

Original Article



Designing a specific competency model for the senior managers of medical sciences universities

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Abstract

Background and aims: Managers play a vital and decisive role at the heart of organizations because they are considered the most important competitive advantage. Therefore, the aim of this study was to design a model for the specific competence model of the top managers of medical science universities in Iran.

Methods: This applied, exploratory research was done using qualitative-inductive approach and the Strauss and Corbin basic theory method in the medical sciences universities of Iran from 2019 to 2022. The study population of this grounded theory-based qualitative research consisted of 17 individuals selected from among the chancellors and vice-chancellors of medical universities in Iran using purposive sampling.

Results: The findings indicated 19 general categories in a model, including causal conditions (targeted organization, organizational indicators, competence factors, and individual factors), and central phenomenon (specific competence of senior managers). The other categories were underlying conditions (organizational characteristics, environmental field, external macro factors, and components of economic competence), and intervening conditions (personality traits, managerial intelligence, and management of changes and time). The remaining categories encompassed strategies (competence factors, education and talent management, managerial factors, standardization, and organizational factors) and consequences (organizational and national development in the field of health, medicine and welfare, society, and service management).

Conclusion: The competencies of managers, as the key human resource, are extremely important for the success of the organization. The findings of this study demonstrated that the specific competencies of senior managers can be used as an indicator.

Keywords: Competency, Specific competency, Senior managers, Grounded theory

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Introduction

The first step of competency management, whose philosophy is based on two important topics (i.e., meritocracy and talent management), and finally performance reporting, is to develop specific competency models for senior managers. Competencies refer to perceptible behaviors that are formed based on knowledge, skills, abilities, and other personal characteristics that a person must possess to perform his/her role successfully (1).

Today, competencies are considered measurable patterns of skills, abilities, behaviors, and other characteristics that distinguish high and low performance (2).

Organizational development in the field of behavior supports potential human values. As a result, one of the main characteristics and concerns of organizational development is the transfer of information and skills so that the system can manage future developments (3).

In the study of Freixanet and Renart conducted in 271 manufacturing companies, managerial competencies, teamwork, monitoring, and evaluation were among the managerial characteristics and competencies of the firms

(4). They also defined competence as the individual ability to perform a specific activity or quality, skill, and ability to do the right thing and argued that competence emphasizes the innate quality of man and enables him/her to show an appropriate performance (5).

Cluster competency refers to a cluster of facilitating attributes, including knowledge, skills, competencies, or individual characteristics that help the organization successfully implement its strategies in a competitive environment. Further, appropriate competencies lead to superior performance (6).

The competencies of managers, as the key human resources, are critical to the success of the organization. To support this issue, it can be argued that wherever there is weakness and deficiency, there is also some mismanagement, and in general, effective managers are the key to organizational success (7). The foundation of any organization is its human resources, and the most qualified people should be placed in the most appropriate job positions for the success of that organization (8).

Successful and effective managers are selected based on competence and have certain characteristics such

as a set of behaviors, skills, knowledge, attitudes, and personality traits. Competency research is one of the most important research fields and the best way to determine the job competencies of a profession. It is aimed to identify the knowledge and skills needed to perform a job. Prosperous and successful organizations are managed and led by competent and efficient managers or teams of managers (9).

Despite the differences of opinions regarding the background of merit, it can be inferred that most scholars of the late twentieth century know that this category has emerged in the field of theory (10).

After the victory of the Islamic Revolution, the lack of a proportional increase in salary with the inflation rate and the introduction of new perspectives in public management caused the demands of employees and managers to increase; therefore, the officials from time to time have codified plans to draft administrative and employment laws that would lead to meritocracy in order to improve the efficiency and the living conditions of the employees. However, these efforts have not been highly effective and serious as to progress and move toward the establishment of a meritocratic system.

Competencies are necessary to achieve the competitive advantage of the organization. The competency approach is useful for motivating employees to develop their skills. This approach can be used in various work conditions and prepare people for organizational changes (11).

The lack of competency models has a great impact on workforce development. To measure individuals, training needs and goals cannot be properly identified without standards, performance gaps cannot be measured, and training programs may not satisfactorily meet the actual performance needs. Examining the records of administrative systems in public and private organizations confirms that they often lack practical laws and regulations to implement the meritocratic system, and universities are no exception to this rule.

Thus, the necessary knowledge about the type of skills required for effective management in the scientific and academic environment can be achieved by studying the competencies of managers whose effectiveness and efficiency have been demonstrated in some ways. The framework of the competency-based approach is to address the performance of the best people in the business. Medical sciences universities can improve their overall performance by employing senior managers who enjoy these competencies.

They can also design targeted programs to develop the specific competencies of senior managers with average performance. The development of these competencies in these managers will lead them to the next level in the organization. In addition, the costs of poor selection decisions can be stupendous.

Designing a model of specific competencies of senior managers can be a highly important step in creating a database of current and future managers, presenting

succession planning, managing talents, and building capacity. Moreover, it can help in improving the decision-making process in appointing senior university managers with a special approach to meritocracy to address challenges resulting from managerial weaknesses in this area.

Although some health and medical education experts consider the criteria for appointment to managerial positions in this field to be group and factional affiliation, they have no tools or models to choose from even if politicians want to select the appropriate people. Therefore, considering the above-mentioned issues and being inspired by the competency-based approach for managerial positions, two questions were raised as follows:

- What is the model of specific competencies of the senior managers of medical universities in Iran?
- What are the causal factors, intervening conditions, strategies, and outcomes affecting the specific competencies of senior managers in the medical universities of Iran?

Materials and Methods

This study aimed to identify the specific competencies of senior managers of medical universities in Iran based on a qualitative-inductive approach and using semi-structured interviews. This method was assumed appropriate because there is insufficient and inappropriate evidence about the specific competencies of senior managers.

The samples interviewed consisting of 17 chancellors and vice-chancellors of medical universities in Iran were selected by purposive sampling, and the interviews were semi-structured through which in-depth and open-ended questions were asked from the participants. Library studies were also conducted to review the available evidence. The adequacy of the number of samples was examined through data saturation (12). This process was performed as follows:

- Preparing a list of managers and elites of the organization of the management department of medical sciences universities of the country;
- Defining criteria for selecting research participants from the prepared list;
- Contacting and coordinating with people and asking them to participate in the research;
- Using a targeted technique to identify people who are (or have been) in similar positions and positions to the participants in the research;
- Analyzing data from in-depth interviews, aiming at gaining proper insight into the categories that need further exploration in future interviews;
- Continuing the sampling process until reaching the stage of the theoretical saturation of categories.

Data validity was confirmed by external auditors and two coders. The findings of this research were presented to the participants, and the model developed by them was studied. Finally, their points of view were applied to them.

This research was studied and reviewed by 3 professors, and some points have been made to modify or change the model.

The main structure of data analysis in the Strauss-Corbin method is based on three methods of coding (open, axial, and selective coding). The first step of data analysis and interpretation in grounded theory is open coding in which data are broken down into their smallest units (13).

Lincoln and Guba's indices were used for the validity of the research. Lincoln and Goba indices include the criteria of reliability, transferability, dependability, and conformability, which are explained as follows (14):

Credibility: By spending enough time and confirming the research process with 4 university professors and using two coders to code and conduct several interview samples to ensure the uniformity of the coders' points of view, effort was made to improve the reliability of data.

Transferability: To ensure the transferability of the research findings, 2 management experts and 2 medical science experts, who did not participate in the research, were consulted about the research findings, and the current research sheets were validated accordingly.

Dependability: In all stages of the work and for reliability, an in-depth description was used, in which the moods and behaviors of the people in the workplace were also mentioned.

Conformability: If the research findings are to be verifiable, all details must be carefully recorded in all stages, and the participants must confirm this process. Accordingly, in this research, returning to experts was used to confirm their words.

Interviews started with questions such as what are the causal factors affecting the specific competencies of senior managers in medical universities? What is the central category affecting the specific competencies of senior managers in medical universities? What are the intervening conditions affecting the specific competencies of senior managers in medical universities? And what is the basis of the specific competencies of senior managers in medical universities?

A systematic approach consisting of open, axial, and selective coding was used to implement the grounded theory strategy (15). Overall, 83 descriptive codes were drawn after the open coding. In the second step, based on similarities and differences, the codes were classified into a common axis, and 19 axial codes were generated accordingly.

In the third step, based on the six-component model of Strauss and Corbin, one of the categories was selected as the axial category, and the relationship of the other categories in the paradigm model with this category underwent investigation.

A total of 10 acceptability criteria have been suggested, five of which were used in this study to improve scientific accuracy, validity, and reliability. The applied audit strategies are researcher sensitivity, methodological

coherence, sample appropriateness, repetition of a finding, and use of informed feedback.

Results

To answer the research question regarding the conceptual paradigm of specific competencies of senior managers, Tables 1-5 present categorized components regarding the competencies of the senior managers of medical science universities. These findings include causal conditions, background conditions, intervening conditions, strategies, and consequences.

Causal conditions

They are events that lead to the occurrence or development of a phenomenon. In the present study, based on the participants' views, the axial codes of purposeful organization, organizational indicators, competency factors, and individual factors were identified and linked to another wider selected code called causal conditions.

Based on Table 1, causal factors include 4 main dimensions and 10 components. In the section on individual factors, Participant [3] stated that *"One should not only pay attention to the mathematical and rational intelligence of managers; in today's complex world, there are all kinds of skills, the lack of which is challenging for the manager; no matter how smart the manager is, he/she cannot succeed if others do not communicate or do not understand the situation."*

Competency factors contain basic skills related to managerial ability that goes beyond general abilities. Participant [6] indicated that *"A professional manager at a level beyond specialized knowledge must be able to work in critical situations and with capacities beyond normal conditions since the managers of the medical community always experience critical situations. They believe that they must have multifaceted and diverse skills."*

Organizational indicators refer to aspects related to resources, structure, and control in the organization and include topics such as types of resources and organizational communication. In this regard, Participant [1] suggested that *"Due to the weakness of structures and intra-organizational communication, it is necessary to pay attention to the skills of the senior managers of medical science universities; these managers can play a corrective role in this regard."*

A targeted organization refers to an organization whose laws and values, above all, deal with issues such as lawlessness, organizational culture, and commitment to higher-level goals, and attempts to provide a merit-based model. In this respect, Participant (8) mentioned that *"Medical science universities should emphasize the basis of obligations beyond goals in order to achieve a merit-based organization."*

Contextual conditions

These conditions refer to a set of special features that indicate a phenomenon (i.e., the location of events and

Table 1. Coding of qualitative data (causal conditions)

Axial Coding	Secondary Coding	Open Coding
Targeted organization	Providing a competency-based model	In need of an efficient model Lack of organizational integrity Familiarity with the rules Rule evasion Weak rule of law Organizational culture Commitment to higher level goals
	Rules and values	Supervision Feedback Poor performance appraisal Intra-organizational communication External communication Strong informal relationships Human resources Physical resources Financial resources
Organizational indicators	Organization control	Upgrading of the competency index Efficient selection Poor work performance Appointment of a management successor Education and research Economic management Crisis management Leadership Participatory management Change management Time management Performance management Strategic management
	Organizational interactions	Political intelligence Cultural intelligence Spiritual intelligence Emotional intelligence Organizational intelligence Social intelligence Related education Occupation and education conflict Individual behavior Acquisition of individual skills
Competency factors	Resources	
	Appointment and placement of competent managers and employees	
Individual factors	Diversity of competency management	
	Indicators of individual intelligence	
	Scientific indicators	
	Individual development	

happenings related to the phenomenon). The background represents a set of specific conditions in which action and reaction strategies take place. The components of contextual conditions are organizational characteristics, environmental domain, external macro factors, and components of economic competence (Table 2). As shown in Table 2, contextual elements include organizational characteristics, environmental area, macro external factors, and economic competence components such

as communication skills and political, legal, social, and economic factors. Participants [9] declared that *“In addition to internal skills and capabilities, it is better for senior managers to master the control of the environment and the will skills of the geography of the organization.”*

Similarly, Participant [12] suggested: *“Attention to environmental variables, especially external factors that have a direct impact on the control of the organization, is of importance; senior managers must have sufficient mastery*

Table 2. Axial coding of qualitative data (contextual conditions)

Axial Coding	Secondary Coding	Open Coding
Organizational characteristics	Communication skills	Having intra-organizational communication Having external communication
	Codification of a competency charter	Having organizational culture Having Islamic culture
Environmental area	Knowledge of the environment	Getting familiar with the geographical environment of the organization Being aware of the capacities and capabilities of the environment Getting familiar with the workflow of peer organizations
	Environmental factors	Valuing human and non-human resources Attaching importance to the external environment of the organization
	Organizational attractiveness	Promoting environmental attractiveness Increasing employee belonging to the organization
	Political factors	Extending and using power to influence individuals or groups Forming coalitions and networks Creating a good image of yourself (managing others' imagery of yourself)
External macro factors	Legal factors	Eliminating inefficient rules Supporting and following the rules in the organization
	Social factors	Getting familiar with public issues and problems and provision of solutions for them Patterning Holding public and private meetings with community experts
	Technology factors	Updating of facilities Having the ability to network Getting familiar with new facilities and technologies
Components of economic competence	Economic management	Understanding the culture of productivity Becoming an entrepreneur
	Resources management	Providing physical resources Providing financial resources Providing human resources

of legal aspects because it can directly affect the control of the university.”

Intervening conditions

They belong to a specific phenomenon and affect action and reaction strategies. These conditions facilitate or limit strategies within a particular context. Our participants stated that personality characteristics, managerial intelligence, and change and time management are the intervening conditions (Table 3). Based on the findings (Table 3), many elements related to the qualifications of senior managers are uncontrollable, which are known as interfering components and can affect the strategies of managers' qualifications, including the stability of managers, as well as the intellectual and skill capacities of people and their personality traits. Some of these features cannot be changed or are difficult to adjust. For example, Participant [10] indicated that “Senior managers, no matter how many training courses they go through, must have inner and inherent abilities and capacities or the talent to change; some managers may, despite all efforts, still lack the political ability or analytical power.”

In this regard, Participant [7] stated that “Although

not all people can have the same level of skill, in the field of medicine, time management is highly important, and if senior managers do not have this ability, the cost will be imposed on the organization.”

Strategies

They are based on actions and reactions to control, manage, and provide feedback on the phenomenon under study. Strategies are purposeful and are formed for a reason. The strategies drawn in this study include competency factors, training and talent management, management factors, standardization, and organizational factors (Table 4).

The obtained data (Table 4) revealed that in the dimension of strategies, there are factors such as attention to training and talent management, standardization, and organizational and management factors. These factors emphasize executive, collaborative, and crisis management and factors affecting competence such as talent, education, and leadership in the organization. According to Participant [12], “Training is the most important element of improving competencies, which has become a formal matter in organizations; if training is taken seriously, an important part of the managers in the organization will

Table 3. Axial coding of qualitative data (intervening conditions)

Axial Coding	Secondary Coding	Open Coding
Personality characteristics	Managing individual behavior	Introducing individual behavior Introducing interpersonal behavior Introducing sociability
	Extroversion	Having environmental compatibility
Managerial intelligence	Multiple managerial intelligence	Strengthening political intelligence Strengthening cultural intelligence Strengthening social intelligence Strengthening naturalistic intelligence Strengthening analytical intelligence Strengthening organizational intelligence Strengthening spiritual intelligence Strengthening emotional intelligence
		Spiritual and emotional intelligence
		Change management
Change and time management	Change management	Managing organizational change Managing organizational fitness
	Time management	Showing stability of management over time Controlling time

Table 4. Coding of qualitative data (strategies)

Axial Coding	Secondary Coding	Open Coding
Competency factors	Providing a specific model for the organization	Modeling Identifying the competencies of the organization Reforming organizational structure
		Education
Training and talent management	Talent	Presenting in-service training Training before starting work Identifying talents Conducting research
	Management competency components	Having strategic competence Having acquired competencies Planning future studies Increasing goal attractiveness Encouraging academic leadership Showing independence in decision-making Having professional credibility Having public credibility Having succession planning by the manager Selecting managers
Management factors	Leadership components	Managing performance Having strategic management
	Credibility management	Applying expert comments Applying rules Acquiring conflict resolution skills Managing crisis
	Appointment of a competent manager	Evaluating Providing feedback Supervising Having internal participation Having public participation Supporting growth programs Privatizing higher education institutions Establishing a coordination system of organizational units Building teams
Standardization	Executive management	
	Participatory management	
Organizational factors	Crisis management	
	Organizational monitoring	
	Creating a participatory environment	

grow” in the continuation of the contribution. Likewise, Participant [11] emphasized that “Managers can show their competencies when they are at a high level of independence; therefore, the more independence they are given and the less external interferences, we can expect them to be more prominent.”

In addition, managers should emphasize an attractive goal setting and attention to the aspects of leadership in universities. Participant [7] suggested that “If the aspects of sharing interests and attention to motivational factors are emphasized in goal setting, senior managers can show themselves more.”

Consequences

They emerge as a result of strategies. Outcomes are the results of actions and reactions. Consequences are not consistently predictable and are not necessarily what people aim to achieve. It is also possible that what is considered an outcome at one point in time may turn into a component of the conditions and factors at another time. Based on the interviews, the outcomes included organizational and national development of the health system; community medicine and well-being, and service management (Table 5).

The consequences of paying attention to the competence of managers can be found in the satisfaction of services, the coordinated system of medical science universities, and the new management system, as well as the creation of a competency model for the senior managers of medical science universities (Table 5).

In this regard, Participant [10] commented that “When senior managers show their qualifications, public satisfaction in medical science universities increases; people’s understanding that offering higher quality services can increase public satisfaction.” Participant [12] suggested that “At least, the result of paying attention to the qualifications of managers in the organization is that people are placed at the top of the organization who emphasize various aspects of growth, individual and organizational development, and quality improvement, and this factor will increase the performance level.”

Additionally, Participant [13] indicated that “Qualified

people, when placed at the head of the organization, gradually improve human resources.”

Selective coding

Government structures, especially medical science universities, have drastically changed in the last two decades; developments have directed new government strategies to the development of meritocracy, including the maturity and development of employees and the emergence of knowledge forces in all fields, knowledge-oriented organizational processes, and the need for developing knowledge at all levels of organizations. The other developments are the high growth rate of new technologies, an increase in the role and social responsibility of governments in responding to citizens, and an emphasis on the importance of social and human capitals in the process of growth and development of countries. In addition, the most important reason for the spread and popularity of the meritocracy approach is based on the fact that today’s organizations are involved in competition and are under pressure to reduce costs and continuously improve their performance; thus, it is necessary to make effective efforts to create, maintain, and improve their capabilities.

Discussion

The findings of this research demonstrated 19 general categories in the model, including causal conditions (targeted organization, organizational indicators, competence factors, individual factors) and central phenomenon (specific competence of senior managers). Moreover, underlying conditions (organizational characteristics, environmental field, external macro factors, and components of economic competence) and intervening conditions (personality traits; managerial intelligence and management of changes and time) were the other categories. Eventually, the remaining categories were strategies (competence factors, education and talent management, managerial factors, standardization, and organizational factors) and consequences (organizational and national development in the field of health, medicine, and welfare), society, and service management. The

Table 5. Axial coding of qualitative data (consequences)

Axial Coding	Secondary Coding	Open Coding
Organizational and national development of health system; community medicine and well-being	Coordinated system of medical universities	Achieving organizational goals Managing resources Increasing progress Planning for managerial excellence
	A competency model for the senior managers of medical universities	Appointing and placing managers and employees Providing a qualitative model based on competent management
	A new management system	Directing the growth and development of the management team Strengthening management
Service management	Satisfaction with the service	Improving the service Providing public satisfaction

competency model is defined as a measurable, tangible, and valid list of knowledge, skills, and attitudes demonstrated through behaviors that lead to excellent performance in a particular field of work. The competency model can also be defined as an organizational framework that lists the competencies needed to perform effectively in a particular job or group of jobs, organizations, or processes (16).

The findings of this research require a detailed discussion; however, some of the findings are worthy of consideration. Based on the details of the interviews with the participants, some competencies such as intelligence and personality traits are subject to heredity. For example, Participant [3] commented *“Some people are suited to high-level management as if they were born managers; since personality traits and intelligence are hereditary, they show themselves at a high level of management.”*

In addition, in the field of the competencies of senior managers, Participant [2] suggested that *“In my opinion, senior managers should allow subordinates to grow, be critical and patient; on the other hand, they should support subordinates in the organizational hierarchy”*. Nonetheless, most of these competencies are obtained through acquisition and training.

Brown et al also defined competency models as tools that are often used to identify essential competencies, including the set of skills, personal characteristics, and knowledge needed to achieve organizational strategic goals (17). In a study by Soleimani et al to design a leadership competency development model, steel industry managers were able to design six main components or dimensions of the model (18), which is partly similar to the model in this study.

Professional training provided in the organization can greatly increase the skills of managers; along with their work experience, job rotation can make senior managers aware of different parts of the organization. In this regard, Participant [3] stated *“A manager can go around the organization and find people who need specific training, then provide training that they can understand, no matter what department they work in.”* Part of these training processes, especially for senior managers, can lead to the development of social skills, an issue that is extremely essential for senior managers. In this regard, Participant [9] mentioned that *“Social skills include skills in recognizing group characteristics, communicating with groups, listening, empathy, non-verbal communication, recognizing one’s emotions and self-control skills.”*

The competencies of managers, as key human resources, are critical to the success of the organization. In support of this claim, it can be argued that wherever there are weaknesses and shortcomings, there is also some mismanagement. In general, the key to organizational success is hiring effective managers, and successful and effective managers are selected based on competence and have certain characteristics such as a set of behaviors, skills, knowledge, attitudes, and personality traits (18).

It is a contextual category that includes open codes such

as getting familiar with the geographical environment of the organization, being aware of the capacities and abilities of the environment, getting familiar with the working methods of peer organizations, and valuing human and non-human resources. The other codes are highlighting the external environment of the organization, enhancing the attractiveness of the environment, and increasing the employees’ sense of belonging to the organization. Having the initiative in increasing the skills of employees, getting familiar with the basic principles of management, and having minimal specialized knowledge in the relevant field or learning these minimums in a short period of time help in managerial development.

“Management intelligence” is an intervening category that uses open codes to strengthen political intelligence, cultural, social, naturalistic, analytical, and organizational intelligence. It is spiritual and emotional. Participant [2] indicated that *“Recognizing the difference between employees and using the best way of working to get close to them require high intelligence, that is, a place for everything and everything in its place.”*

“Factors of competence” are strategies related to modeling concepts or more precisely, identifying the competencies of the organization and reforming the organizational structure. This category indicates the importance of presenting the specific model of the organization. Participants [8] mentioned *“Monitoring the learning of the organization, which includes evaluation of how often the organization participates, as well as effective self-reflection and self-evaluation.”*

Today, the position of managers’ competence in organizations should be explained to realize organizational change, improve organizational performance, and develop the organization’s employees, and competency research is one of the most important fields and the best method for identifying qualifications to do a job (9).

Recognizing the specific competencies of senior managers is the starting point for implementing meritocratic systems such as talent management and succession planning in the organization. Components containing competencies are partly invisible but largely govern apparent behavior.

Conclusion

Effective factors on managers’ performance include competence-related factors, discovery and actualization of talents, accuracy and speed at work, employees’ awareness of the needs, employee-related factors, resource- and budget-related factors, and rules and regulations. The limits of the authority of senior managers, along with their skills and qualifications should be properly defined according to our results. Being familiar with correct and timely decision-making and understanding the national knowledge market are the universal areas of the characteristics of today’s managers to achieve senior degrees in medical sciences. The results of this research help in selecting managers by the points obtained based

on the identified competencies of this research.

In addition to individual and organizational capacities, as well as social and cultural skills, it is an important necessity for senior managers to be aware of the capacities and abilities of the environment and the intellectual and spiritual capital within the organization and pay attention to the social and moral responsibilities of managers toward sustainable development.

Author contributions

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Conflict of Interests

The authors have no conflict of interests.

Ethical Approval

The Ethics Committee of Shahrekord University of Medical Sciences, Shahrekord, Iran, approved this study (code: IR.SKUMS.REC.1400.217). Informed consent was obtained from all participants after informing them about the aim of the study.

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