A Study of Selected Succession Planning Indicators in Iranian State-Owned Enterprises Based on High-Performance Work Systems (Case Study: National Iranian Oil Company)

Abbas Karami[1] , Ghanbar Amirnejad[2] *, Ali Reiss pour[3] , Ezat Ollah Kiyani[1]

1.Department of Public Administration, Shoushtar Branch, Islamic Azad University, Shoushtar, Iran .
2.Department of Public Administration, Tehran science of Research Branch, Islamic Azad University, Tehran, Iran (Corresponding author).
3.Department of Management and Accounting, Ramhormoz Branch, Islamic Azad University, Ramhormoz, Iran .

* Corresponding author email address: g.amirnejad@yahoo.com

Abstract

Objective: The purpose of this study was to investigate selected succession planning indicators in Iranian state-owned enterprises based on high-performance work systems, with a focus on the National Iranian Oil Company in 2022.

Methodology: The study is developmental in terms of purpose and employs a qualitative and mixed-methods approach in terms of data type. The indicators were derived from 32 articles related to the research topic and through expert consultation using the Delphi method. The statistical population in the Delphi phase included organizational experts, academic faculty members, and managers of state-owned enterprises and the National Iranian Oil Company. Data collection was conducted using a questionnaire. The initial expert questionnaire consisted of 89 items and was refined with guidance from the research supervisor and advisor in two rounds involving a specialized panel of 20 members. To ensure the accuracy of findings, content validity was employed, and the kappa coefficient was used for reliability. Each item was designed on a five-point Likert scale: strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). Data analysis was performed using descriptive and inferential statistical methods with SPSS software version 26.

Findings: The research results identified succession planning indicators based on a competency system. These included talent identification and job placement, which encompassed the indicators of social prestige, talent evaluation, and talent identification. They also included development and cultivation of selected successors, which encompassed the indicators of career advancement pathway design, external training programs, continuous organizational learning, promoting a culture of succession planning, knowledge management in leadership and management, and on-the-job training.

Conclusion: This study highlights the critical role of competency-based succession planning in fostering organizational effectiveness within state-owned enterprises. By identifying and categorizing key indicators such as talent identification, job placement, and the development of successors, the research provides a structured framework for implementing high-performance work systems. The findings emphasize the importance of integrating strategic talent management practices, continuous learning, and knowledge management to ensure sustainability and competitiveness in dynamic organizational environments. These insights can serve as a foundation for further research and practical applications in succession planning strategies.

Keywords: *Talent identification, Job placement, Succession planning, Continuous organizational learning, Knowledge management.*

How to cite this article:
Karami A, Amirnejad GH, Reiss pour A, Kiyani E. (2025). A Study of Selected Succession Planning Indicators in Iranian State-Owned Enterprises Based on High-Performance Work Systems (Case Study: National Iranian Oil Company). Management Strategies and Engineering Sciences, 7(1), 24-33.

1. Introduction

In today's complex and competitive world, leading and managing organizations in the traditional manner is no longer a guarantee of success. Organizations are employing every mechanism to outperform their competitors. In this challenging competitive environment, organizations are compelled to focus on issues that may pose serious threats in the near future. One such significant threat, which undoubtedly every organization faces, is the vacancy of organizational positions, especially key positions, due to both voluntary and involuntary departures. Research indicates that there will be a shortage of managerial personnel in the coming years, coupled with an increasing need for more capable, talented, skilled, and competent managers than those currently in place. The reality is that identifying and utilizing competent managers remains one of the most fundamental challenges organizations face as they navigate the difficult conditions of tomorrow. Succession planning is a dynamic and continuous process that, when implemented, revitalizes the organization (Boorboor Jafari & Ahmadvand, 2016).

Furthermore, within an organization, every individual needs an awareness of their position to progress and achieve their designated career objectives. Such awareness enables individuals to understand the strengths and weaknesses of their performance and adopt necessary measures to enhance the effectiveness of their efforts (Ahmadi et al., 2020). Succession planning, in fact, serves as a tool for talent management and ensures the provision of skilled personnel for an organization's key positions. However, research on succession planning is highly limited and has predominantly focused on commercial and industrial organizations, whereas the public sector has an even more urgent and fundamental need for succession planning programs. Despite the fact that human resource strategies are essential pillars for improving organizational performance, addressing these strategies to enhance the effectiveness and efficiency of management activities and the development of human resources is imperative. Unfortunately, in the public sector, many managers fail to recognize the organization's long-term need to cultivate successors or adopt forward-thinking strategies (Balaji et al., 2014).

Studies on high-performance work systems have linked their outcomes to organizational metrics such as turnover, productivity, and financial performance. Literature on succession planning indicates that human resource systems and succession planning contribute to improving companies' high performance. Generally, succession planning can be described as an integrated set of educational, skill-based, and cultural characteristics of organizational members that generate added value for the organization. In today's turbulent world, leading companies have realized the significance of focusing on their employees more than ever. These companies have understood how emphasizing the retention and development of human capital can position them at the pinnacle of the global economy. Succession planning is considered a key driver of economic growth in societies and represents an essential asset that helps organizations achieve economic development. From this perspective, it can be compared to an organization's physical capital and assets (Chung et al., 2014).

The literature on succession planning and high-performance work systems reveals several critical insights and approaches across various organizational contexts. Rastegar et al. (2020) examined the relationship between high-performance work systems and job burnout in organizations, highlighting the necessity for organizations to integrate structure and technology effectively to achieve competitive advantage. Their findings emphasize that organizations must provide employees with the necessary information, skills, incentives, and authority to make informed decisions, thereby fostering high-performance work systems that reduce burnout and improve service quality. Manteghami et al. (2023) explored a competency-based succession planning model for sports managers using qualitative methods and found that succession planning requires an effective combination of talent management, organizational needs assessment, and strategic foresight, leading to enhanced individual development and organizational readiness. Zakipour et al. (2016) investigated the impact of high-performance work systems on individual and organizational effectiveness, mediated by human resource flexibility in a military organization, and demonstrated that such systems significantly improve adaptability and drive sustainable competitive advantage. Bakhtiari Fayandri et al. (2022) proposed a qualitative model of educational managers' competencies within a succession planning framework, identifying individual, relational, organizational, and professional dimensions as critical components of their model. Al-Hadeed (2016) explored the interplay between talent management and succession planning, emphasizing the need for organizations to integrate competency frameworks into succession programs to systematically identify and prepare high-potential candidates for key roles. Bhardwaj et al. (2020) linked high-performance work systems with organizational performance through employee empowerment and commitment, underscoring the importance of human resource practices in enhancing organizational outcomes. Lastly, Boguerra (2019) focused on succession planning in small institutions, uncovering

unique challenges such as founder reluctance and identity-driven attachment to the organization. These studies collectively underscore the importance of aligning high-performance systems and competency-based succession planning with organizational strategies to foster agility, innovation, and long-term sustainability.

In the Iranian oil industry, human capital is one of the most effective policies that can significantly influence various processes, including succession planning. Considering the advantages of this process, its internal dynamics, and the existing shortcomings, the necessity of examining succession planning as an important management approach in the Iranian oil industry is strongly felt. Given the importance of the topic, this study aims to investigate and address this issue.

2.   Methods and Materials

This study is developmental in purpose and employs a mixed-methods (qualitative and quantitative) approach to data collection and analysis. Initially, the factors, components, and main dimensions of succession planning and high-performance work systems were extracted through an in-depth review of the literature and theoretical foundations (articles) and consultation with experts, followed by the Delphi method. The reliability of the extracted factors was determined using the kappa index table.

The statistical population for the content analysis phase consisted of articles related to succession planning and high-performance work systems. Through the review of abstracts and full texts, 32 articles relevant to the research topic and focusing on state-owned companies or oil-related organizations within the domain of the two variables (succession planning and high-performance work systems) were subjected to qualitative content analysis, and the components and dimensions were extracted from them.

The statistical population for the Delphi phase included organizational experts, university faculty members, and managers of state-owned companies and the National Iranian Oil Company. Experts were selected from among faculty members and managers of state-owned companies and the National Iranian Oil Company.

The statistical population for the structural-interpretive modeling phase consisted of a focus group of 20 individuals, selected from experts, organizational specialists, university faculty members, and managers of state-owned companies and the National Iranian Oil Company.

Data collection tools in the qualitative phase included human capital studies and note-taking to extract indicators for model construction through content analysis of articles and theoretical foundations, as well as expert opinions gathered using a Delphi method questionnaire. At this stage, a research summary, including the problem statement, objectives, research questions, process, and preliminary results, was presented to experts. After being fully briefed on the research, the experts were provided with the questions. This ensured the researcher remained focused on the main research topics while obtaining maximum benefit from the experts' insights.

For data collection, a questionnaire was employed. The initial expert questionnaire consisted of 89 items across 22 components, which were finalized after approval by the research supervisor and advisor and administered in two rounds to 20 members of the specialized panel.

The statistical population and sample for the quantitative phase included descriptive characteristics, data related to structural-interpretive modeling, and quantitative values obtained through the Delphi method, including figures such as means, frequency percentages, and standard deviation calculations.

To ensure the validity of the mixed-methods research and the accuracy of findings, content validity was employed. The kappa coefficient was used to assess the reliability of the model.

The designed questionnaire consisted of two sections. The first section gathered demographic information (age, gender, education, and work experience), and the second section included items for evaluating components and indicators. The questionnaire items were closed-ended and utilized a five-point Likert scale, where respondents indicated their level of agreement with each item on a scale from strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1).

For analyzing the collected data to ensure broader generalizability of findings, descriptive and inferential statistical methods were applied using SPSS software version 26 and MICMAC analysis.

3.   Findings and Results

Demographic findings indicated that in terms of age, 25% of respondents were between 28 and 40 years old, 25% were between 41 and 50 years old, and 50% were aged 51 and above. Regarding education, 40% of respondents held a master's degree, and 60% held a doctorate. In terms of academic disciplines, 40% specialized in human resource development, 30% in designing state-owned organizations, 15% in public policymaking, 10% in management information systems, and 5% in change management. Concerning academic ranks, 5% were instructors, 45% were assistant professors, and the remaining 50% were experts from state-owned companies. Regarding work experience, 5% had 5–10 years of experience, 15% had 11–15 years, 10% had 16–20 years, 20% had 21–25 years, 10% had 26–30 years, and 40% had over 30 years of work experience. In terms of managerial experience, 5% had 5–10 years, 5% had 11–15 years, 50% had 21–30 years, and 40% had over 30 years of managerial experience.

The results of content analysis from articles on succession planning were reviewed within two components and nine indicators, as presented in

Table 1.

Table 1

Content Analysis of Articles on Succession Planning Based on High-Performance Work Systems in State-Owned Companies Using the Delphi

Method

Codes	Concepts	Dimensions (Main Category)	Components (Subcategories)	Source
Q1	Recognizing capabilities in all life and work domains	Talent identification and job placement	Social prestige	Kolivand & Hezar Jaribi (2018), Salimi Barneshini et al. (2022), Jessie (2019), Jovanovic et al. (2017), Neopan (2014)
Q2			Talent evaluation	
Q3			Talent identification	
Q4	Defining talent identification through performance evaluation, potential, and organizational and managerial skills	Development and cultivation of selected successors	Career advancement pathway design	Toliyan Esfahani et al. (2018), Chatrchi & Tabari (2018)
Q5			External training programs	
Q6			Continuous organizational learning	
Q7			Promoting a culture of succession planning	
Q8			Knowledge management in leadership	
Q9			On-the-job training	

By classifying and summarizing the components and indicators, two components and nine indicators were identified. It was observed that two components and nine indicators resulted from the qualitative content analysis of the articles, which served as the foundation for the Delphi method. These factors were refined and adjusted during the Delphi process for model design.

The methodology used in this study included content analysis and the Delphi method. Raw data were obtained through content analysis of articles and stabilized using the Delphi method. The objective of the Delphi process was to acquire information for examining the final factors to be used in the proposed model. After identifying the initial components, 20 university faculty members and managers from state-owned companies and the National Iranian Oil Company were selected as panel members to evaluate the qualitative validity of the identified components.

The Delphi method was executed in two rounds. In the first round, a questionnaire was distributed in person to the 20 panel members. After 10 days, follow-ups were conducted to collect the completed questionnaires, and all were received within 45 days. The first-round questionnaire included a list of factors, components, and indicators of succession planning based on high-performance work systems, derived from the literature and presented to the experts.

The respondents were required to provide their opinions on each proposed component. The questionnaire used a five-

point Likert scale with the following options: "Very low impact: 1," "Low impact: 2," "Moderate impact: 3," "High impact: 4," and "Very high impact: 5."

In the first round of the Delphi questionnaire, a section was allocated for experts to provide their comments and suggest new components, which was discussed as the second part of the questionnaire. Below is Table 2 summarizing the

results of the first part of the Delphi questionnaire from the initial round, including the number of responses, minimum and maximum values assigned, average responses, standard deviation, and the approval for inclusion in the next round. Table 3 displays Kendall's coefficient of concordance results for the first Delphi round.

Table 2

Results of Data Analysis from the First Round of Delphi

Subgroup	Proposed Components	Row	Number of Responses	Minimum	Maximum	Average Responses	Standard Deviation	Approval for Next Round
Talent Identification and Job Placement	Social Prestige	1	20	4	5	4.43	0.32	Yes
	Talent Evaluation	2	20	4	5	4.74	0.27	Yes
	Talent Identification	3	20	4	5	4.36	0.47	Yes
Development and Cultivation of Selected Successors	Career Advancement Pathway Design	4	20	4	5	4.25	0.54	Yes
	External Training Programs	5	20	4	5	4.27	0.25	Yes
	Continuous Organizational Learning	6	20	4	5	4.53	0.51	Yes
	Promoting a Culture of Succession Planning	7	20	4	5	4.33	0.81	Yes
	Knowledge Management in Leadership	8	20	4	5	4.66	0.81	Yes
	On-the-Job Training	9	20	4	5	4.58	0.57	Yes

Kendall's coefficient of concordance (denoted as w) is a non-parametric test used to measure the degree of agreement among responses. The coefficient ranges from 0 to 1, where 0 indicates no agreement, and 1 indicates complete agreement. Its characteristics make it particularly useful in management research. The Kendall coefficient is a suitable measure for determining the degree of consensus in Delphi

rounds. A value of w closer to 1 suggests strong agreement among panelists, while a low or negligible increase across rounds indicates no significant consensus, signaling the end of the Delphi process. Statistical significance of w alone is insufficient for stopping the process, especially with panels exceeding 10 members.

Table 3

Results of Kendall's Coefficient of Concordance for the First Delphi Round

Number of Participants	20
Kendall's Coefficient (www)	0.403
Sig	0.217
Expert Consensus	No (Lack of Theoretical Saturation)

Given that the Delphi questionnaire used a five-point Likert scale (with 5 as the highest and 1 as the lowest score), the acceptance criterion for variables in each round was an

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average score of 4 or higher. Variables with an average below 4 were excluded from subsequent rounds. The remaining variables are detailed in Table 3

Table 4

Results from the First Round of Delphi

Subgroup	Proposed Components	Row	Subgroup	Proposed Components	Row
Talent Identification and Job Placement	Social Prestige	1	Structural and Contextual Factors	Organizational Structure	14
	Talent Evaluation	2		Human Resource Management	15
	Talent Identification	3		Stakeholders	16
Development and Cultivation of Selected Successors	Career Advancement Pathway Design	4		Policies and Regulations	17
	External Training Programs	5		Competitive Advantage	18
	Continuous Organizational Learning	6	Competency-Based Recruitment Systems	Competence	19
	Promoting a Culture of Succession Planning	7		Foresight	20
	Knowledge Management in Leadership	8		Comprehensiveness	21
	On-the-Job Training	9		Justice	22
				Flexibility	23

In the first round of Delphi, some indicators received an average score below 4 and were excluded from further rounds. The excluded indicators were removed for the second Delphi round, as detailed below. These exclusions were implemented in the second-round questionnaire.

In the second-round Delphi questionnaire, as presented in Appendix 3, 16 components and 67 indicators remained after eliminating components with an average score below 4. The revised questionnaire was distributed to the experts. In this round, respondents were required to provide their opinions on each component by selecting one of the options presented in a Likert scale format. The scale included: "Very low impact: 1," "Low impact: 2," "Moderate impact: 3," "High impact: 4," and "Very high impact: 5." Table 6 presents the results of the second-round Delphi analysis, including the number of responses for each item, their average scores, standard deviations, and acceptability. Kendall's coefficient of concordance for the second round is shown in Table 6.

Table 5

Data Analysis Results from the Second Round of Delphi

Subgroup	Proposed Components	Row	Number of Responses	Minimum	Maximum	Average Responses	Standard Deviation	Acceptable/Unacceptable
Talent Identification and Job Placement	Social Prestige	1	20	4	5	4.93	0.25	Acceptable
	Talent Evaluation	2	20	4	5	4.86	0.35	Acceptable
	Talent Identification	3	20	4	5	4.80	0.41	Acceptable
Development and Cultivation of Selected Successors	Career Advancement Pathway Design	4	20	4	5	4.79	0.21	Acceptable
	External Training Programs	5	20	4	5	4.93	0.25	Acceptable
	Continuous Organizational Learning	6	20	4	5	4.20	0.21	Acceptable
	Promoting a Culture of Succession Planning	7	20	4	5	4.60	0.50	Acceptable
	Knowledge Management in Leadership	8	20	4	5	4.60	0.41	Acceptable
	On-the-Job Training	9	20	4	5	4.93	0.50	Acceptable

As in the first round, Kendall's coefficient of concordance was used to measure agreement. In the second round, the coefficient was w=0.841, indicating substantial agreement and consensus among the panelists, leading to the conclusion of the Delphi rounds. A third round was deemed unnecessary.

Table 6

Results of Kendall's Coefficient of Concordance for the Second Round of Delphi

Number of Participants	20
Kendall's Coefficient (www)	0.841
Sig	0.001
Result	Theoretical Saturation Achieved

Since all variables scored an average above 4, and Kendall's coefficient exceeded 0.6, the Delphi rounds were concluded, and theoretical saturation among the experts was achieved. The final results are summarized in Table 7.

Table 7

Final Results from the Second Round of Delphi

Subgroup	Proposed Components	Row	Subgroup	Proposed Components	Row
Talent Identification and Job Placement	Social Prestige	1	Structural and Contextual Factors	Organizational Structure	13
	Talent Evaluation	2		Human Resource Management	14
	Talent Identification	3		Stakeholders	15
Development and Cultivation of Selected Successors	Career Advancement Pathway Design	4		Policies and Regulations	16
	External Training Programs	5		Competitive Advantage	17
	Continuous Organizational Learning	6	Competency-Based Recruitment Systems	Competence	18
	Promoting a Culture of Succession Planning	7		Foresight	19
	Knowledge Management in Leadership	8		Comprehensiveness	20
	On-the-Job Training	9		Justice	21
				Flexibility	22

With the high value of Kendall's coefficient and the average scores exceeding 4 for all research components, theoretical saturation was achieved among the experts. The Delphi rounds were concluded, and data stability was attained.

To assess the reliability of the finalized designed policies, the kappa coefficient can be used. In this method, an independent individual (expert) unfamiliar with the researcher's categorization of codes and concepts classifies the codes into concepts. The concepts provided by the researcher are then compared with those generated by this individual. Finally, the kappa coefficient is calculated based on the number of matching and differing concepts.

The calculated K value (0.8042) is compared against the kappa coefficient table, which indicates the status of the index based on the obtained values. As shown, the kappa value is 0.8055, which, according to the table, demonstrates a valid agreement status. Thus, the classification of extracted factors meets the desired reliability criteria and is deemed credible.

4. Discussion and Conclusion

The components and indicators of succession planning based on a competency system in a military organization were determined as follows:

a. Talent identification and job placement, including the indicators of social prestige, talent evaluation, and talent identification.

b. Development and cultivation of selected successors, including the indicators of career advancement pathway design, external training programs, continuous organizational learning, promoting a culture of succession planning, knowledge management in leadership and management, and on-the-job training.

Competency-based succession planning is one of the approaches that can assist organizations in this endeavor. Scholars recognize that this process facilitates organizational agility, fostering creativity, innovation, process efficiency, flexibility, and responsiveness to organizational demands. Organizational agility is the most

prominent feature enabling the ability to adapt processes and existing models to meet human resource needs. Numerous factors can contribute to fostering agility within organizations, including knowledge management and the organizational intelligence of successors. Naturally, any organization must adapt to new conditions to meet the needs of its employees and society. Agility serves as a tool that organizations can leverage to address volatile and unpredictable environments.

On the other hand, succession planning should align with the development and preparation of organizational leadership and management capabilities, referred to collectively as succession management. Succession planning must be flexible and strategically aligned, reflecting significant changes in the organization's strategic plans. The most effective succession planning programs are built on information derived from existing human resource systems, such as performance evaluation, managerial advancement, training and education, rewards, career planning, and recruitment. Integrating succession planning systems with career planning is critically important.

Succession planning is an intelligent talent management strategy that ensures the retention of talent within the organization and equips the organization with the necessary skills to respond to the rapid changes in today's business environment. In other words, it ensures the systematic identification and preparation of high-potential candidates for key positions. This process involves identifying employees who possess the training and skills necessary for career development and are prepared to face future leadership challenges. Human resource advisors play a pivotal role in this process. The goal of succession planning is to identify and develop individuals to replace current managers in key positions in cases of resignation, retirement, promotion, expansion, or the creation of new roles.

As noted, succession planning primarily targets an organization's strategic positions. In these roles, the best employees must be identified and appointed to the most critical positions within the organization.

To enhance talent identification and job placement, it is recommended to establish and strengthen the social prestige of individuals and human resources within state-owned companies to foster confidence and competence. Additionally, forming a task group for talent evaluation and identifying individuals' potential for future roles and scenarios is crucial. For the development and cultivation of selected successors, it is suggested to design career advancement pathways and implement external training programs tailored for selected successors. Promoting continuous organizational learning based on informational principles is essential for fostering a culture of succession planning within state-owned companies. Moreover, organizational knowledge management strategies and leadership development should be reinforced through targeted on-the-job training initiatives.

Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethical Considerations

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

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