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STRATEGIES FOR SUCCESSION PLANNING IN UNIVERSITIES: A MIXED-METHODS ANALYSIS

Nasim Torabi (PhD), Fariba Karimi (PhD)& Mohammad Ali Nadi (PhD)

ABSTRACT

The purpose of this study is to give a pattern for establishing successionplanning system for the middle managers at universities based on mixedmethods study. In the qualitative section, interviews with experts were done and in the quantitative part, the exploratory and confirmatory factor analysis method was applied. The statistical population of this research in the qualitative section consisted of academic and executive managers of universities in Iran, and experts and policymakers in the field of higher education. The participants were selected through theoretical sampling, and after 26 interviews, the saturation was attained. The statistical population of this study in the quantitative part, were 1200 executive managers of the universities, based on statistics on 2018. After the components were extracted, the quantitative part of the research was examined and factor validity was used for assessing the validity. The reliability of the tool was estimated by Cronbach's alpha and hybrid alpha, and 400 samples were calculated using random sampling. Results of the qualitative part in the form of the paradigm of the approaches were categorized into three subgroups of meritocracy, management style, and organizational readiness. They reflect the approaches of establishing the succession planning system in managing universities which is shown in the form of a pattern. Quantitative data analysis showed that the instrument has favourable fit indices. The results of factor analysis in the form of strategies for the establishment of the succession planning included management skills and attitudes, and creating organizational readiness.

Keywords: Succession Planning, Organizational Readiness, Management Skills and Attitudes, Higher Education, Iran

Corresponding Author: Department of Educational Sciences & Psychology, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

E-mail: faribakarimi2005@yahoo.com



INTRODUCTION

Considering the vital role of education system in society and the diversity of its services and activities, it is essential that enormous human resources should be available to this system. However, usually these resources are not properly selected or not effectively and efficiently used. This will not be achieved in education unless the authorities pay special attention to it at various levels of policymaking, planning, and implementation. Another way is through establishing an effective and efficient system for the implementation of succession planning by getting a deep insight of this issue and to realize its goals and missions. It is worthy to mention that the missions are expected from universities and, in general, from higher education system through identifying, educating, or recruiting effective managers. Achieving this insight and attitude for the issue of succession planning in the field of higher education and universities requires extensive and in-depth studies on this subject in the field of higher education and universities (Piland & Wolf, 2003). As Mandi (2008) stated that the results of studies in the industrial and commercial fields cannot be used in higher education, therefore, extensive research and studies should be exclusively conducted in this area.

BACKGROUND

Mehrtak et al. (2016) conducted a study entitled "Analysis of the gap between the current and desirable status of succession planning: A case study in the Ministry of Health and Medical Education". The findings indicated that the current status of the organization in the six dimensions of planning, organizational culture, system approach, competency model, career promotion path and the role of senior managers in the research environment have an acceptable score of over 50%. At the same time, the gap between the current and desirable status in all aspects was meaningful. Considering the fact that the point is acceptable in the current situation and the meaning of the gap between the organization's current and desirable status for the establishment of succession planning, it seems that the nature and specific features of the organization under study calls for high levels of attention to the critical issue of succession planning.

Bidmeshki, Adli, and Vaziri (2014) conducted a research entitled "Comparison of the current status of succession planning and talent management in the higher education system with its desirable status". The results of the research showed that there was a significant difference between the existing and desirable status of planning for succession planning in Tehran state universities. This indicates the necessity of having a program for succession planning of the staff in higher education, as well as the need for senior managers' focus on laying the groundwork for the implementation of this program.

Morrin (2013) conducted a mixed methods study entitled "Important factors in planning for succession planning: a case study of the Ontario College of Technology and Visual Arts". The results showed that talent management, administrative programs, diversity, fairness, and sense of legitimacy are the effective factors in the implementation of succession planning programs.

Mateso (2010) conducted a study entitled "Management and planning for succession planning at the University of Midwestern" with 414 participants, which indicated that succession planning is being implemented in a few parts of the university. In the study, the respondents emphasized the necessity for the development of such a program at the university. In addition, the respondents did not know enough about this program; regarding the type of faculty, type of occupation and years of work. There was a significant difference in the knowledge of the respondents.

Due to the limited number of studies in this field, the purpose of this study is to develop an appropriate model for the establishment of succession planning system, especially in the field of Universities and consequently in the higher education through validation of the questionnaire of strategies for the establishment of succession planning system.



THE GAP

Universities' competitive environment in attracting students, especially undergraduate students could be the reason in the importance of the managers' capability in strategic orientation. In certain departments of universities which are not involved in attracting students, the managers' strategic action and orientation have successful plans and actions. This is due to their actions in the competitive field and their anticipation for the development of the university. This is also due to the increasing research activities in response to community needs and in contributing to sustainable development seems necessary (Zeinodini, Adli, & Vaziri, 2015). In recent years, the tendency toward strategic orientation in universities has become a requirement by the university's central organization. In fact, a specific kind of long-term orientation and strategic view toward issues at the university is promoted and then pursued (Ejtehadi, Bafaneh, Ghourchian, Jafari, & Talebi, 2011). On the other hand, strategic planning in similar organizations, such as medical universities, as well as the relationship between universities have caused this requirement and these factors are likely to be effective in the high priority of suitability for the managers of these universities (Ejtehadi et al., 2011).

For some reasons, the issue of succession planning has not been taken into consideration by scholars and researchers in the field of higher education. Even when this issue has become so intense in the country, the researcher could not find any text, article, thesis, or even a book about the subject matter of succession planning in universities inside the country. Theses, articles, and books available regarding this subject are only centred in the field of industry, commerce and services. Since the results of the studies conducted in industrial, commercial and service sectors cannot be used in the field of higher education due to the specific features of this field, research and studies should be conducted specifically in the field of universities and higher education (Ghiasi, Pardakhtchi, Dari, & Ferasatkhah, 2014). Therefore, this research aimed at answering the following questions:

- 1. What are the strategies and approaches of establishing succession planning system in educating middle managers of the universities?
- 2. Is it possible to set a pattern which can be included the possibility of giving the strategies of establishing succession planning system in educating middle managers?

LITERATURE REVIEW

Succession planning is defined as "any action designed to ensure effective action by an organization, department, area, or working group by providing conditions for the growth, replacement and strategic use of key individuals over time" (Rothwell, 2005). Bush (2011) defines succession planning as a program in which one or more successors are selected for key posts, they traverse their career path, and reforming activities are done for them. Succession planning is not a strategy for the immediate replacement of individuals. This matter seems important for posts, but it is a systematic process through which personal and professional education is integrated into a strategic plan. In addition, it is assured that the organization is ready to fill any important available position with the right person and at the right time (Chartrand, 2005). In this process, the necessary competencies are determined and then on that basis, the treasury of human resources is provided to ensure continuity of leadership for key positions, and the organization is assured that in order to fill the important role within the organization, employees are gradually recruited and nurtured (Helton & Jackson, 2007).

Succession planning deals with a "sophisticated, integrated and systematic approach" to identify and upgrade high potentials or a set of talents to empower organizations in having a list of candidates ready to fill key posts in two or three levels of management at the time of vacancy (Barnett & Davis, 2008). Topper (2008) defined succession planning as "a continuous and dynamic process, which includes identifying, evaluating and systematically developing talents, and evaluating, developing, and identifying key individuals to meet the strategic and operational needs of the organization in the future" (p. 480).



Succession planning is a tool for identifying very important management positions, which range from project management and mentoring levels to the top position in the organization (Rothwell, 2010). Succession planning also identifies management positions to provide maximum flexibility in lateral management movements and to ensure that people get more seniority, resulting in the expansion of their managerial skills; and these skills are generally associated with the ultimate organizational goals rather than to the partial objectives (Rothwell, 2010).

Barron (2010) has also defined succession planning as a voluntary process to ensure continuity of leadership in key positions, the preservation and development of spiritual and scientific capital for the future, and encouraging individuals to development. Two other thinkers have defined succession planning as follows: Succession planning is not just a strategic planning tool to address issues left behind by those who left, but also acts as a bridge for knowledge gap created by those who have left the organization (Klein & Salk, 2013).

Generally, the purpose of succession planning is the process of identifying professional managers and those who are suitable for the future needs of the organization. Therefore, the succession planning at low level provides a framework that encourages employees to go through the career path through existing opportunities while communicating with employees, and proper defining of the suitability and availability of the staff. Succession planning is a kind of workforce planning that focuses on staff readiness in taking the vacant positions, and this focus is more at the level of senior managers and executives (Movahednia, 2015). In order to achieve this important goal and implement succession planning, the organization is expected to design career paths with different methods (Movahednia, 2015). The process of growth in succession planning theories can be categorized into three groups which are: replacement planning, planning for succession planning and succession planning management.

- **A. Replacement Planning:** Since the early writing of Fayol, organizations and businesses have experienced many different approaches for succession planning program. Primary patterns were often referred to as direct replacement programs. It is known as actions that focus on identifying and replacing management posts usually at two or three top levels of organization management. Mostly, replacement planning does not deliberately prepare candidates for specific posts. Sporadic education may be carried out during the replacement planning, but such action relies on the manager's individual goodwill. In the range of succession planning processes that vary from simple to complex, replacement planning is the simplest form of succession planning processes. It seeks to prevent some management crises that can be risen from an unpredicted lack of key managers in the organization (Barnett & Davis, 2008).
- **B. Planning for succession planning:** According to Rothwell (2010), when the succession planning involves deliberate and formal actions, it is referred to as planning for succession planning, and can be defined as "a deliberate and systematic measure by the organization to ensure continuity of management in key posts, maintaining and nurturing intellectual and cognitive capital for the future, and encouraging individual progress." (p. 128). The key feature of succession planning is that it should not be viewed as a sudden event, but it should be considered as a continuous process. Although planning for succession planning targets two or three leading leadership levels, such as replacement planning, the former strategy includes consistent identification of suitable candidates for targeting leadership positions (Hall & Hagen, 2014).
- **C. Succession planning management:** The management of succession planning is another key concept in relation to succession planning processes, which is more dynamic and complex than replacement planning and planning for succession planning. Succession planning management requires a more comprehensive approach for identifying and developing a set of talents that allows the organization to have a list of eligible candidates to fill all management posts in the organization. Succession planning management is at the top end of the spectrum of succession planning processes, and since it includes "utilization, selection and keeping strategies", it requires an organizational culture and sufficient supporting resources (Karaevli, 2016).



Today, instead of planning for succession planning, the term "succession planning management" is used and is focused on managers' framework. As mentioned above, in the planning for succession planning, the planning was done on all key posts. But, in this new approach of succession planning, the planning only aims the managers (Mateso, 2010). In the planning for succession planning, only the identification of executive managers is considered, while in succession planning management, performance evaluations are widely referred to at all levels. In the planning for succession planning, the system was considered to be a secret system (Mateso, 2010). Today however, in the succession planning management, an open system process is relied on. It can be said that in the succession planning management, a collection of managerial resources is being nurtured, while in the planning of succession planning, people are identified merely for key posts. Succession planning management is now a mix of science and art of succession planning and strategies (Mateso, 2010).

METHOD

Research Design

This research used mixed methods which was qualitative and quantitative to obtain data in different parts. The first part of the study aimed at obtaining description of the experiences, attitudes and perceptions of the interviewees about the strategies for the establishment of the succession planning system in university management. In the second part, the dimensions and factors extracted from the qualitative stage were designed and implemented in the form of an initial questionnaire, and were then analysed using exploratory and confirmatory factor analysis methods.

Population and Sampling

The research population in the qualitative parts included five major groups of 26 people were selected as the participants of this study using theoretical criterion-based sampling.

The first group consisted of qualified experts. The criteria of selecting these people was specialty, experience, published works in the realm of higher education, talent management and human resource management.

The second group consisted of the former and the present university chancellors in the executive fields (executive managers)

The third group consisted of the former and the present university chancellors in scientific fields (scientific managers)

The fourth group consisted of the policy-makers of the universities and higher education

The fifth group consisted of the informed faculty members in the field of research

Theoretical sampling is a purposeful sampling which helps the researchers in the creation or discovering the theories or concepts whose theoretical connection with the evolving theory has been proven (Iman, 2012).

The statistical population in the quantitative part of the research consists of presidents and chancellors of Universities. The total number of them according to the statistics published by the Central Organization of University is 1200. From those numbers, 400 people including executive managers (university chancellors and their deputies) were selected through simple random sampling.



Instrumentation

A deep and purposeful interview has been done with the selected participants in the qualitative part of the study. All interviews were done through face to face method at different times and generally in the participant's own offices. The interviews' average time was 40 minutes (between 33 to 71 minutes). The interview's time duration can be longer in order to obtain an enriched description of the related research topics. Before the interview starts, the researcher illustrated the purpose of the research and gave the interview's questions. The sequence and the order of the questions were almost similar for all of the participants. However, for participants who had more knowledge or specifically in a certain field, the researcher shed more light on the questions for them. The content of each interview was then transcribed for further analysis. In addition, following the interviews, the researchers tried to find the interview's gaps in order to set a second complementary session.

The data gathering tool for the quantitative part in this research was a survey questionnaire which was prepared from the extracted codes of the qualitative section and its contents consisted of two main parts:

- 1. The first part consisted of 7 items in order to collect demographic information (which includes: gender, age, field of study, years of work for university, university management experience, academic level, and management level).
- 2. The second part consisted of specialized items in the Likert scale (five scales including strongly agree, agree, no idea, disagree, and strongly disagree). The designed questionnaire was derived from the qualitative interview and after an exploratory and confirmatory factor analysis, its dimensions and components were used in Table 1. After the initial design of the questionnaire, the validity and reliability of the questionnaire were determined.
- 3. Table 1
- 4. The combination of the questionnaire questions

Table 1
The combination of the questionnaire questions

Paradigms under study	Variables under study	Dimensions and number of questions in the questionnaire	Sum of questions	Description
	Nurturing competent ones	Human resources training: 1-4 Professional development: 5 - 8		
Strategies for the establishment of	Management skills and Attitudes (leadership style)	Evaluation system: 9 - 12 Delegation of authority and supportive leadership: 13 - 17		Researcher
the succession planning system in management	Organizational readiness	Laying the groundwork for cooperation & teamwork:18-27 Designing incentive and encouraging systems: 28 - 30 Creating desirable structural backgrounds: 31 – 35	35	made



Data Collection Process

In the qualitative part of this research, data was collected through interviews with qualified experts, the current and previous executive and scientific managers, university and higher-education institutes' policy makers, and competent faculty members. This research used face to face, semi-structured interview which launched a purposive conversation with the selected participants to illustrate a crystal-clear image of that special phenomena.

All questionnaires were administered and collected by researchers in the quantitative part of the research. Data collection took almost three months to be gathered. After contacting The Central Organization and receiving a permission letter for administering the questionnaire, this questionnaire was emailed to almost all of the chancellors and the vice-chancellor and then the filled ones were collected. After ignoring the incomplete and repetitive data, 400 of the questionnaires were sent to the software in order to analyse the data.

Data Analysis and Validity & Reliability

Considering the criteria given by Pandey and Sharma (2014), there are certain steps needed in order to make sure that the validity of the mixed methods is correct. It was also to ensure the exactness of the findings from the viewpoint of the researcher, interviewees, and the readers of the research report the following measurements have done (Parkman & Beard, 2008) in the qualitative part of the research.

- Members' recheck: Two of the interviewees rechecked the final report of the first step, analysis
 process or the earned factors and their suggestions were applied in pivotal codification model. It is
 worth to mention that each person's recorded file was sent together with the extracted items of each
 interview.
- Colleague analysis: Four of the professors in the field of management and three of the PhD students majoring educational management analysed the pivotal codification and their comments were used in preparing the pattern.
- Cooperation: Some of the interviewees helped the researchers to analyse and interpret the data.

In order to measure the validity of the questionnaire in the quantitative part of the research, content analysis was used. To do so, after preparing the questionnaire, it was given to 12 experts and professors in the field of educational management, human source management, and university executive managers to determine the amount and frequency of each person's agreement with the questionnaire's items. After that, then its content validity proportion was calculated. Finally, factorial validity has done by 35 items which will be explained indetail in the results.



Table 2
Reliability coefficient of measurement devices

		Reliability		
The main dimension	Item	Cronbach's alpha	Mixed reliability	
	Training human forces	0/75	0/84	
meritocracy	Professional development	0/70	0/80	
	Assessment system	0/77	0/86	
	Allocating the duties and supporting leadership	0/80	0/86	
Leadership style (approaches and managerial skills)	Contriving for the contribution and teamwork	0/87	0/90	
Ourse instituted used in sec	Planning motivational and encouraging system	0/74	0/85	
Organizational readiness	Providing optimized structural background	0/85	0/89	

According to Table 2, the amount of Cronbach's alpha coefficient and the mixed trustability shows a higher reliability of the research.

FINDINGS

Strategies and Approaches of Establishing Succession Planning System in Universities

In the qualitative part, the participants answered differently to the questions. This is due to the interviewees' emphasis in making their information and words confidential. In order to stick ethical rules to get their permission and for the better clarity of extracting conceptual codes from the interviews, Table 3 has shown a sample of the quotes and their coding.

Table 3
Some instances of interviewees' quotations and their related concepts

Quotation	Concept
Employees are almost always complaining this matter that when they make a mistake, their bosses react immediately and will make decision for them that might have improper outcomes	Excusing the employees' mistakes by bosses
When I cannot trust my surroundings that I am training and accompanying for years, I do not have good feeling they substitute me because succession planning cannot take place	Providing feeling of security for succession planner managers



Managers need to be trained and educated as we believe people will not born managers, they should be trained. Therefore, every system needs to have a diverse educational plan with emphasis on skills and capabilities and the present and future requirements.

Writing daily experiences and happenings in a way that the substituted manager can gain the points and the experiences after reading the book without directly being in touch with the previous manager.

Our most important problem here is lack of employees' operational assessment system. That is, the vital background is to have operational assessment system

Organizations need to have the same system to collaborate all succession planning activities. This is because of the direct connection between the related responsibilities and succession planning.

Identifying the managers with high abilities required the managers to avoid individualism and being egocentric and let others act well. Succession planning will not take place in organizations that their rules is based on individualism.

The comprehensive system of succession planning should be part of the organizations' behaviours, not a separate fact or an extra job. it is expected to be part of the organizations' behaviour which is based on a daily basis

Our organization's structure is hierarchical, top-down. It is happened while succession planning need diagonal, circular, sidereal, and networking/reticulated connection form

Management training programs

Writing a managerial profile (writing managerial experiences)

Employees' operational assessment system

Determining the supporting group of succession planning system

Stop the managers from being egocentric

Succession planning as part of individuals' duties

Organizational restriction

In order to answer the first research question, the qualitative method using interview has been used. It categorizes three holistic matters including meritocracy, managerial approaches and skills, and organizational readiness, as shown in Table 4.



Table 4
Approaches and strategies of establishing the succession planning system in universities

olding training courses regarding the priorities of succession planning ystem ace to face seminars flanagement teaching programs ducational programs and general seminars outside the universities autoring to the professional development of human forces be rotation for the professional development of human forces iving the challenging roles to the others flanagerial games	Training human forces Professional development Assessment system	Meritocracy
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iving the challenging roles to the others	Assessment	Meritocracy
1anagerial games		
perational assessment of the employees to identify their talent	system	
sing assessment centers	•	
sing diverse practices to assess their operations		
sing skillful and expert assessors in assessment processes		
	Delegating the	
iving freedom to the managers in their own managerial field	duties and	
iving permission to the human forces to take risk	supportive	
ccepting the mistakes done by the employees	leadership	
roviding the managers with the venture on behalf of the managers elegating the duties to the lower levels of management		
ontributional viewpoint toward the process of decision making		Approach and skills of
lanager's interaction with wise people	Contriving for	managemen
lanagers' avoidance from being egocentric	the	
roviding better condition for the growth of all (including women and		
ninorities)	and team work	
roviding the sense of security for the succession planner's' managers		
nsuring people in organizations to gain benefit from the organizations ased on their merits	i	
ccrediting among the colleagues in sharing their hidden knowledge		
riting a managerial profile (management experiences) by university	,	
hancellors		
eveloping think-tank programs with the presence of the previous	i	
xecutive managers		
hanging the extra-payment programs of the managers in proportion with	Planning encouraging	
neir talents' growth in their own offices	and	
iving reward to the succession planning projects to encourage and	motivational	
notivate the presence of the elite ones in managerial fields	system	Organization
linor succession planning from people's list of duties at the university		Organization: readiness
/riting the plan of succession planning and passing this low	Organizational	
lentifying the responsible branch for designing succession planning system	_	
onsidering succession planning system as part of the university's policy		



Organizational restructuring according to the processing viewpoint Taking care of the rules in performing succession planning programs

The findings in the quantitative part of the research includes exploratory and confirmatory factor analysis. The first part identifies and extracts the constituents of the questionnaire. It shows that the questionnaire includes 7 factors which ensure a high validity. The second part measures the relationship between the extracted factors and the questionnaire's items and the hidden variables like meritocracy, attitude, approach, management skills, and organizational readiness.

A. Results of Exploratory Factor Analysis

Table 5
Estimation of the values associated with the factorability of indicators

Index		Value
Test of sampling adequacy		0.74
	Chi square	8738.92
Kerovit Bartlett-Test	Degree of freedom	595
	Significance level	0.001

According to the estimated values in Table 5, the value of the KMO (test of sampling adequacy) indicates that the variance of the indicators is influenced by the joint variance of the agent or factors, in other words there is enough correlation in this sample for the implementation of factor analysis. The statistic value of Kerovit Bartlett test and the significance level of this test indicate that the correlation matrix between the indicators is not a single and identical matrix; in other words, the indicators are factorable.

Exploratory factor analysis of the data can be done by the use of extracting the main factors. Its rotation was done in four steps and the results are as follows:

The first step was evaluating the data's proportionality to perform factor analysis. In order to do so, Kaiser-Meyer-Olkin (KMO) index was measured and Bartlett's Test of Sphericity was done. KMO index shows that whether factor analysis is executable on the collected data. The range of this index is between 0 to 1. As the amount of this index is closer to 1, these data are more appropriate for factor analysis.

One of the basic hypotheses in factor analysis is that there should be a correlation between the variables. If the variables are independent from each other, it is not appropriate and acceptable to use factor analysis model. Bartlett's Test of Sphericity evaluates this question that if the correlation matrix which is the base of factor analysis, is equal to the same matrix in the bigger population. Executing the factor analysis is acceptable provided that Ho:pij = o. results of this evaluation is reported in Table 6.



Table 6 *Total variance explained*

	Total variance explained									
		Special initial ar	mount	Extract	ion sums of squ	ared loadings	Rotati	Rotation sums of squared loadings		
Factor	Total	The percentage of variance explained	The cumulative percentage	Total	The percentage of variance explained	The cumulative percentage	Total	The percentage of variance explained	The cumulative percentage	
1	9.37	26.78	26.78	9.37	26.78	26.78	4.62	13.21	13.21	
2	3.38	9.66	36.43	3.38	9.66	36.43	4.40	12.57	25.77	
3	2.47	7.05	43.49	2.47	7.05	43.49	3.31	9.46	35.23	
4	2.26	6.46	49.95	2.26	6.46	49.95	3.15	9	44.24	
5	1.94	5.54	55.49	1.94	5.54	55.49	2.78	7.94	52.17	
6	1.59	4.54	60.03	1.59	4.54	60.03	2.41	6.88	59.05	
7	1.35	3.86	63.88	1.35	3.86	63.88	1.69	4.84	63.88	
8	1.24	3.54	67.43							
9	0.99	2.84	70.26							
10	0.92	2.62	72.89							
11	0.83	2.38	75.26							
12	0.80	2.28	77.54							
13	0.74	2.11	79.65							
14	0.70	1.99	81.65							
15	0.66	1.89	83.54							
16	0.58	1.66	85.21							
17	0.54	1.55	86.75							
18	0.49	1.41	88.16							
19	0.45	1.30	89.46							
20	0.42	1.20	90.65							
21	0.38	1.09	91.75							
22	0.37	1.06	92.81							



23	0.36	1.03	93.84
24	0.33	0.95	94.80
25	0.26	0.74	95.54
26	0.24	0.69	96.24
27	0.23	0.66	96.90
28	0.22	0.63	97.53
29	0.19	0.56	98.08
30	0.15	0.43	98.51
31	0.13	0.38	98.89
32	0.13	0.37	99.26
33	0.11	0.30	99.56
34	0.09	0.25	99.81
35	0.06	0.19	100

The estimated values in Table 6 indicate that the strategy related indicators measure seven factors. Meanwhile in Table 7, the indicators related to each of the factors are reported:

The second step starts extracting the factors which include determining the least a number of factors that can be applied for the best illustration of the mutual correlations between a group of variables. In this research, in order to select the number of the factors, eigenvalues, variance cumulative percentage were gained through criterion factors to be used. It means that only those factors that their eigenvalue is more than 1 and define enough amounts of the variables are acceptable. Table 6 illustrates primary eigenvalues, the extracted factors' eigenvalue without rotation, and the extracted factors' eigenvalues with rotation. By selecting the extracted factors' eigen values with rotation as the main criteria, 7 factors were selected form the total variance with explanation power of 63.88%.



Table 7
Estimating the values of factor loads

Estimating the values of fac	ctor loads			Factors			
	1	2	3	4	5	6	7
Indicator	Training human resources	Professionals development	Evaluation system	Assignment of authority and supportive leadership	Laying the groundwork for cooperation and teamwork	Designing the Motivational and incentive system	Creating the desired structural context
Question 1	0.66						
Question 2	0.80						
Question 3	0.80						
Question 4	0.63						
Question 5		0.42					
Question 6		0.77					
Question 7		0.81					
Question 8		0.54					
Question 9			0.56				
Question 10			0.58				
Question 11			0.80				
Question 12			0.72				
Question 13				0.57			
Question 14				0.62			
Question 15				0.52			
Question 16				0.83			
Question 17				0.77			
Question 18					0.69		



Question 19	0.76		
Question 20	0.72		
Question 21	0.40		
Question 22	0.62		
Question 23	0.62		
Question 24	0.58		
Question 25	0.69		
Question 26	0.58		
Question 27	0.60		
Question 28		0.69	
Question 29		0.69	
Question 30		0.64	
Question 31			0.67
Question 32			0.74
Question 33			0.77
Question 34			0.67
Question 35			0.61

The results of the rotational factor matrix (4) indicate that 35 of the aforementioned questions in a total of 7 dimensions measure the effective strategies for the establishment of succession planning system in the development of middle managers. Finally, the results of factor analysis show that the questionnaire has a high structural reliability and the considered dimensions would be measured.

B. Results of Confirmatory and Sustainability Factor Analysis

Nurturing Competent Ones

The model of functional variable "nurturing competent ones" was developed as a hierarchical factor model (second time). Estimates related to this model include reliability and reliability indexes and factor loads of components and indicators in Figure 1, and Tables 8 and 9 have been reported:



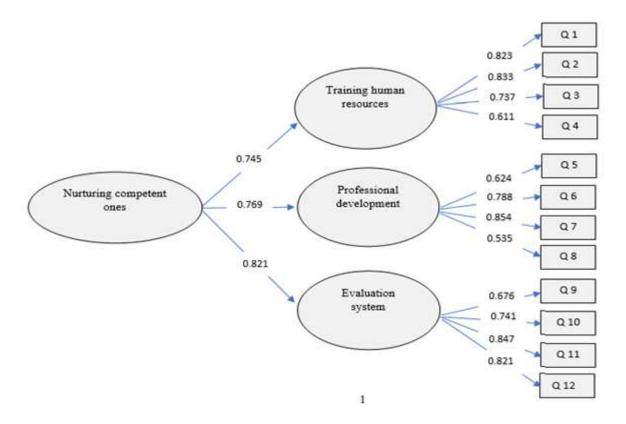


Figure 1. Second-time factor model of nurturing competent ones variable

Figure 1 illustrates the model and first and second-time factor loading of meritocracy. As it is considered, all variables are having a greater correlation with the related factor. From among the second-time factor loading, evaluation system enjoys the highest amount of factor loading (0.821) and training human resources has the lowest amount of factor loading (0.745) on meritocracy factor for example from among the first-time factor loading in professional development factors, item 7 has the highest factor loading (0.854) and item 8 has the lowest factor loading which is 0.535.

The criteria of evaluation the model is given in Table 8. The second column of this table depicts AVE. As it is considerable, all three amounts were more than 0.5 which show an appropriate model's fitting. According to Fornell-Larcker Test, the square root of AVE for each factor is more than its correlation with the other two factors. As shown here, this test is confirmed too. Cross loading confirmed the fact that whether factor loading of each part on its own factor is at least 0.1 more than factor loading of that part on the other factors. Also, HTMT test is confirmed. Cronbach's alpha for all three factors is more than 8 (which was the lowest acceptable amount). Additionally, composite reliability examines internal consistency and for all three factors is more than 0.6 (which was the lowest acceptable amount).



Table 8 Indexes of validity and reliability evaluation for the measuring instrument of nurturing competent

	Convergent validity	Divergent validity			Reliability	
Component	AVE	Fornell and Larcker	Crossover factor loads	нтмт	Cronbach's alpha	Combined reliability
Training human resources	0.57				0.75	0.84
Professional development	0.51	Confirmed	Confirmed	Confirmed	0.70	0.80
Evaluation system	0.60				0.77	0.86

According to the values of Table 8, the convergent and divergent indexes indicate the favourability of convergent and divergent components of "nurturing competent ones". The values of the Cronbach's alpha coefficient and the combined reliability indicate the high measurement accuracy of the components tool of "nurturing competent ones" and, in other words, the reliability of the tool is related to these components.

Table 7 depicts the first and second-time factor loading of a fitting model together with critical value of t and significance level. It is considerable that the accounted amounts of t for all first and second-time factor loading are more than 1.96. Consequently, they were significant with confidence level of 95 %. Therefore, it is shows that that the questionnaire's items are appropriate for measuring meritocracy. In fact, the results depict that what researchers aimed to measure were met by this device.

Table 9

The values of the factor load of the components and variables of the nurturing competent ones.

Component	Factor	Critical	Significanc	Indicator	Factor	Critical	Significa
Component	load	value	e level	indicator	load	value	nce level
Tuninina				Question 1	0.82	54.63	0.001
Training human resources	0.74	26.50	0.001	Question 2	0.83	51.58	0.001
	0.74	20.50	0.001	Question 3	0.74	19	0.001
				Question 4	0.61	15.62	0.001
				Question 5	0.62	15.27	0.001
Professional	0.77	26.65	0.001	Question 6	0.79	29.58	0.001
development	0.77	20.03	0.001	Question 7	0.85	49.05	0.001
				Question 8	0.53	9.90	0.001
				Question 9	0.68	16.57	0.001
Evaluation	0.02	42.01	0.001	Question 10	0.74	27.49	0.001
system	0.82	42.91	0.001	Question 11	0.85	51.17	0.001
				Question 12	0.82	44.76	0.001

Theestimated values in Table 9 (factor load, critical values, and significance level) indicate that the factor loads for all components and "nurturing competent ones" items have a favourable status. In other words, the correlation of this variable with the components and items related to these components is estimated to be high. As a result, the measurement instrument has the necessary factor validity.



Management Skills & Attitudes

The variable operating model of "management skills and attitudes" was developed as a hierarchical factor model (second time). Estimates of this model included validity and reliability indexes and factor loads of components and indicators have been reported in Figure 2, and both Tables 10 and 11.

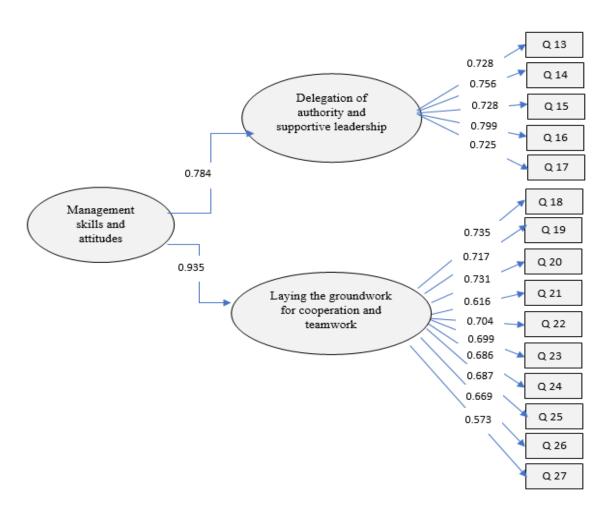


Figure 2. Second-time factor model of variable of management skills and attitude

Figure 2 shows the first and second-time loading factors for attitude and management skills. As it is considerable, all variables are having the highest correlation with their related construct.

The criteria for evaluating the model was given in Table 10. It shows that all three reported amounts of AVE are higher than 0.5. Fornell-Larcker Test, cross loading factors, and HTMT are confirmed. The Cronbach's alpha for all three factors was more than 0.7 and composite reliability for all three factors was more than 0.6.



Table 10
Evaluation indexes of validity and reliability of measurement instrument of variable of management skills and attitudes

	Convergent validity	Di	ivergent validi	Reliability		
Component	AVE	Fornell and Larcker	Crossover factor loads	нтмт	Cronbach's alpha	Combined reliability
Delegation of authority and supportive leadership	0.56	Confirmed	Confirmed	Confirmed	0.80	0.86
Laying the groundwork for cooperation and teamwork	0.50				0.87	0.90

According to the values in Table 10, the convergent and divergent validity indices indicate the credibility of convergent and divergent validity of the components of the "management skills and attitudes" components. Meanwhile, the values of the Cronbach's alpha coefficient and the combined reliability represent the high measurement accuracy of the instrument of the components of "management skills and attitudes". In other words, the reliability of the tool is related to these components.

Figure 3 depicts the first and second-time factor loading of the fitting model together with critical value of t and its significance level. It also shows that all the first and second-time loading factors are substantial with 95% of significance level. Therefore, it is obvious that the questionnaire's items are credible for measuring meritocracy.

Table 11
The values of factor load of components and indicators of management skills and attitude variable

Component	Factor	Critical	Significance	Indicator	Factor	Critical	Significa
	load	value	level		load	value	nce level
Delegation of authority and supportive leadership	0.78	34.31	0.001	Question	0.73	29.52	0.001
				13	0.75	23.32	0.001
				Question	0.76	19.73	0.001
				14			
				Question	0.73	21.47	0.001
				15			
				Question	0.80	34.93	0.001
				16			
				Question	0.72	25.46	0.001
				17			
Laying the		133.87	0.001	Question	0.73	25.98	0.001
groundwork for	0.93			18	0.73	23.30	0.001
cooperation and	ooperation and teamwork			Question	0.72	24.11	0.001
teamwork				19			



Question 20	0.73	21.20	0.001
Question 21	0.62	17.61	0.001
Question 22	0.70	24.45	0.001
Question 23	0.70	23.65	0.001
Question 24	0.69	29.11	0.001
Question 25	0.69	26.02	0.001
Question 26	0.67	21.80	0.001
Question 27	0.57	14.23	0.001

The estimated values in Table 11 (factor load, critical values and significance level) indicate that the factor loads associated with all the components and "management skills and attitudes" are in a favourable status. In other words, the correlation of this variable with the components and items related to these components is estimated to be high. As a result, the measurement instrument has the necessary factor validity.

Organizational Readiness

The factor model of the variable "organizational readiness" was developed as a hierarchical factor model (second time). Estimations of this model include reliability and validity indexes and factor loads of components and indicators have been reported in Figure 3, alongside Table 12 and Table 13.

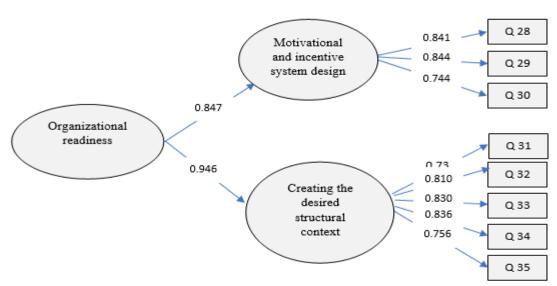


Figure 3. The second-time factor model of organizational readiness variable



Figure 3 illustrates the model and the first and second-time factor loading for organizational readiness. As it is considerable, all variables have a high correlation with their related construct.

The criteria for evaluating the measuring model are given in Table 12. The three reported AVE are more than 0.5. Larcker Test, crossover loading factors, and HTMT are confirmed. Cronbach's alpha for all three factors was more than 0.7 and composite reliability for all three factors was more than 0.6.

Table 12
Validity and reliability indicators of measurement tool of organizational readiness variable

	Convergent validity	Divergent validity			Reliability	
Component	AVE	Fornell and Larcker	Crossover factor loads	нтмт	Cronbach's alpha	Combined reliability
Motivational and incentive system design	0.66	Confirmed	Confirmed	Confirmed	0.74	0.85
Creating the desired structural context	0.63				0.85	0.89

According to the values in Table 12, the convergent and divergent validity indices indicate the credibility of convergent and divergent validity components of "organizational readiness". Aside from that, the values of the Cronbach's alpha coefficient and the combined reliability indicate the high measurement accuracy of the instrument of the components of the "organizational readiness". In other words, the reliability of the tool for these components is proven.

Table 13 depicts the first and second-time factor loadings of the fitting model together with critical value of t and its significance level. It is considerable that the accounted amounts of t for all the first and second-time factor loadings are substantial at significance level of 95 %. Therefore, the questionnaire's items are appropriate for measuring meritocracy at this level.

Table 13
The values of factor load of components and variables of organizational readiness

Component	Factor load	Critical value	Significance level	Indicator	Factor load	Critical value	Significa nce level
Motivational and incentive system design	0.85	58.38	0.001	Question 28	0.84	46.43	0.001
				Question 29	0.84	48.47	0.001
				Question 30	0.74	29.20	0.001
	0.95 22	220.23	0.001	Question 31	0.73	26.75	0.001
Creating the desired structural context				Question 32	0.81	37.14	0.001
				Question 33	0.83	48.98	0.001
				Question 34	0.84	55.33	0.001
				Question 35	0.76	50.65	0.001

The estimated values in Table 13 (factor load, critical values, and significance level) indicate that the factor loads associated with all components of the "organizational readiness" are in desirable condition. Meaning, the correlation of this variable with components and items related to these components are estimated to be high. As a result, the measurement instrument has the necessary factor validity.



DISCUSSION AND CONCLUSION

The researcher identified 7 components based on the results of the qualitative section that was conducted through interviews with the experts. Based on these components, a questionnaire with 39 questions was designed and evaluated in a 400-person initial sample and underwent exploratory factor analysis. After conducting the exploratory factor analysis, 35 questions remained which showed 7 components. The researcher then divided the seven components as a subset of the three main components. The three main components were: (1) nurturing competent ones, (2) management skills and attitudes, and (3) organizational readiness. The competency-based component included the sub-components of human resource training, professional development, and assessment system. Meanwhile, management skills and attitudes included subordinate components of delegation of authority and supportive leadership, and laying the groundwork for cooperation and teamwork. Lastly, the main component of organizational readiness included the subcomponents of motivational and incentive system design, and creating the desired structural context.

The model was then confirmed by using the confirmatory factor analysis smart PLS Software, and the results were examined. The results showed that the results of exploratory factor analysis were confirmed and found to be acceptable. In this way, the final model of the research was set and the final result of the analysis has been presented in the following model (Figure 4).

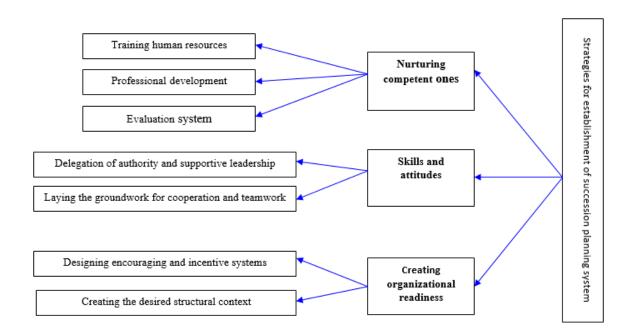


Figure 4. The final model of the strategies for establishing a succession planning system in the university management.

As shown in Figure 4, the three key components which are: nurturing competent ones, management skills and attitudes, and organizational readiness have their own respective subcomponents. These subcomponents consists of human resource training, professional development, assessment system, delegation of authority and supportive leadership, laying the groundwork for cooperation and teamwork, designing a motivational and incentive system, and creating the desired structural context, including strategies for the establishment of a succession planning system in the management of Universities. In the interpretation of this model, it can be said that the establishment of the succession planning system does not happen by itself or through a single



item, but it requires a systematic approach. In this approach, the seven strategy components are considered simultaneously. Since there is no awareness, importance nor sensitivity regarding the issue of succession planning in the higher education community, one of the measures that can be done would be holding educational courses. In addition, succession planning is not possible without having managers who are sufficiently capable in terms of both managerial and experimental knowledge. In order to establish a succession planning system in the university management, it is necessary to increase the managers' knowledge and awareness through in-service and pre-appointment courses in order to achieve the goals of the department under their management. After paying attention to the education in different dimensions and levels, their professional development should be addressed. This can be achieved through guidance, job rotation, giving challenging roles, giving freedom of activity to managers, delegation of authority and managerial games. The top-level manager needs to give the low-level managers a sense of freedom of activity in their area of management in or to nurture their competency. In addition to the above issues, the university organization should pave the way through decentralization. In other words, the managers can upgrade their capability through the process of trial and error. Naturally, in this process, the managers may do mistakes and errors and therefore, the managers must be provided with the necessary training to prepare themselves.

Establishment of a succession planning system in management requires the individuals with competencies and capabilities for taking management posts to be trained. In this context, the emergence of capabilities should be allowed, including the tolerance of the subordinates' error by managers. Participation in the first place means the belief of the university system in the participation of individuals in decision-making processes. In the first place, the managers in the university, especially the senior ones, must believe in the participation of the university staff and they should prove it in practice. The participation of high-level managers requires the managers to not be self-centred and individualistic in their management positions and allow others to participate as well. Since succession planning cannot be achieved by self-orientation, and individualism, therefore, it does not exist in an organization wherein the managers have a self-centred morale.

To succeed in the process of succession planning, opportunities in participating should be provided to all stakeholders in the university management and decision-making process. In other words, it is necessary for the academic community to participate. After the participation of the academic community, opportunities should be provided for the participation of all managerial talents. This opportunity is realized by fair distribution of opportunities wherein regardless of their competencies and talents, everyone has the same opportunity to participate in the management of the university. This is necessary to help avoid monopoly management in the hands of certain people and to provide conditions for the presence of the best kind of people. Establishing the succession planning will not be possible without the documentation of the program. Since activities related to the succession planning system are varied and can cover all levels of the organization, it is necessary that the respective university is identified and the succession planning program is then planned as a legal program. One of the priorities of the program should be maintaining the requirements, rules and regulations of the program. Aside from that, codification and preparation of the statement of tasks, and programming the policy plans are essential and must be comprehensible and clear. In conclusion, this becomes the structural foundations for the establishment of a succession planning system at universities.

Empowering, training, and development can be seen in almost all of the succession planning research following a logical result. For example, studies conducted by Ghalichchi, Mashoufi, and Ghahremani (2018), Zareei et al. (2016), Ghiasi et al. (2014), Morrin (2013), Zepda et al. (2102) alongside Romejko (2008) emphasized on teaching and training succession planning programs.

From the viewpoint of Fulmer and Conger (2009), the important role in succession planning is team management. They believe that one of the important factors in order to keep and grow the workforce, specially the intelligent ones, is the leader's will and enthusiasm toward teamwork. This is the duty of the organization's leader to encourage and involve the managers in teamwork (Fulmer & Conger, 2009). Findings of the other studies confirm the foregoing fact and its role in succession planning. For instance, Wolf (2011)



believes that one of the characteristics of the leaders and managers which is effective in their virtue of succession planning is cooperation.

Decision making in a group (not individually) in the academic environments by Byham (2002) in the framework of academic concept by Tucker (2017) is defined as a contribution culture which is characterized to teamwork, connections and relationships, cooperation. Studying the research done by the policy makers and decision-makers provide a framework to establish a succession planning system and to apply it in universities.

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