight over all aspects.⁸ From the results of such studies, it can be concluded that complete understanding of the components of the autonomy of the health and academic centers and consensus of the relevant people over it is one of the important issues which must be studied. If managers are provided by such components and model, it will be easier to succeed in responsibility and improvement of the services quality. Hence, the present work is done for the purpose of understanding academic autonomy components to present a model for Shahid Chamran Hospital, Isfahan, Iran. Results will be useful for better decision-making and optimal responsibility for the future health system.

Shahid Chamran Teaching Center is known as a teaching hospital and the most important cardiovascular center in Isfahan and also one of the most advanced heart centers in the south of the country. With its specialized workshops, the hospital has the capacity to achieve academic autonomy as a productive center, while to what extent aspects of autonomy for the university should be considered.

Materials and Methods

From goal, application, and nature's point of view, this research was a combination of sequential exploratory studies. In the first phase, the qualitative research method was descriptive phenomenology. Statistical population of research included all experts and academics of medical sciences who were familiar with the topic of academic autonomy. Sampling was conducted purposefully and criterion-dependent up to saturation level of eight persons (Table 1).

Semi-structured interview was used for collection of the data. Lincoln and Guba's evaluation method was used for validation.⁹

Table 1. Demographic specifications of research sample

| N | Education | Study field | Work experience | Sex |
|---|-----------|-------------|----------------------------|--------------------|
| 1 | Female | 20 | Medical | Doctor of Medicine |
| 2 | Male | 14 | General medicine | Doctor of Medicine |
| 3 | Male | 15 | Health management services | Doctor of Medicine |
| 4 | Male | 17 | Cardiac anesthesia | Doctor of Medicine |
| 5 | Male | 25 | Healthcare management | Masters |
| 6 | Male | 25 | Pharmacology | Doctor of Medicine |
| 7 | Male | 20 | Healthcare management | Doctor of Medicine |
| 8 | Male | 22 | Healthcare management | Doctor of Medicine |

For this end, authors spent sufficient time and confirmed the process with four academics using two coding and some interviews to ensure the agreement with coders. This improved the validity of the research data.

Furthermore, to ensure the generalizability of the findings, three management experts who did not take part in research were consulted about the findings. In this way, current research was validated. Colaizzi method (1978), also known as seven-step method was used for analysis of data.¹⁰

In the second phase of the research, descriptive survey method was used.

Statistical population of research included all experts of hospitals and managers in high, middle, and supervisory levels as much as 98 persons. Sample volume was estimated using Cochran's formula as 78 persons. 70 questionnaires were returned yielding 89% response rate. In this section, questionnaire was used for data collection. To determine the validity, Cronbach's alpha was used. Coefficients given in table 2 show the good reliability of the research tool.

Table 2. Reliability of the research variables using Cronbach's alpha

| Variables | Cronbach's alpha |
|------------------------------|------------------|
| Scientific autonomy | 0.88 |
| Organizational autonomy | 0.92 |
| Economic autonomy | 0.92 |
| Intra-organizational factors | 0.87 |
| Inter-organizational factors | 0.86 |
| Extra-organizational factors | 0.89 |

Results

For better answering the research questions about academic autonomy, key owners were interviewed. In this step, written interviews were read several times and their overall content was understood. It was accompanied with listening to the part of recorded information. After implementation of the materials, all of the materials were carefully reviewed and important sentences and terms were extracted. At the end, 118 codes were obtained.

This process was separately done by two experts. Then, meanings extracted from the sentences were combined and a common meaning was found. In this step, to ensure the generalizability of the research findings, three management experts in the field of hospitals participated and they were consulted about the statements of the interviewees. Finally, those statements which were stated once were taken out of the analysis cycle and the rest were considered by 61 codes. 61 simplified concepts were organized in the same classes and used for extraction of the essential structure of the phenomenon. Afterwards, 24 components were recognized. Table 3 summarizes the simplified concepts in the same classes.

Going through the data, a comprehensive definition about the phenomenon was classified in a regular and clear structure and the concepts were placed in a more comprehensive description which included all materials and details of the intended phenomenon. Some more general concepts including academic, organizational, inter-organizational, intra-organizational, and extra-organizational autonomy were provided. Table 4 gives a comprehensive description of the subject.

To answer this question, "What is the impact of effective factors on academic independence and its dimensions?", through modeling with Akaike scale, factors contributing to the academic autonomy and their significance level as well as elements of academic autonomy in Isfahan Cardiovascular, Medical, and Research Center are represented in table 5 and figure 1.

As can be seen from the table, inter-organizational, extra-organizational, and intra-organizational factors contributed to the academic autonomy. From these, intra-organizational factors had more contribution to the autonomy. R² factor was as much as 0.609 and Akaike scale was as much as -109.527, which shows that the model is of good quality and validity. Furthermore, from all dimensions of the academic autonomy, organizational (0.12), financial (0.24), and scientific (0.64) autonomy had the most importance and contribution to the academic autonomy.

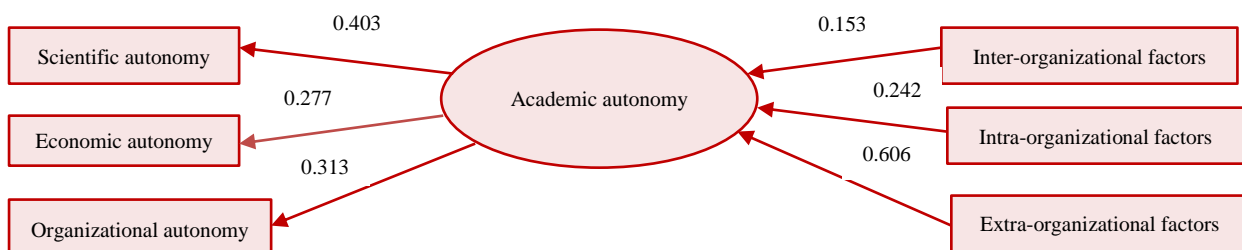


Figure 1. Model of cardiovascular academic autonomy and factors contributing to it

Table 3. Simplified concepts in the same classes

| Components | Index | Code |
|--|---|------|
| Research authority | Authority of production, distribution, and using research results | 1 |
| | Free determination of external academic relations | 21 |
| Academic authority | Authority of teaching in different languages | 13 |
| | Authority of removing educational programs | 12 |
| | Determination of promotional conditions for faculties | 8 |
| | Determination of curricula and academic content | 11 |
| Academic evaluation | Evaluation and surveying after content production | 50 |
| | Responses to the critics | 51 |
| Administrative authority | Authority of appointing the senior managers | 2 |
| | Determination of the promotional conditions | 52 |
| | Determination of the indices, process of evaluation, and quality assurance (QA) | 14 |
| | Employment authority without the influence of externals | 61 |
| | Determination of jobs and organizational policies | 15 |
| | Creation of appointment workshops and monitoring | 9 |
| Institutionalization authority | Creation of beneficiary legal persons | 5 |
| | Creation of non-profit legal persons | 6 |
| Regulatory authority | Setting internal regulations for university | 4 |
| | Setting time limits for managers | 22 |
| Auditing authority | Considering academic qualities for appointment of officials | 3 |
| | Creation of free choice, evaluation, and monitoring mechanism | 56 |
| Financing authority | Giving authority for definition of tariffs for special services | 23 |
| | Determination of taking money and award from other organizations | 16 |
| Financial management | Determination of salaries and benefits for all personnel | 7 |
| | Setting tuition fees | 19 |
| | Keeping excess money | 18 |
| Budget setting and allocation | Free loaning of the university | 17 |
| | Free selling buildings and assets | 20 |
| Intra-organizational capacities | Authority of relationship with charities | 24 |
| | Tendency of organizations toward collaboration with an independent university | 60 |
| | Independent signing treaties and international documents | 57 |
| Organizational reengineering | Reengineering of organizational structure | 58 |
| | Flexibility of organizational structure | 59 |
| International authority | International collaboration authority | 25 |
| | Authority of accepting and commitment to international conventions | 26 |
| | Authority of attracting immigrant refugees | 27 |
| | Authority in international relations development | 28 |
| Organizational culture | Culture of discipline | 29 |
| | Cultural pluralism | 30 |
| National culture | Science-centered society | 40 |
| | Autonomy culture capacity | 53 |
| Organizational policies and strategies | Capacity of creating long-term scope and plan | 31 |
| | Known internal and external competitors | 34 |
| | Decentralization and localism in management | 36 |
| Management skills | Intellectual autonomy of managers | 33 |
| | Increased responsibility | 32 |
| Response capacity | Response to the social beneficiaries | 35 |
| | Response to the government and market | 37 |
| Politics | Political interactions for university interests | 38 |
| | Creation of political shields | 55 |
| Political capacity | Power and democracy gap in political systems | 43 |
| | Cultural and religious tolerance | 44 |
| | Political views of managers | 45 |
| Political freedom | Political and intellectual opposition | 42 |
| | Political and civil freedoms | 41 |
| Economic capacity | Diversity of income sources | 39 |
| | Capacity of accepting financial documents and bonds | 54 |
| Technological capabilities | Independent control of online communication network | 46 |
| | Utilization of technology without public limitations | 47 |
| Administrative capacities | Transparency in internal relations system | 48 |
| | Supporting system of employees | 49 |

Table 4. Combination of results for comprehensive description of the subject

| Dimensions | Component | Code |
|------------------------------|--|----------------------------|
| Scientific independency | Research authority | 1-21-13-12-8-11-50-51 |
| | Educational opportunity | |
| Institutional independency | Scientific evaluation | 2-52-14-15-9-5-6-4-22-3-56 |
| | Administrative power | |
| | The power of institutionalization | |
| Economical independency | Audit authority | 20-17-18-19-7-16-23 |
| | Legislative discretion | |
| | Financing power | |
| Intra-organizational factors | Financial management | 53-24-60-57-40 |
| | The power of allocation and financing | |
| Inter-organizational factors | Inter-organizational capacity | 49-48-58-59-47-46 |
| | National culture | |
| | Organizational policies and strategies | |
| | Management skills | |
| | Response capacity | |
| | Organizational culture | |
| | Technology capabilities | |
| Extra-organizational factors | Administrative capacities | 41-42-45-44-43-55 |
| | Organizational reengineering | |
| | Politics | |
| | Political capacity | |
| | Political freedom | |
| | International authority | |
| | Economic capacity | |

Discussion

Results of this research imply to the factors which are considered as the indices of the academic autonomy and as factors underlying such autonomy. The role of these factors in academic autonomy is very important. Findings suggest that three classes, intra-organizational, inter-organizational, and extra-organizational ones contribute to the academic autonomy.

Results of this research are in agreement with that of Karimian et al.,² Jafari,⁴ London,⁸ Hawkins,¹¹ and Jafari Sirizi et al.¹² London posits that making autonomy is accompanied with increased income, increased salaries, and investment over infrastructures and equipment. Hawkins introduces factors such as management flexibility, increased responsibility about the society and patients, and increased collaboration in the society as the key indices of the hospital autonomy.

On the other hand, Jafari Sirizi et al.¹² emphasize on factors such as decision-making right in strategic

management, human resources, and physical resources as well as the ownership of the money. They imply to factors such as strategic management, human resources and physical resources, confrontation with product and logistic market, authority of the money, governance arrangement and responsibility as well as social functions of the hospitals. Moreover, Karimian et al.² stress on the scientific freedom, academic autonomy, the effect of foreign policies, lack of financial autonomy and dependence upon public budget, effect of the political relations on the international scientific relations, and effect of the political views of the academic managers on the academic environment. Although it seems that hospitals are relatively independent in this regard, such autonomy is a type of a predetermined movement. Imposing the intention of the political bodies on the organizations is viewed as the authority unless the organizations do not move in contradiction to their interests, while such type of authority has numerous proponents and opponents.

Table 5. Details of the cardiovascular academic autonomy model and fitting scale and the model validity (Linear regression)

| Dimensions | Importance | IF | SL | Model validity factor | Akaike scale |
|------------------------------|------------|-------|---------|-----------------------|--------------|
| Inter-organizational factors | 0.293 | 0.153 | 0.012 | 0.609 | -109.527 |
| Intra-organizational factors | 0.374 | 0.242 | 0.002 | | |
| Extra-organizational factors | 0.671 | 0.606 | < 0.001 | | |
| Organizational autonomy | 0.120 | 0.313 | < 0.001 | 0.990 | -394.771 |
| Financial autonomy | 0.240 | 0.277 | < 0.001 | | |
| Scientific autonomy | 0.640 | 0.403 | < 0.001 | | |

IF: Impact factor; SL: Significance level

As discussed, reduced interference of government in hospital management results in benefits such as increased productivity, services with more quality, and more options for the patients. Opponents argue that increased privacy leads to unwanted consequences such as reduced value of stocks, reduced productivity, and less quality of the healthcare.

Seemingly, intellectual autonomy of the managers leads to their increased responsibility. Managers who can have a vision independent from the political and party systems have more ability to respond to the social beneficiaries on one hand and try to take actions for responding to the government and the market.

Moreover, to achieve academic autonomy, possibility of the organizational structure reengineering and flexibility of such a structure is a necessity. Inflexible structures make the adaptation of the hospital difficult and in this way, hospital may fail to respond to the environmental changes. In this regard, hospital is able to be independent when transparency of the internal relation systems and supporting system of the personnel is feasible. Concepts such as the organizational fairness, controllability, and opposing corruption become realized through such a system.

Conclusion

University hospitals of Isfahan, especially specialized hospital of heart, have limited autonomy from different aspects. One aspect is the interference of the organizational bodies through the government and another one is pressures arising from the collaboration of the charities and beneficiaries. Moreover, limitations of the force modulation as well as the pressures of the social environment on the hospital along with the social expectations of the visitors who are not in good mental conditions pose various challenges to the managers of the hospitals.

To increase the awareness of the managers and beneficiaries about the benefits and limitations of the academic autonomy, guidance handbooks are prepared and given to them. To motivate the organizations and bodies to collaborate with the universities, circles must be bet to enforce the treaties independent from the political power of the government. To improve the cultural capacity of the universities, training sessions as well as organizational missions are provided for the managers and employees regarding the autonomy of the hospitals.

Signing the international treaties for utilization of the knowledge and experience of the independent hospitals can be useful.

Therefore, it is proposed that the international relations unit of the hospitals take actions for development of such relations.

To improve the authority of interaction with charities, each of the hospitals can provide the network of charities with the possibility of allocating a considerable part of the economic capacities for the hospitals. Media play a pivotal role in development of the awareness in the society. Hence, through TV programs, expectations, knowledge, rights, and social duties of people with respect to the hospitals can be trained so that a science-based society can be realized.

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Conflict of Interests

Authors have no conflict of interests.

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