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Review

Identifying Decision-Making Styles and Components of Succession Planning and Examining their Relationship

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ABSTRACT

This work identifies decision-making styles and components of succession planning and examines the relationship between them. To this end, a statistical population consisting of 190 managers of Pars Special Economic Energy Zone (PSEEZ) Organization was assessed using the census method. The general decision-making questionnaire of Scott and Bruce and Kim's succession planning questionnaire were employed with a response rate of 90%. The data were analyzed utilizing the SPSS software and Smart Planning software. According to the obtained results, the dominant style is rational decision-making, followed by the intuitive, dependent, avoidant, and spontaneous decision-making styles respectively. Investigating succession planning capabilities demonstrates that among the items in the succession planning system, candidate evaluation is ranked first, followed by policy setting, system evaluation, and candidate development respectively as the priorities of the statistical population. The research hypothesis based on a significant relationship between the decision-making styles and organizational succession planning capabilities was confirmed. In order to improve the human resources of PSEEZ organization and bridge the gap between it and the global standards, we therefore propose that the senior management of the organization should take serious steps to implement the succession planning program. Moreover, to examine the effect of succession planning, we recommend that the organization, after implementing the succession planning program, be studied again.

1. Introduction

Pars Special Economic Energy Zone (PSEEZ) Organization was inaugurated in 1996 in order to exploit the common gas field between Iran and Qatar. After passing of about 20 years, the average age of the employees has significantly increased in the past decade, and it is forecast that a large number of employees will retire in the next decade; however, no clear plans have been proposed for a succession program to record management practices and identify their value system as a top priority in order to train the required human resources. Managers' decision-making in this very sensitive area, which is affected by other variables in addition to technical issues, including regional, social, and political issues, and even a drawer, is one of the constant concerns of the managers. Decisions that may or may not be made can challenge the organization. The main reason for proving this is the study of the statistics of the issues on which the managers could have made

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decisions, but they were referred to the board of directors; this study highlights the need for research in the field of decision-making methodology of managers.

In this context, a review of statistics and interviews with elites show that at least half of the issues raised on the board of directors are of this type. On the other hand, no study has been conducted on the capabilities of succession breeding in this organization so far, especially in a situation where the recruitment of new manpower is prohibited, and the average age of employees is increasing. The interviews with elites and related managers also demonstrate that no succession planning has been implemented in the organization yet, and this study can be a reliable source for recording information in the current situation.

This study endeavors to identify the decision-making styles of PSEEZ directors, deputies, managers, advisors, and supervisors as a leading industrial complex in Iran and present solutions to improve management practices. It also deals with the issue of identifying succession planning capabilities in the mentioned statistical population.

2. Literature Review

Decision-making as the main variable in the present study is one of the basic skills of every person in a management position. In order to carry out all their duties, managers must make decisions. This decision-making leads to the execution of other managerial tasks.

Curio (2015) defines decision-making as a mental process based on a cognitive process in terms of choosing a course of activity from a number of options as a main responsibility. In the research entitled "Five Key Decision-Making Techniques for Managers", Matt Gavin (2020) proposes that managers should go through the five steps of framing the decision, engaging in the process, establishing a strong team approach, repeating the goals of the decision, and creating a psychologically safe environment. Duma et al. (2020) studied decision-making styles in screening cancer patients and argued that people who had to decide on screening scored highly in rational and intuitive decision-making styles. In a study, Mihaela et al. (2015) concluded that cognitive factors and a series of noncognitive factors (extraversion/introversion), leadership, professional experience, special educational centers, etc. impact on the decisions made by school principals. In a study conducted on the South Pars oil and gas region, Razavi and Mohammadi-Tajrishi (2018) found that for every organizational and project activity, decisions must be made to find alternative resources. They announced that in making a decision on alternative resources, goals can be achieved by aligning strategic performance levels and creating synergies that increase organizational performance. Different people have different decision-making styles indicating their perception and response to their decision-making task (Denholm, 2004). Thus, we can conclude that in addition to organizational and environmental factors affecting the decision-making styles of managers, their personal traits and differences prompt them to behave differently in various situations with distinct decision-making styles (Amirshahi, 2000). Decision-making styles represent a set of learned (established) patterns and habits of decision-making which arise from the fundamental differences between individuals in gathering information and their desire to use information. Various examples and models are provided to introduce and categorize decision-making styles or methods. The classification of decision-making styles or methods provided by experts in the field is presented in Table 1.

Table 1. Classified decision-making styles gathered by researchers.

No.	Decision-making styles	Decision-making maxims
1	Scott and Bruce's general decision-making style inventory (1995)	Rational, avoidant, spontaneous, intuitive, dependent
2	Robbins, Rowe, and Mason decision style model (1998)	Ordering based, analytical, perceptual, behavioral
3	The Vroom–Yetton decision model (1973)	Autocratic Type 1 (AI), Autocratic Type 2 (AII), Consultative Type 1 (CI), Consultative Type 2 (CII), Group-based Type 2 (GII)

Using the definition of content validity, the mentioned decision-making styles were discussed with academic elites and the specialists at the organization. In fact, without knowing the validity of the measuring instrument, the accuracy of the data obtained cannot be guaranteed. The content validity of a measuring instrument depends on the questions that form it. We concluded that the decision-making styles of Scott and Bruce are most closely similar to the decision-making methods in the organization. Scott and Bruce (1995) presented five general decision-making styles, and their classification is considered in this study due to its comprehensive nature. Their five styles are explained as follows.

The rational decision-making style: in this style,

the decision-maker is willing to consider and assess all possible approaches prior to selecting the best option when placed in a position of decision-making (Oliveira, 2007). People endowed with the rational decision-making style do so based on a comprehensive search and analysis of all available information, including all external and internal resources (Singh, 2004). The rational style is the best and most logical method based on a complete dissection of the problem before selecting the best available option.

The avoidant decision-making style: in this style, the decision-maker is inclined to avoid being in a decision-making position as much as possible (Parker, 2007). Therefore, we can conclude that those who use this method are in fact trying not to be in decision-making situations.

The spontaneous decision-making style: this style expresses the decision-maker's concerns and efforts to make a decision in the shortest possible time (Denholm, 2004). It is mainly used in crisis management situations where a decision must be made in a very short time, and a prolonged decision can create a disaster and inflict damage.

The intuitive decision-making style: in this style, the decision-maker lacks a clear logic for expressing the accuracy of his/her decision. She/he leans on her/his insight and inner awareness in doing what seems right (Robbins, 2006). David and Smith (2005) have identified intrinsic, innate responses; general experiences; and focused training as the three main sources of intuition.

The dependent decision-making style: this style expresses the lack of independent thinking on the part of the decision-maker. She/he follows the guidance and support of others in the decision-making process (Robbins, 2006). It can be stated that these decision-makers are not independent.

Succession planning capability is the dependent variable in the present research. Succession planning indicates creating a mechanism to identify, hire, train, and retain people for key positions in an organization. Although this is a necessary skill for an organization, it is not always addressed. Succession planning is important for a number of reasons, including: 1) the perpetuation of the organization with the right people in the right place at the right time; 2) the need to encourage diversity and multiculturalism in organizations and avoid social regeneration by managers; 3) the provision of the basis for communicating career paths, creating training and development plans, providing new opportunities and careers, upward and lateral communication, and ensuring a comprehensive planning structure in human resources. Nielsen et al. (2019) studied succession planning for staff replacement based on competency to cope with unexpected absenteeism. They argued that to fulfill unexpected events such as absenteeism or personnel demands higher or lower than expected, organizations must have preventative and reactive strategies in place. Rajagani et al. (2019) studied the history of a successful succession planning program, talent management, and workforce planning in order to investigate challenges posed to the implementation of succession planning programs. In a research by Alizadeh (2018), it was argued that the leaders who satisfy the demands of their followers recognize their requirements and help them develop the skills necessary to achieve goals.

Ghiasi-Nadushan (2016) explains the importance of succession planning by citing the need to investigate impending shortages and management crises. He cites the retirement of senior personnel and consequently the erosion of technical and cultural knowledge in the organization as another reason for the importance of succession planning.

The main categories related to succession planning were examined herein, and we concluded the different models proposed for succession planning in organizations; the most important models are presented in Table 2.

3. Kim's Succession Planning Model

The most widely used succession planning models include the Rothwell's seven-pointed star model for systematic succession planning and management, Charan leadership pipeline model (2000), and the Baiham team acceleration model. Kim's (2006) succession planning model is presented with four general stages by comparing and combining the three main models mentioned. Moreover, as mentioned above, since Kim's model is a combination of comparisons and a combination of three other models, it is considered as a comprehensive and complete model and forms the scientific basis of this research in this section. The stages of Kim's model are described in the following.

3.1. Stage 1: Policy Setting

In this stage, organizations review existing models and previous trends in the succession planning system available in the research background or similar organizations and set policies for the implementation of a system. The outline of future decision-makings is based on these policies.

Table 2. Succession planning models gathered by researchers.

No.	Succession planning model	Stages
1	Rothwell's succession planning model (2010)	Creating commitment, assessing present individual and work-related requirements, appraising individual performance, assessing future work/people requirements, assessing future individual potential, closing developmental gaps, and evaluating succession planning programs;
2	Peter Drucker's succession planning principles (1971)	Management training, teaching key skills and abilities to fill positions in the future, systematic programming, supporting senior managers;
3	Bayham's succession planning model (1999)	Identifying competencies, identifying and assessing individual having potential, creating development programs, assuming key leadership positions, supervision, and supporting senior managers;
4	Metz's succession planning model (1998)	Identifying key competencies, selecting candidates, promotion based on competency, open communication, and continual restructuring;
6	Charan's succession planning model (2006)	Skill requirements, optimal use of time, and work values;
7	Kim's succession planning model (2006)	Policy setting, candidate assessment, candidate development, and system assessment;

3.2. Stage 2: Candidate Assessment

Once the key positions have been identified, a job description is provided for each one, setting out the responsibilities. Based on this description, two steps, including the identification of the competencies for key positions and talented individuals are suggested for candidate assessment.

3.3. Stage 3: Candidate Development

Once the organization has identified the competencies required for its future needs, it must also assess its present situation. Once talented people have been identified, they are placed in the talent pool. The relevant training programs are then arranged to prepare them for the key positions.

3.4. Stage 4: Evaluating Effectiveness of Succession Management System

The reason for succession planning in organizations is that human resources fail to show the values of succession management for the organization; these values are determined through evaluation. There are two evaluation groups in the succession planning program: 1) the evaluation during the implementation process, and 2) the final evaluation.

4. Research Models and Variables

Decision-making styles and succession planning capability are the variables. The model will study the cognition of decision-making styles and succession planning and the relationship between these two variables in the statistical population.

The operational framework of the research for identifying decision-making methods, which is the main variable, is based on the general decision-making style of Scott and Bruce (1995) composed of five styles or methods of decision-making. The operational framework of the research for succession planning, which is the dependent variable, is based on the Kim's (2006) model which presents four general steps through interviews with seven Asian multinational companies in the United States. The conceptual model of this research is presented schematically in Figure 1.

5. Research Questions and Hypotheses

Q1: Which is the dominant decision-making style in the target statistical population?

Q2: What is the status of succession planning in the target statistical population?

Research hypothesis: There is a significant relationship between the decision-makings of the target statistical population and their organizational succession planning capabilities.

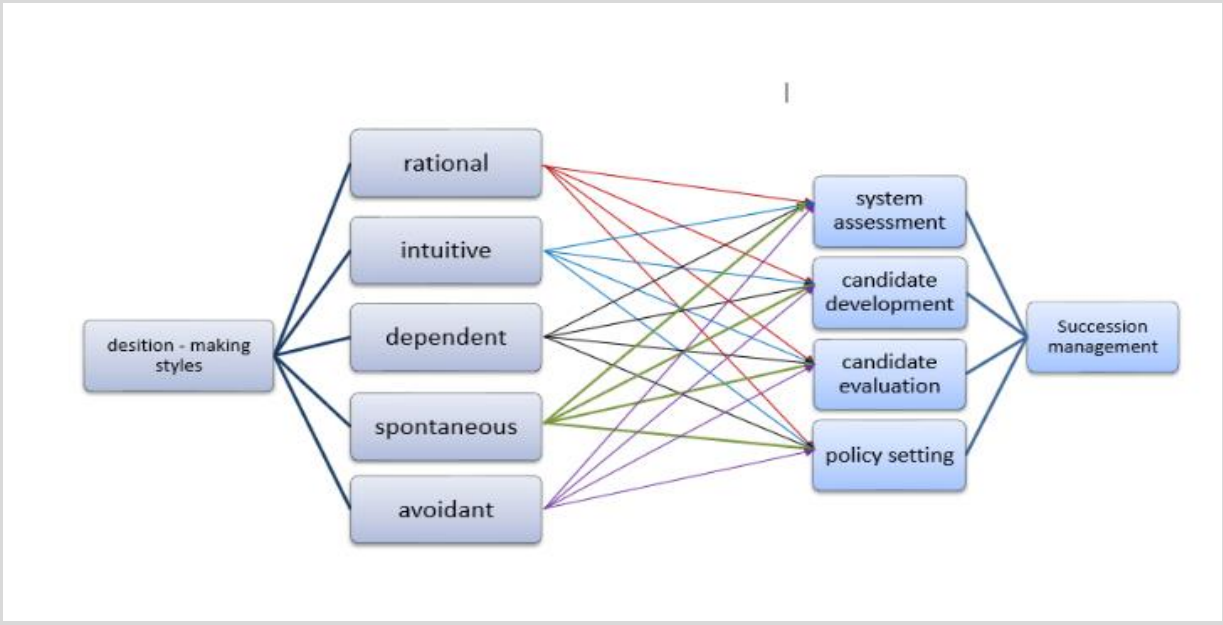

Figure 1. The conceptual model.

6. Methodology

The purpose of this study is to identify decision-making styles and components of substitution capacity and to examine the relationship between them. It is a qualitative survey in which a questionnaire is used as a data collection instrument aiming to clarify the relationship between the two variables. The statistical sample was drawn from a pool of directors, deputies, managers, advisors, and supervisors of Pars Special Economic Energy Zone Organization and included 190 participants; the questionnaires were collected at a rate of 90%.

To achieve comprehensive, reliable results, the questionnaire was distributed by the census method, and the entire statistical population was assessed. The present research is a descriptive study based on recognizing the behavior of people from their personal perspective. The questionnaire has two parts: The first part is associated with the questionnaire for the 5 decision-making styles designed by Scott and Bruce (1995) with 25 questions in which the respondents have been asked to state their views on their own decision-makings. In effect, five questions are designed for each of the five decision-making styles, distributed randomly in the questionnaire. The second part is associated with Kim's (2006) succession planning model. The questionnaire arranges the decision-making styles of the statistical population from their own viewpoint. It has 32 questions identifying the 4 areas of policy setting, candidate evaluation, candidate development, and succession management.

One of the most basic and significant statistical assessments in the questionnaire is to determine the validity and reliability of the test, and a method for assessing reliability is to calculate Cronbach's alpha coefficient.

The Cronbach's alpha coefficients calculated for the variables are listed in Table 3. Considering that the Cronbach's alpha coefficients are greater than 0.70, the questionnaire has acceptable reliability.

Regarding the validity of the measurement tool, the questionnaires used by well-known experts in the relevant fields have been designed and used many times internationally for different statistical communities; in this context, in addition to a complete study of the literature and previous researches, considering the workplace of the statistical community, questionnaires and implementation methods were repeatedly discussed with experts, specialists, academics, and regional elites. The validity of the value system questionnaire has already been approved by Amirshahi (1994), and Jacob et al. (2003) have calculated and confirmed the validity of the succession planning questionnaire. Scott and Bruce have already calculated and validated their own questionnaire (decision styles) internationally.

Table 3. Cronbach's alpha test for questionnaire internal consistency.

No.	Cronbach's alpha test for the questionnaire internal consistency of the importance of factors	
1	Question	Is the questionnaire valid and reliable?
2	Questionnaire	Cronbach's alpha coefficient
3	Decision-making style	0.967
4	Succession planning capability	0.754
5	Results	As the calculated Cronbach's alpha coefficient is greater than 0.70, we can conclude that the null hypothesis is confirmed, which indicates that the reliability of the distributed questionnaire is good.

The collected data were prepared through a questionnaire before any type of analysis. After collecting the data, they were processed and analyzed using statistical methods to determine the results. To this end, various statistical methods, namely reliability index, convergent validity, divergent validity, Cronbach's alpha, combined reliability (CR), factor loading coefficients, inferential statistics methods, and the Friedman nonparametric test, were utilized. The data were analyzed with the SPSS software and Smart Planning software.

7. Findings

As models measure the relationship between the indicators (observed variables) of a structure (hidden variables) and that structure, the research model was studied in three stages. The external model of the research was examined in the first stage. The internal model was studied in the second stage, and the general research model was analyzed in the third stage. The accuracy of the model was measured with three indicators: reliability index, convergent validity, and divergent validity. The reliability index was determined using three indicators: Cronbach's alpha, combined reliability, and factor loading coefficients. Moreover, each variable was examined to analyze factor loading related to the measured indices. The values must be greater than 0.7, but values within the range of 0.4 to 0.7 are also acceptable; a cut-off value of 0.4 is used (Hataminasab, 2017). Factor loadings over 0.4 are desirable, and anything below this cut-off value must be eliminated. Figure 2 depicts the factor loading of each index before and after eliminating coefficients which are lower than 0.4. These are respectively Model 1 (Model 1 after eliminating factor loadings smaller than 0.4), Model 2 (Model 2 after eliminating factor loadings smaller than 0.4), Model 3 (Model 3 after eliminating factor loadings smaller than 0.4), and Model 4 (Model 4 after eliminating factor loadings smaller than 0.4).

To measure the reliability of the external model, two indicators were employed: combined reliability and Cronbach's alpha coefficient. Combined reliability was introduced by Werts et al. (1974). Its advantage over Cronbach's alpha is that the construct validity is not calculated in absolute terms but is determined according to the correlation of their structures with each other. A combined reliability value of larger than 0.7 indicates an appropriate internal reliability for the measurement model, while a value of less than 0.6 denotes a lack of reliability (Nunnally, 1987). It should be noted that combined reliability is considered to be a better criterion in structural modeling than Cronbach's alpha because in calculating Cronbach's alpha coefficient for each structure, all the indices are calculated with equal importance. However, in calculating the CR, the indices with a higher factor loading are more important (Davari and Rezazadeh, 2013). CR values for each model structure are tabulated in Table 4.

Also, the reliability of Cronbach's alpha coefficient ranges from 0 to 1, and coefficients higher than 0.7 show acceptable reliability (Cronbach, 1951). However, for variables with a small number of questions, Moss et al. (1998) introduced a value of 0.6 as an acceptable cut-off value for Cronbach's alpha coefficient. The estimated coefficient values for each variable are listed in Table 5.

According to Table 5, Cronbach's alpha coefficient for all the intended structures is greater than 0.6, indicating an acceptable model reliability according to Moss et al. (1988).

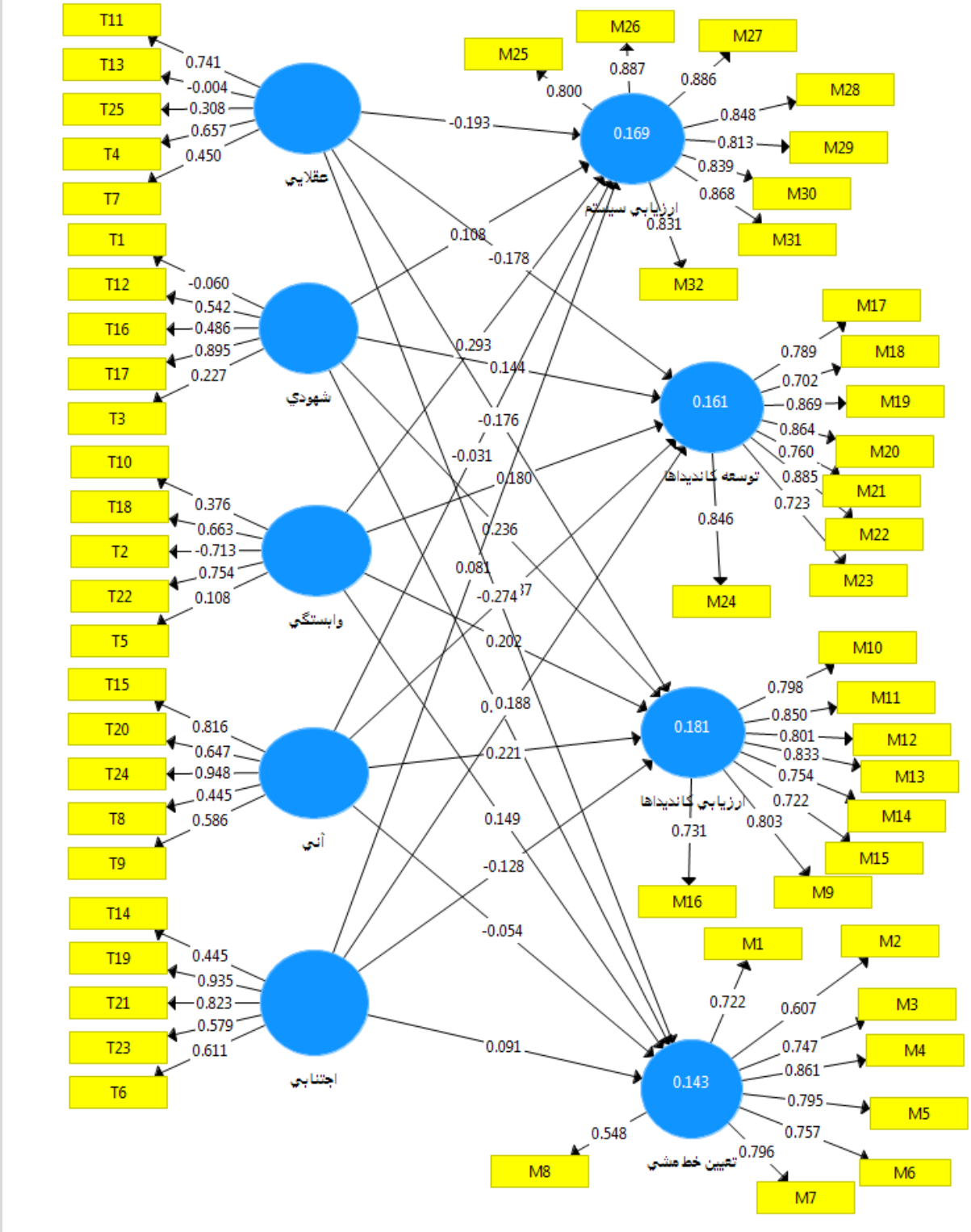

Figure 2. The factor loading of each index after eliminating coefficients which are lower than 0.4.

Table 4. CR values.

Combined Reliability	Variable	Combined Reliability	Variable
0.953	System assessment component	0.826	Intuitive decision-making style
0.937	Candidate development component	0.827	avoidant decision-making style
0.929	Candidate assessment component	0.652	Depended decision-making style
0.896	Policy setting component	0.652	Rational decision-making style
0.827	Spontaneous decision-making style		

Table 5. Path coefficient, indicating the relationship between two variables.

Hypothesis	Path coefficient	*P*-value	Result at a 5% error level
The rational style variable has a significant effect on system assessment.	0.221	***0.048	Accepting the hypothesis
The rational style variable has a significant effect on candidate development.	0.222	***0.048	Accepting the hypothesis
The rational style variable has a significant effect on candidate assessment.	0.225	0.100	Rejecting the hypothesis
The rational style variable has a significant effect on policy setting.	0.313	***0.020	Accepting the hypothesis
The intuitive style variable has a significant effect on system assessment.	–0.073	0.687	Rejecting the hypothesis
The intuitive style variable has a significant effect on candidate development.	–0.080	0.626	Rejecting the hypothesis
The intuitive style variable has a significant effect on candidate assessment.	0.390	***0.023	Accepting the hypothesis
The intuitive style variable has a significant effect on policy setting.	–0.028	0.868	Rejecting the hypothesis
The depended style variable has a significant effect on system assessment.	0.245	***0.041	Accepting the hypothesis
The depended style variable has a significant effect on candidate development.	0.363	***0.031	Accepting the hypothesis
The depended style variable has a significant effect on system assessment.	0.497	***0.001	Accepting the hypothesis
The depended style variable has a significant effect on policy setting.	0.101	0.609	Rejecting the hypothesis
The spontaneous style variable has a significant effect on system assessment.	–0.021	0.887	Rejecting the hypothesis
The spontaneous style variable has a significant effect on candidate development.	–0.018	0.915	Rejecting the hypothesis
The spontaneous style variable has a significant effect on candidate assessment.	0.226	***0,045	Accepting the hypothesis
The spontaneous style variable has a significant effect on policy setting.	–0.050	0.782	Rejecting the hypothesis
The avoidant style variable has a significant effect on system assessment.	0.090	0.649	Rejecting the hypothesis
The avoidant style variable has a significant effect on candidate development.	0.577	***0.0001	Accepting the hypothesis
The avoidant style variable has a significant effect on candidate assessment.	–0.154	0.467	Rejecting the hypothesis
The avoidant style variable has a significant effect on policy setting.	0.107	0.691	Rejecting the hypothesis

The second criterion for measuring the accuracy of the model is convergent validity which examines the degree of the correlation of each structure with its questions (indicators). The greater the correlation is, the higher the degree of the accuracy of the model. Fornell and Larker (1981) introduced the average variance extracted (AVE) to assess convergent reliability with a cut-off value of 0.5. Magner et al. (1996) considered a cut-off value of 0.4 and larger to be sufficient for the AVE. The coefficient value for each structure is presented in Table 6. The indicator value ranges from 0 to 1, with values higher than 0.4 being acceptable (Giffen, 2005).

To test the hypotheses, the data were analyzed using the method of inferential statistics. The path coefficient, indicating the relationship between two variables, is listed in Table 5. According to the given p-value and comparison with the significance level of 0.05 ($\alpha = 0.05$), if the p-value is less than 0.05, this relationship is significant, and it can be stated that the hypothesis is acceptable.

The Friedman nonparametric test was used to rank the variable blocks, and the results are presented in Table 6. The test showed that the importance and rank of the items in the decision-making variables are different from each other. The comparison of average rankings demonstrates that the rational style is the most important item for the respondents, and the spontaneous style is the least important item. The test also confirmed that the importance and rank of the mentioned items in the succession planning capability are different from each other. The comparison of the average rankings reveals that candidate evaluation is the most important item for the respondents, and candidate development is the least important item.

Table 6. Rank of the variables blocks.

Variable		Abundance Absolute	Average	Middle	Standard deviation
	Rational	94	3.690	3.800	0.455
Decision-making style	Intuitive	42	3.302	3.400	0.694
	Depended	8	2.869	2.800	0.454
	Spontaneous	1	2.104	2.200	0.669
	Avoidant	5	2.139	2.000	0.737
	None	21	--	--	--
	Total	171	2.821	2.840	0.353
Succession planning ability	System assessment	18	2.149	2.130	0.779
	Candidate development	24	2.081	2.000	0.747
	Candidate assessment	60	2.406	2.500	0.775
	Policy component	36	2.239	2.250	0.713
	None	36	--	--	--
	Total	171	2.220	2.250	0.667

8. Discussion, Conclusions, and Suggestions

In analyzing the obtained results and answering the first question of the research, we observed that the dominant decision-making in the statistical population is the rational one, respectively followed by the intuitive, dependent, avoidant, and spontaneous decision-making styles. In a research by Hadizadeh-Moghaddam and Tehrani (2008) on the statistical population of managers in National Iranian Oil Products Distribution Company (NIOPDC), whose jobs were closely related to the

statistical population of this study, the rational, spontaneous, avoidant, intuitive, and dependent decision-making styles were ranked first to fifth respectively among the statistical population, while, in this work, the rational, intuitive, dependent, avoidant, and spontaneous decision-making styles were ranked first to fifth respectively. The order of the decision-making styles in the statistical population of the current work compared to the results obtained by Hadizadeh-Moghadam and Tehrani (2008) and their order of importance are important from the standpoint that the index of the correctness of the decisions is observed in this sequence, and we hope that the decisions made in the organization have a regular structure.

In answering the second question of the research, the results show that among the items of the succession planning capability, candidate evaluation is ranked first, respectively followed by policy setting, system evaluation, and candidate development in the statistical population. In other words, the statistical population has stated that, in their organization, candidate evaluation takes priority over policy setting when investigating the succession planning capability. This practice is far from the principles of Kim's succession planning model.

To investigate the research hypothesis based on the assumption that there is a relationship between decision-making styles and succession planning capability, we concluded that the only significant relationship is between succession planning and the spontaneous decision-making style. Similarly, there is a direct relationship between candidate development and the avoidant decision-making style. On the other hand, candidate evaluation correlates directly with the spontaneous decision-making style and inversely with the dependent decision-making style. However, policy setting has no significant relationship with any of the decision-making styles.

Also, the dependent decision-making style correlates inversely with candidate evaluation, that is, the more this style is evaluated in the organization, the smaller the evaluation component of the candidates is. Further, the spontaneous decision-making style relates directly to the components of succession management and candidate evaluation, which implies that this style strengthens the two components. Finally, the avoidant decision-making style has a direct effect on candidate development. With these interpretations, we cannot state that only rational decision-making style, as the dominant style, has an effect on the succession planning capability of the statistical population; the other styles also have an impact on the succession planning capability. The research hypothesis is confirmed by the mentioned topics. It should also be noted that the decision-making method or style of the statistical population in this study is acceptable, but the succession planning capability is far from the principles of Kim's succession planning model. Following a field study, we found that no concrete succession planning program has been implemented in Pars Special Economic Energy Zone (PSEEZ) Organization so far.

This is one of the main reasons for the apparent gap between the succession planning capability of the studied organization and Kim's succession planning stages. In order to improve its human resources and bridge the gap between the organization and the global standards, we therefore propose that the senior management of the organization should take serious steps to implement the succession planning program. We also recommend that other esteemed researchers should conduct the present study again after implementing the succession planning program in the studied organization and compare the results before and after the implementation of the program.

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