



Management competencies: A model for introducing the competence of senior managers of medical sciences universities

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Abstract

Background and aims: Managers' competencies can influence the organization's development and effectively promote and improve management and implementation of planned changes. This study addresses developing the pattern of specific competence of senior managers of universities of medical sciences.

Methods: This research was conducted in two qualitative and quantitative phases in 2021-2022. First, it was done using a qualitative approach using conventional content analysis. The research tool was a semi-structured interview. The data from the interviews with 17 participants through the purposeful sampling method depended on the criteria. In the second phase, the variables identified in the first phase were measured through the correlation method and structural equation model using AMOS software. The tool for collecting information in this phase was a researcher-made questionnaire based on the first phase of the research. The respondents, Lawshe's content validity ratio coefficient, and factor analysis confirmed the questionnaire's face, content, and construct validity. Its reliability was estimated using Cronbach's alpha coefficient at higher than 0.7. The study population of this department consists of managers in the departments of a medical sciences university ($n=196$).

Results: The findings showed that 43 subscales were placed in 18 general categories in a paradigm model (causal factors, contextual conditions, intervening conditions, strategies, and consequences). The causal factor coefficient of the main category was 0.57, background factors on strategies were 0.59, intervening factors on strategies were 0.43, and the main category on strategies was 0.52. Finally, the factor coefficient of the strategies on the results was obtained at 0.46.

Conclusion: The results of this research may contribute to knowledge about the unique competencies of top managers in the development and improvement of human resources to achieve the organization's goals and success. These competencies can be considered in evaluating and selecting talented human resources.

Keywords: Competence, Specific competence, University of Medical Sciences, Senior managers

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Introduction

One of the critical challenges faced by succession plans is to ensure the correct selection of people to be on the path of development and succession. Understanding the specific competencies of senior managers is the beginning of implementing a merit-based system in the organization. Competencies are behaviors formed based on personal knowledge, abilities, and skills and must be possessed by employees to fulfill their roles successfully (1). Competencies are measurable patterns of abilities, skills, and behaviors that distinguish between the strong and weak performance of people in the organization (2).

For example, environmental challenges have led to paying attention to the competence of top managers (3). Because most decisions are made by senior managers who may need to be made aware of environmental issues, competencies are essential for the organization to achieve its competitive advantage. A competency approach will help motivate employees to develop their skill sets. Brown et al recognized competency as a capability that

can be used to introduce necessary competencies, including personal characteristics, skills, and knowledge needed to achieve the macro and strategic goals of the organization (4).

White was the first person who used the term competence to describe a personality related to functional, superior and highly motivated performance; the concept of competence in science and new approaches centered on the human resources branch by David McClelland for the uniformity of critical functions. To evaluate performance, he used tests that were considered alternatives to the approaches of intelligence and personality characteristics (5).

Language skills and technical and administrative knowledge that ultimately lead to information technology leadership have been emphasized in the public sector (6). Due to the changing environment and cultural diversity caused by working in the international fields of cultural intelligence, high management has also received attention (7). In addition, top managers need the ability and skill to depoliticize and professionalize public administration (8). The ability to evaluate personnel professionally (9),

resilience, spontaneity, and emotional management (10), the competence to face modern technology, the age of intelligence (11), professional development and behavior and leadership attitude (12), competency-based human resource management (13), internationalization competencies (14), understanding artificial intelligence technologies (15) are considered essential competencies of senior managers. Some evidence has listed superior cognitive and analytical abilities, the ability to create and use external contacts, project talent, and the ability to develop multicultural interaction as the special competence of top managers (16).

The critical factor for the organization's success in terms of human resources is the attention given to the competencies of senior managers. To confirm this argument, it can be argued that wherever there is a weakness or deficiency, it is caused by mismanagement. In general, the factor for organizational success is hiring effective managers (17). Since the foundation of every organization is its human resources, the most qualified people must be used in the most suitable job positions for the organization's success (18).

Based on this, understanding competency is one of the most important research fields and the best way to recognize job competencies. Its purpose is to understand the knowledge and skills needed to perform work. Effective and successful managers are selected based on competency and have special features, including unique skills, behaviors, knowledge, attitudes, and personality traits.

On this basis, grown and successful organizations are directed by competent and efficient managers or teams of such managers (19).

The evaluation of the records of the current administrative systems in public and private organizations of Iran confirms that they often need more practical rules and regulations for implementing a meritocracy system, and universities are no exception to this rule. Therefore, it is necessary to formulate the process model of managerial competencies based on the behavioral goals of different performance levels. Given that in Iran's government system, there is no specific model for the special competence of top managers of organizations and departments; this model can be used for recruiting, promoting, training, and evaluating the performance of managers at the maximum levels of organizations so that it can serve as a road map. In medicine, human resource management based on competence is considered a fundamental issue (20). The study of universities of medical sciences can improve their overall performance by employing top managers with these competencies. They can also develop targeted programs for the development of specific competencies. Top managers should plan with their average performance so that developing these competencies in top managers will lead to their promotion to the following levels in the organization.

The all-around advancement of the affairs of medical

universities requires competent and efficient managers and employees. Enrolling the right people to occupy managerial positions or empowering available managers and turning them into effective managers requires having the necessary knowledge of specific managerial competencies which distinguish effective managers from ineffective ones. Therefore, concerning the arguments mentioned above and findings inspired by the competency-based approach for administrative jobs, the question is, *what is the specific competency model of top managers of medical sciences universities?* Arises.

Materials and Methods

This research was conducted in two qualitative and quantitative phases. The first phase was done with a qualitative-inductive approach by Strauss-Corbin method. Data collection was done using semi-structured interviews. Using the Strauss-Corbin method, the data was obtained from the interviews conducted with 17 people, including the chancellors and vice-chancellors of the medical universities (**Table 1**). The purposive sampling method based on inclusion criterion was used to select participants. Data were analyzed during three stages open, axial, and selective coding. In the second phase, the variables identified in the first phase were measured through the correlation method and structural equation model using AMOS software. The data collection tool in this phase was a researcher-made questionnaire based on the first part of the research, the face, content, and construct validity of the tool was confirmed through the respondents, Lawshe's coefficient and factor analysis, and its reliability were estimated using Cronbach's alpha coefficient at higher than 0.7. The study population of

Table 1. Characteristics of the participants

Field of study	Level of service	Management experience	Gender
Kidney transplant urology	Super specialist	8	Male
Internal medicine	specialist	18	Male
Lung	Super specialist	20	Male
Children	specialist	20	Male
Dental	Super specialist	14	Male
Social medicine	Specialist	13	Male
Infectious	Specialist	10	Male
Medical informatics	Specialist	14	Male
Environmental health	Specialist	15	Male
Psychiatry	Specialist	15	Male
General surgery	Specialist	5	Male
Bacteriology	Master's degree	5	Male
Medical virology	Research doctorate	13	Male
Medical genetics	specialized doctorate	24	Male
Environmental health engineering	Master's degree	15	Male
Pharmacology	Specialized doctorate	15	Male
Internal medicine	Specialist	15	Male

the section consisted of the managers and the elites of the management department of the organization ($n=196$).

Also, the criterion of acceptability mentioned in the evaluation of Grounded theory research of the foundation was used instead of validity and reliability criteria. Acceptability means to what extent the research findings are reliable and believable in reflecting the experiences of the participants, the researcher, and the audience about the phenomenon under study. Ten acceptability criteria indicators have been introduced, five of which were used in this research to improve scientific accuracy, validity, and reliability. The audit strategies used were the researcher's sensitivity, the coherence of the methodology, the appropriateness of the sample, the repetition of a finding, and the use of informant feedback. The sufficiency of the sample size was investigated using the theoretical saturation (sufficiency) method (14).

In this research, Lincoln and Guba's evaluative criteria (1985) were used to investigate the research's reliability, transferability, dependability, and adaptability (21). External auditors and two coders were used to ensuring transferability and increase reliability. Compliance was confirmed by eliciting participants' comments. The high similarity of their opinions (over 0.7) indicates the high validity of the information. The researchers returned the extracted codes to the participants, and they confirmed the accuracy of the statements and the researchers' understanding of them.

Results

Table 2 shows the specific competency component of top managers of medical universities.

Table 2 shows that top managers' competence components were categorized into 43 subcomponents and 18 main parts. Table 3 and Figure 1 show the model of structural equations, factor loads, and model-appropriate coefficients to measure the effect coefficients of these variables on each other.

Table 3 shows that the factor load of causal factors in the main category is 0.57, and its t-statistic is 12.625. The factor load of contextual factors on strategies was 0.59, and its t-statistic was 10.866. The factor load of intervening factors on strategies was 0.43, and its t-statistic was 9.017. The factor load of the main category on strategies was 0.52, and its t-statistic was 7.290. Finally, the factor load of the strategies on the outcomes was 0.46, and the t-statistic was 8.176. Therefore, the research model is approved.

Discussion

The findings showed that 43 subcategories were assigned into 18 general categories in a paradigm model (causal factors, contextual conditions, intervening conditions, strategies, and consequences).

The competency pattern consists of specific and distinct characteristics of knowledge, skill, and attitude, which are shown through the actions of employees in the organization and are responsible for the realization

Table 2. Competence components of top managers

	Targeted organization	Providing a competency-based model Rules and values
	Organizational indicators	Organization control Organizational interactions Resources
Causal conditions	Competency factors	Arrangement and positioning of competent employees Diversity of competency management Indicators of individual intelligence Scientific indicators Individual development
	Individual factors	Communication skills Codification of a competency charter
	Organizational characteristics	Knowledge of the environment
	Environmental area	Environmental factors Organizational attractiveness Political factors
Contextual conditions	External macro factors	Legal factors Social factors Technology factors
	Economic competencies	Economic management Resources management
	Personality characteristics	Managing individual behavior Extroversion
Intervening conditions	Managerial intelligence	Multiple managerial intelligence Spiritual and emotional intelligence
	Change and time management	Change management Time management
	Competency factors	Providing a particular pattern for the organization
	Training and talent management	Education Talent Management competency components Leadership components
Strategies	Management factors	Credibility management Appointment of a competent manager Executive management Participatory management Crisis management
	Standardization	Organizational monitoring Creating a participatory environment
	Organizational factors	A coordinated system of medical universities Competency model for top managers of medical universities New management system Service satisfaction
Consequences	Organizational and national improvement of the health system	
	Service management	

of excellent performance in a specific work field. The competency pattern is a unique organizational framework that lists the necessary competencies for efficient and effective job performance at different levels of the organization and group.

Some researchers have considered competency models as tools that include recognizing essential competencies, including skill dimensions, knowledge, personal characteristics, and similar issues to achieve strategic goals (4). Evidence in this field shows that the elements identified in this research are consistent with Soleimani and colleagues' research on the leadership competency development model of steel industry managers (22).

It can be acknowledged that there is an essential need for senior managers' competencies for the organization's success because the shortcomings and limitations in the organization are mainly due to the poor performance of senior managers. Based on this, if capable managers are placed in the management of affairs, the organization's

degree of success will be guaranteed to a large extent; managers have exceptional abilities in their behaviors, personality traits, knowledge, attitudes, and skills to achieve the organization's goals (23).

The competencies of managers, as the essential human resource for the organization's success, are critical. In support of this argument, it can be argued that wherever there is weakness and deficiency, it is caused by mismanagement. In general, the factor of organizational success is the availability of effective managers. Successful and effective managers are selected based on merit and have unique characteristics, including behaviors, skills, knowledge, attitudes, and personality traits (23). The current study's findings are in agreement with the results of other studies (24-27). The competencies required for success are combined to create the competence model in the modeling process. The competency model and architecture provide a structure for job description and a scale for performance evaluation and make organizations speak the same language when evaluating people and abilities needed in the future.

Besides that, organizations can easily measure the skill level of people's competencies by comparing the competencies of people with the competencies required for the job. What is certain is that the promotion of a person to higher positions should be based on something other than an automatic process. Universities of medical sciences can improve their performance by employing top

Table 3. The coefficients of the structural equation model of senior managers' competencies

Factors	Factor load	T	P value
Causal factors on the strategies	0.57	12.62	0.00
Contextual conditions on strategies	0.59	10.86	0.00
Intervening factors on strategies	0.43	9.01	0.00
Strategies on consequences	0.64	8.17	0.00

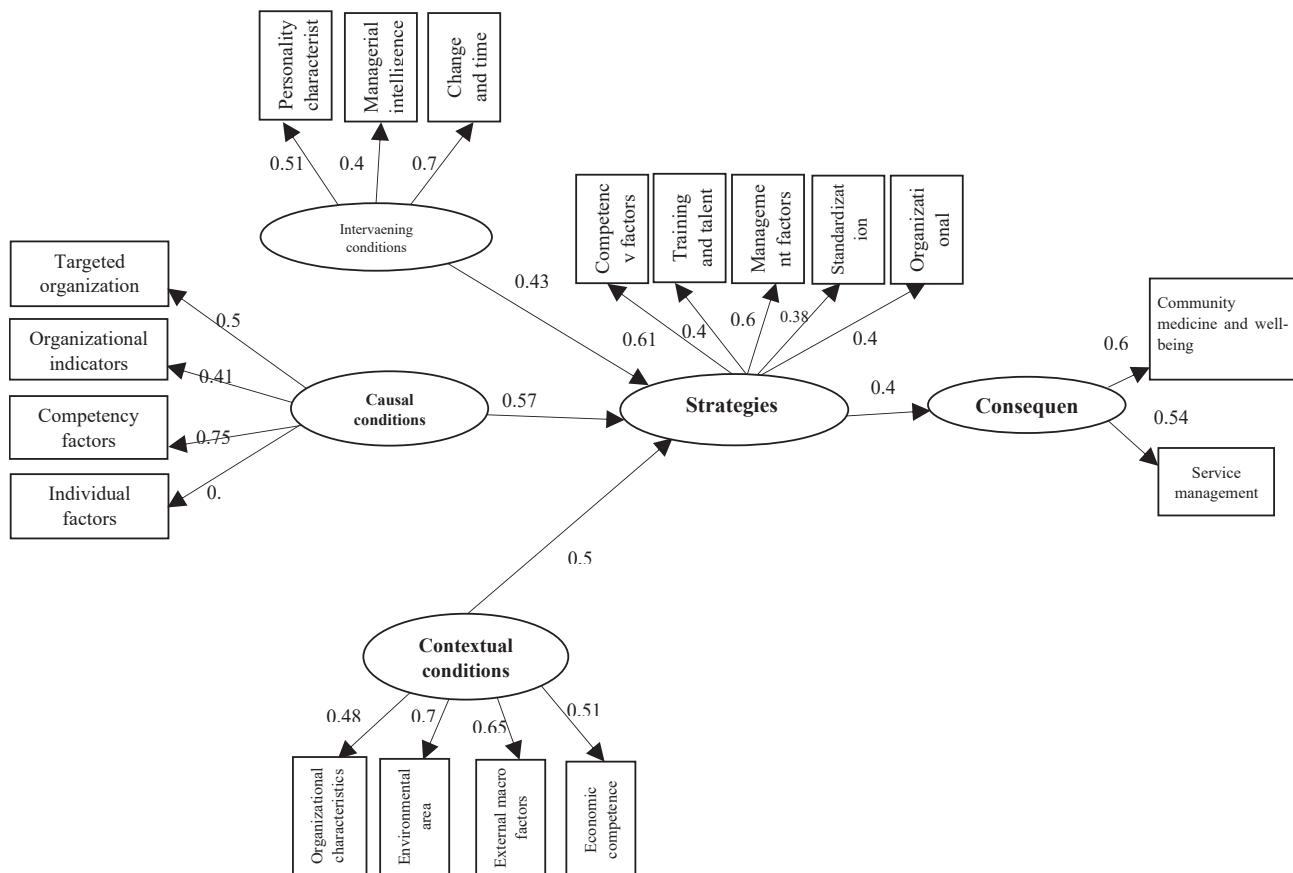


Figure 1. Structural equation model of senior managers' competencies

managers with these competencies. They can also plan and hold special training courses based on the competency model by creating a certificate of specific competencies for each manager and using them in performance evaluation, the selection and appointment of managers, and research results.

This qualitative study allows professionals to achieve reconciliation and adds depth to the general knowledge of management competencies. Because qualitative studies have generalization limitations, the development of quantitative studies can significantly help to generalize the findings. In addition, the results of this research can effectively strengthen managers' views for planning the development of human resources about managerial competencies.

Authors' Contribution

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Competing Interests

The authors have no conflict of interest to disclose.

Ethical Approval

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

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