

Presenting a native model of succession planning in the national Iranian gas company based on a strategic development system with a meta-synthesis approach and a mathematical approach

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Abstract

The present study aims to examine the presentation of a local model of succession planning in the National Iranian Gas Company based on the strategic development system. This study is applied in terms of its purpose and uses the meta-synthesis method. The meta-synthesis method has been used to conduct a detailed and in-depth study of the subject and has combined the results of previous qualitative research. In this regard, by searching reputable databases during the years (2014-2024), 376 studies in the field of succession planning and the strategic development system were selected, of which 183 studies were ultimately content analyzed using the Sandelowski et al. [54] method and the relevant dimensions and codes were extracted and analyzed. The findings identified 12 key factors influencing the indigenous succession planning model in the National Iranian Gas Company, including strategic stages of succession planning, strategic configuration of the organization, strategic culture and core organizational values, policies and strategies, training and development, talent selection and development strategies, strategic management and leadership in succession planning, encouragement and motivation for succession planning, innovation and technology strategies, strategic change management, systematic performance evaluation models, and effective communication strategies. Accordingly, it can be concluded that each of these components mutually and synergistically affects the others and helps to create an indigenous and effective succession planning model in the National Iranian Gas Company. The effectiveness of this model depends on the continuity and coherence between these components.

Keywords: succession planning, indigenous model, strategic development system

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1 Introduction

In today's complex, competitive world, leading and managing organisations as they did in the past will not work, and organisations will use any means to overtake one another. The history of human resource management shows

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that this part of the organisation has always grown significantly in importance. In fact, a prerequisite for a developed society is to have developed organizations, and developed organizations also gain their real power and authority through the presence of expert human resources as strategic assets [11], and human resources can be considered one of the most important resources in organizations. Proper management of human resources can reduce the waste of all resources. Accordingly, in the challenging competitive arena, organizations are forced to focus their attention on categories that may pose a serious threat to their human resources in the near future. One of the serious threats that any organization will undoubtedly face is the vacancy of organizational positions, especially key positions, which can be due to various reasons such as: voluntary or involuntary departure of individuals. Research results show the shortage of managerial personnel and the increasing need of organizations for managers and human resources who are far more capable, talented, skilled, and competent than today's managers in the coming years, and the truth is that identifying and utilizing competent managers and human resources is one of the most fundamental challenges facing organizations to overcome the difficult conditions of tomorrow. Succession management is a dynamic and continuous process that, by implementing it, new blood flows through the veins of the organization [24, 25]. Succession management is a flexible, long-term and growing approach to future hiring [33]. Succession planning is central to organizational and professional workforce planning and requires a strategic view of the long-term future, ensuring that qualified individuals are available and ready for future positions. Succession planning ensures that high-level management talent is available to the organization. It also involves searching for high-potential employees who fit the organization's culture and personality traits [15]. Succession planning is a smart talent management strategy that can help retain talent within the organization and ensure the organization has the skills needed to respond to the rapid changes that today's business environment brings [38].

Having a succession management system ensures that employees are available and can take on new tasks. One of the new human capital management programs to attract and retain people and identify their potential talents is talent and succession management [9]. Succession management has two main goals, which include: (1) selecting successors or identifying suitable candidates based on criteria that are determined, and (2) preparing the organization for the transfer of management and control of the organization from the older generation to the newer generation [39].

Today, it is necessary for organizations to define a regular program based on which to identify and develop leadership skills. To implement succession management, it is very important to identify the competencies of leaders and employees. Some of these competencies include: enthusiasm, optimism, flexibility, professional behavior, openness to new ideas, a balance between autonomy and collaboration, commitment to learning with a spirit of inquiry, and commitment to the organization [16]. The succession planning system is an auxiliary element of the main elements in human resource planning and strategic planning of any organization [67]. In other words, succession planning ensures the effectiveness of the management transition process in organizations for risks related to the loss of knowledge, which is very important for the success of the organization and is associated with improving the performance and career advancement of employees. Lack of proper planning for the succession planning system can have a direct impact on the collapse of the organization through the departure of key forces, and on the other hand, finding suitable replacements is a process that requires complex design and strategy.

Strategic development and succession planning are two important processes in the management of organizations that are closely related to each other. This relationship is such that succession planning is part of the strategic development of organizations. In the sense that strategic development and succession planning are both long-term planning of the organization; while creating and implementing strategies, new forces must be prepared to replace current leaders. Therefore, these two processes are carried out in a coordinated manner [61]. On the other hand, succession planning means training and developing new forces in the organization. Strategic development requires skilled human resources with new abilities. Therefore, the connection between strategic development and succession planning is important here [64]. Strategic development deals with the selection and implementation of appropriate strategies to achieve goals. Selecting the right people and developing them to implement these strategies requires succession planning [68]. Strategic development and succession planning both need to reflect the organizational culture. People trained to replace current leaders must be familiar with organizational values and culture in order to better maintain this culture [44]. In general, strategic development and succession planning are two processes with a direct impact on each other, and adaptation and coordination between these two processes can contribute to the success and continuity of the organization [66].

The emergence of a vacuum and the departure of personnel in an organization, especially in key companies such as the National Iranian Gas Company, can cause serious problems in the organization's progress. Therefore, many organizations, in order to prevent problems in their progress, implement programs to provide competent personnel for various jobs from within the organization. Succession planning is one of these programs to provide competent personnel for key jobs in companies when necessary. The importance of succession planning is felt more in the

National Gas Company, where the economy of Iran is based on such a company. Considering that the National Gas Company is one of the major companies active in the gas field in the Middle East and one of the main companies of the Ministry of Oil, and also considering the vision document of Horizon 2025 (1404), which defines the main goals of the National Gas Company as being in the third place among global natural gas producers and achieving the first place in gas technology, capable and competent managers play a very important role in this regard. The issue that led the National Gas Company to develop a competency model for managers is that the National Gas Company will face a large volume of retirements, and the first wave of this actually occurred with the passage of the law prohibiting the employment of retirees; the departure of a large number of senior managers of the National Gas Company over the next 5 years will create a huge vacuum in the gas industry and double the need to prepare a new generation to accept responsibility. Therefore, developing a local model for succession planning in the National Gas Company of Iran based on the strategic development system is an undeniable necessity. Accordingly, developing a guiding model for succession planning of competent individuals to transfer key positions is essential. On the other hand, succession planning models based on strategic development can help the process of transformation and development of companies, but there are different possibilities and advantages for each country and company that must be considered. Regarding the strategic development-based succession planning of the National Gas Company in countries outside Iran, some models have been developed, but due to some reasons that will be discussed below, these models cannot be sufficient and the strategic development-based succession planning model needs to be localized in each country and company. Among these reasons for the incompatibility of succession planning models, political and economic restrictions can be mentioned, sanctions and political analyses of countries can be considered situations that are calculated from different aspects for companies or other succession planning models. The next reason can be flexibility and planning; because the National Gas Company and other large companies may need a localized succession planning model of the same country due to differences in initial strategies or business environment. Available facilities and capital may be involved in this matter; Each country, considering its capital conditions and available facilities, can follow its own succession planning model. Finally, the decision to select succession planning models based on strategic development must be made based on the specific and unique conditions of each company and country, and a specific model cannot be determined for all general conditions. It can also be stated that succession planning models based on strategic development must be localized because the cultural, social, economic, and political conditions of each country and company are very different, and localization of models and strategies is preferred to these conditions, because the concepts and values of organizational culture are different in each company, so succession planning models and strategies must be considered and localized with these differences. The extent and manner of developing and training human resources in each company may be different, and these human resource needs must be related to these development models and strategies, and the limitations and regulations of each company must be considered in the development of succession planning models and strategic strategies. Given that each company has its own specific conditions, localizing succession planning and strategic development patterns can help strategies and patterns best match the specific conditions of each situation and be used for better success in different fields. Accordingly, this research seeks an answer to the following question:

What is the appropriate local succession planning model in the National Iranian Gas Company based on the strategic development system with a meta-synthesis approach?

2 Literature review

2.1 Succession planning

The history of selecting a suitable successor goes back thousands of years, when kings would consider choosing a successor to rule their country before they died. The family of the landowner has also always been concerned with succession, and land was usually inherited by a successor who had advantages in terms of birth order, gender, and specific skills. Fayol [18] was among the first writers to recognize the need for succession planning in organizations. One of Fayol's 14 classic management principles, first expressed in the early 20th century, is that management is responsible for the continued employment stability of employees. Fayol believed that if this need was forgotten, key positions would eventually be filled by employees who had been poorly prepared [3].

A significant portion of the literature on succession planning refers to the succession of organizational leadership; In this regard, three distinct phases in leadership succession research are identified: the 1960s, the emergence phase of studies in this field, in which researchers focused on the origin of the successor, the relationship between organizational size and the rate of succession, the rate of succession and the performance of the organization after the succession, and the conditions under which the succession occurred. In the 1970s, with the growth phase of studies, in addition to the origin of the successor, researchers focused on the characteristics of the successor, the frequency of the selection of the successor, the relationship between the successor and the board, and the framework and typology of succession.

In the 1980s and 1990s, i.e. the phases of review of studies and the increasing growth of related research, researchers paid attention to areas such as the stock market reaction to organizational management change, succession planning, the succession process, succession outcomes, and manager compliance. As is clear, the need for systematic planning for succession planning and a process-based approach to it has received special attention since the 1980s [6].

The concept of succession planning in its earliest definition focused on "identifying future leaders," but today, from the perspective of human capital strategy, this concept is considered as a process for preparing individuals to accept future responsibilities at all levels. In fact, in this theory, succession planning is a program that identifies the organization's talents to occupy key positions in the future and prepares them to take on responsibility over time through training and education programs. The most successful organizations in implementing succession planning programs are undoubtedly those that are based on investing in the development of internal talents and have no problems in securing human capital when the organization's current talents leave in the future, which has led to the change of the term "talent pool" to "river" of talent. In order to succeed and survive, organizations need to create, position, and structure systems that leverage the capacity and commitment of their efficient and competent human resources and lead to the introduction of new ideas into the organization.

Succession planning involves selecting the most suitable employees to fill higher management positions in organizations from a pool of skilled candidates. This definition only refers to the selection of skilled individuals but does not explain how and why these individuals are selected [36].

Succession planning is the planning of potential replacements for current leadership positions in leading organizations around the world. Succession management is carried out through a process called talent management. Through this process, the organization's human talents are identified to occupy key jobs and positions in the coming years and are gradually prepared to assume these jobs and responsibilities through various training programs. In these organizations, it is assumed that all employees have talents and competencies, but due to some limitations, they can only make long-term investments in that group of their employees who have superior talents and are related to the strategic directions of the organization [10]. Human talent is defined and becomes relevant in relation to the goals and strategic plans of the organization. For example, an organization that has chosen product diversity and innovation as its long-term goal and direction, then human talent will be an individual who actually or potentially has outstanding abilities in creativity, initiative and innovation.

2.2 Conceptualization of management skills in succession development

Skill in Dehkhoda culture means cleverness and eloquence in work and mastery and dexterity. Skill is a learning ability or, in other words, the talent to perform or predict results with minimal time and energy. Skill is said to be a person's developable abilities that are reflected in the performance and survival of tasks. Therefore, skill is the ability to effectively apply personal knowledge and experience. The main criterion for having skill is to act effectively in changing conditions. Skill, in fact, refers to the continuous ability of an individual to perform a task quickly and accurately. So, skill is an action in which the three factors of time, energy, and performance play a role. From this approach, it is understood that acquiring skill requires practice and experience, or in other words, any action in which experience and practice can be called skill. But to acquire skill in anything, its characteristics or, in other words, its constituent elements must be considered. The first characteristic and characteristic of a skill is knowledge, meaning that to do anything, we must have the knowledge related to it and gain a general understanding of the nature of what we want to know.

Developing managerial skills has received more and more attention from researchers and experts in organization and management in the past decades. Most articles and books on management skills try to teach managers skills through which they can control their own behavior and that of their subordinates more effectively. These books combine theoretical perspectives with the results of managers' successes and the achievements of successful organizations to provide managers with the basis for applying existing practical solutions. In this way, developing managerial skills can directly lead to improving managers' performance. In expressing the skills of managers, various experts have mostly referred to skills such as: self-awareness, time management, stress management, creative thinking, problem solving, decision-making, and effective communication (including listening, speech writing, meeting management, etc.), exercising influence and power, creating motivation and guidance, and even budgeting and allocating resources.

Management skills are skills that enable a person to move the components of a set in order to move all components in proportion to the set goals. Management skills are not subject to tastes or behaviors that are defined by the habits of individuals. Management skills originate from the source of science and knowledge, and everyone knows very well that management is a science and this science follows a logic and system that the manager's behaviors are subject to that system and not vice versa. Self-confidence, rational caution, purposefulness, and the courage to make decisions

and make decisions are among the issues that can bring management skills to maturity.

2.3 The concept of planning in the strategic development system

Strategic planning is a process aimed at mobilizing the organization's resources and unifying its efforts to achieve long-term goals and missions, taking into account internal and external possibilities and limitations.

In another definition, strategic planning means the process of examining the current situation and future direction of the organization or society, setting goals, developing a strategy to achieve those goals, and measuring the results.

Strategic planning is also an organized and systematic effort to make fundamental decisions and carry out basic actions that shape the nature and direction of an organization's activities within a legal framework.

The stages and factors of strategic planning can be summarized as follows:

1. Determining and explaining the organization's existential philosophy, by answering the following questions:
 For what purpose was the organization created?
 What is the service or type of special mission expected of it?
 What is the motivation of the designers and implementers of the plans?
2. Identifying environmental conditions, by answering the following questions:
 What political, economic, social and technological changes are about to take place and what opportunities or limitations do these changes create? General aspects of employment, changes in supply and demand in the labor market, the adoption of new laws, technological changes and allowing the transfer of capital-intensive technology, and policies such as these that have multiple effects on the nature of human resource programs at the micro and macro levels.
 What is the strategy of similar neighboring and parallel organizations in the field of human resources?
3. What are the strengths and weaknesses? In this case, the following question helps us:
 What factors facilitate or limit the choice of the future path?
 Factors such as inflation of human resources, old age and middle age, labor, illiteracy, diseases, lack of access to experienced managers, managers' escape from the scene of responsibility, and the like are called "limiting factors".
4. In determining the goals and objectives of the plan, what services are intended to be provided and what tasks and missions are intended to be performed.
 When is the achievement of the goals desired?
 What are the desired quantities and qualities in achieving the goals?
5. And finally, the planning stage, which is guided by the answers to the following questions:
 What are the ways to achieve the goal and which is the most sensitive way?
 What changes are needed in the organizational structure, management methods, quantity and quality of human resources?

Strategic planning is a reflection of the values that govern society. The worldviews, beliefs and traditions of society are reflected in strategic planning.

Strategic planning focuses on the main questions and fundamental issues of the organization. Questions such as what are the organization's plans today? What is the status of the organization's facilities and resources in the future and what goals should they be focused on?

Strategic planning provides a framework for operational planning and decision-making and management. With the help of the lines set in strategic planning, managers are able to make quick and correct decisions towards the organization's goals. Strategic planning coordinates and integrates the organization's operations and actions over relatively long periods of time. Strategic planning has a long-term vision and introduces distant horizons in the organization. This type of planning thinks about the distant future and tries to outline the organization's position in the long term. Strategic planning is formed at the highest levels of the organization, because it is at this level that the necessary information about the organization's facilities and resources and expectations and expectations are concentrated there. Strategic planning is comprehensive and comprehensive and encompasses the organization's operational plans and gives them direction.

Strategic planning is formed and implemented differently in large and small organizations. In small organizations, the planning method is more informal and often subject to the individual opinions of the manager. He sets future goals and strategies and often communicates them verbally and implicitly to subordinates. In large organizations, strategic planning is subject to a specific order; therefore, it requires a specific organization and position in the organization.

This type of planning determines the direction and path of the organization's activities and operations and acts as a guide for the organization. Comprehensive planning plays a guiding role in decision-making and simplifies the work of analysis and evaluation. Strategic planning reduces decision-making risks and ensures the success of actions based on the approved strategy. Strategic planning predicts the future with a long-term perspective; therefore, it contains information that is very useful for long-term actions of managers. Comprehensive planning also plays a coordinating role between the organization's operational plans and directs the actions of different units in a single direction.

Among the limitations of strategic planning, one can mention its costs. In terms of time, this type of planning must spend a lot of time and go through the different stages of this process before the strategic planning system can start working, and it also requires an expert. Another point that can be mentioned as a limitation of strategic planning is the lack of flexibility and stability that this type of planning induces. Strategic planning originates from logical and systematic thinking and requires managers and members of the organization to follow predetermined things or not to step out of a specific framework. Adhering to the general lines and determined paths to achieve strategic planning damages the power of creativity and innovation of the individual and dulls the free spirit of the human being. However, in the present era, with the expansion of operations in large organizations today, there is no efficient and effective way in strategic planning to advance the goals of the organization, and one should try to overcome the weakness of this planning and make maximum use of it.

2.4 The link between strategic planning and human resources in the strategic development system

Planning is the method and method of achieving organizational goals, and consequently, strategy is all the necessary facilities for the successful performance of organizational tasks. Therefore, strategic planning is a process that includes determining long-term organizational goals and making decisions based on methods to achieve goals that have been foreseen in advance. In other words, it is an organized and systematic effort to make fundamental decisions and take fundamental actions that shape the direction of an organization's activities with other institutions within a legal framework. The time schedule for the strategic planning process depends on the nature, needs of the organization and its external environment. The implementation of strategic planning coincides with the start of the organization's activities. Strategic planning is usually part of a business plan, along with a marketing plan, financial plan and operational plan. On the other hand, human resource planning is a process for assessing the demand, size, nature and supply of human resources to achieve the required demand. Therefore, the first stage of any personnel and human resource management plan is human resource planning. According to Decenzo et al. [14], human resource planning is the process by which an organization determines how many employees, with what expertise and skills, it needs for what jobs and when to achieve its goals. The goal of human resource planning is to analyze the balance of supply and demand in a structured way. This begins with a clear and fast-moving picture of the future and aims to analyze and determine the practical areas as a result. In human resource planning, we need to know the members and skills needed to perform daily tasks and the changes that may change the capacity of work in the future and the volume of activities undertaken. This involves a good understanding of the strategy and more detailed business plans. Next, we need to consider the supply situation of human resources in terms of the current human resource inventory and how much their needs should change. This indicates that organizations need to accurately recognize the members and their characteristics and relationships with the organization.

Strategic human resource planning will not be a separate, independent and separate program from the organization's strategic planning and must be in connection and in line with the organization's general strategy [62].

Human resource planning is related to the concepts of the organization's environment and operations and includes internal and external factors. External factors include economic pressures, technological changes, laws and regulations, political situation, labor market and education, internal factors include the organization's goals and objectives, culture, structure, human resources and stakeholders. Human resource planning has the following distinctive and characteristic features:

1. Awareness: It creates clear and obvious assumptions in the human resource issue.
2. Analytical: It relies on a series of judgments and facts.
3. Goal-oriented: It is a tool for organizational decision-making in order to achieve human resource goals, especially organizational goals.
4. Future-oriented: Anticipates and looks to the future of human resource issues.
5. Social or collectivist: Focuses on groups rather than individuals.

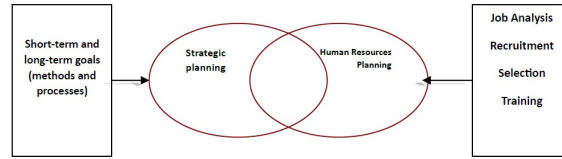


Figure 1: Relationship between human resource and strategic planning

3 Research methodology

The present study is classified as applied research in terms of its purpose and in terms of the nature of the data and the style of analysis, and was conducted using the meta-synthesis method. The data collection method in this study is based on documentary information. The research data were collected and analyzed using the meta-synthesis method in order to collect data related to the research, which is all studies conducted in the field of succession, extract and identify the components affecting it in these studies. The seven-step method of Sandelowski et al. [54] is used. In the present study, all research published in reputable domestic and foreign scientific databases were surveyed based on defined keywords in order to achieve a sample that would cause theoretical saturation. The validity basis of this study was theoretical validity, and to achieve it, extensive field study methods, theoretical pluralism, and the use of expert opinions were used. Meta-synthesis, which has been introduced and proposed by researchers as an emerging approach to systematically interpret the findings of a set of qualitative studies [54], is itself a subset of meta-study. One of the methods that has been introduced to examine, integrate, and pathologize previous studies is meta-study [69]. Meta-analysis, which has been used frequently in recent years, is a type of quantitative meta-study that is conducted only on the results of previous studies. If this meta-study is conducted qualitatively and, on the concepts, used in previous studies, it is known as meta-synthesis [63]. If the study is conducted only in the field of methodology of previous studies, it is called meta-method, and if it is in the field of models and frameworks of previous research, it is called meta-theory. Different researchers have listed various stages and sections for conducting meta-synthesis. For example, Noblit and Hare [46] introduce three main parts for meta-synthesis: study selection, translation synthesis, and synthesis presentation, and Sandelowski et al. introduce a seven-step method. Hughes-Morley et al. [28] also consider three general steps in their research to examine and conduct meta-synthesis: systematic review, quality assessment, and synthesis. The present study uses the steps introduced by Sandelowski et al. [54], which are as follows:

- Research question formulation
- Systematic literature review
- Searching and selecting appropriate articles
- Extracting information from the texts
- Analysis and synthesis of findings
- Quality control
- Quantity control
- Presentation of findings

Step 1 - The first step in conducting meta-synthesis is to formulate the research question: because a suitable research question frames the goal or purpose of the meta-synthesis. Knowing that three general parameters (what, who or when, how) are commonly used to formulate research questions at this stage, the questions proposed have been configured in the following format in order to achieve the objectives of the present study.

Table 1: Research questions

Parameter	Parameter
What	What are the dimensions, components, and indicators of succession planning based on the strategic development system?
Who (when)	What are the dimensions, components, and indicators of succession planning in foreign articles from 2014 to 2024 and in domestic articles published in reputable scientific databases from 2013 to 2024?
How	How do the dimensions of succession planning based on the strategic development system affect each other?

Step Two - Systematic Review of Texts: In this step, the researcher focused his efforts on a systematic search to find articles published in various reputable domestic and foreign scientific journals and tried to define appropriate keywords as mentioned in Tables 2 and 3 and use these words singly and in combination, as well as in Persian and English, in the process of reviewing scientific databases and search engines, to find articles that can be cited. For this purpose, in order to ensure scientific accuracy, an effort has been made to limit the search to articles and documents reviewed in scientific journals and conferences.

Table 2: Main selected words for searching articles in the second step of meta-synthesis

Keywords	
Main Keyword(English)	Main keyword (Persian)
Succession	Succession planning

Table 3: Selected sub- and combined words for searching articles in the second step of meta-combination

Keywords	
Substations and combination Keyword (English)	Sub-keywords and compound keywords (Persian)
Organizational succession	Organizational succession planning
Strategic development system	Strategic development system or strategic development system
Strategic development	Strategic development
Organizational strategy	Organizational strategy

In the present study, the most important keywords mentioned in the above tables were searched in several domestic and foreign scientific databases in order to obtain relevant and suitable articles for meta-synthesis. To further clarify the process followed in this stage, the databases examined and the search criteria are given in the form of two tables (4 and 5) below.

Table 4: Databases examined in the second step of meta-combination

Database	
Resources	Domestic
	www.ensani.ir
	www.sid.ir
	www.margin.com
	www.noormags.com
	International
	www.sciencedirect.com
	www.emeraldinsight.com
	www.springer.com
	www.google scholar.com

Table 5: Initial indicators and criteria for reviewing articles

Indicators	Acceptance criteria
Research period	Articles and documents published from 2014 to 2024
Research language	Persian and English
Title	Succession planning in the National Iranian Gas Company based on a strategic development system
Magazine type	Managerial, social and interdisciplinary
Type of articles	Articles published in reputable scientific journals and conferences

As can be seen in Table 5, a number of initial criteria were used and cited when reviewing scientific databases and journals to limit the scope of the search. Using the aforementioned guidelines, the researcher ultimately succeeded in finding 348 articles, which entered the third step of meta-synthesis for further analysis and final selection.

4 Findings

Step Three - Searching and Selecting Appropriate Articles: In this step, the researcher examined the relevance of the articles found in the previous step with respect to the research questions and objectives. This means that first, the studies resulting from the search were reviewed and those that did not fit the research questions and objectives were eliminated, and then the remaining articles were reviewed in terms of abstract and content, respectively, and irrelevant and inappropriate articles were discarded each time they were reviewed. In this step, the researcher considered some specific parameters such as article details (author's name, methodology used, study population, etc.). The overall process followed in this step and the number of articles eliminated in each review are depicted in Figure 2.

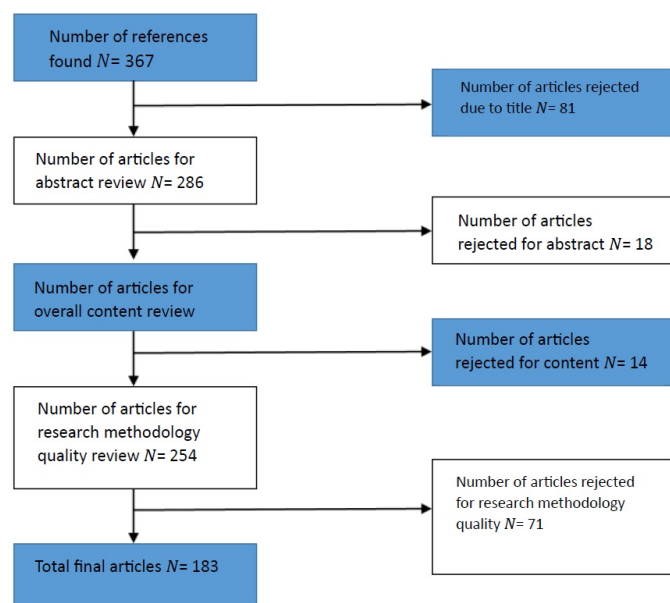


Figure 2: The process of screening and selecting articles

After screening the articles according to the above process, the researcher extracted categories and codes from their text by using the Critical Assessment Skills Program tool and categorizing the articles in terms of quality. The process followed in this stage is mentioned below.

Step 4 - Evaluation of Extracted Studies: The Critical Appraisal Skills Program (CASP) tool is a tool for assessing the quality of primary studies in qualitative research. This tool includes ten basic questions that help researchers understand qualitative research and ensure the accuracy, validity, and significance of qualitative studies. These questions cover issues and criteria such as research objectives, methodological rationale, research design, sampling method, data collection, reflectivity, ethical considerations, accuracy of data analysis, clear and concise statement of findings, and research value. In this method, the researcher evaluates the total score of each article by reviewing each article separately and assigning a quantitative score to each of the proposed questions and categorizes the articles in the form of a 50-point spectrum. In the present study, the scores obtained by the articles using the Critical Appraisal Skills Program tool are as follows in Table 6, and the researcher reviewed the articles with excellent, very good, good, and average scores, respectively, according to the scores and results obtained.

Table 6: Classification of articles according to the total score in the CASP method

Category	Number of articles in each category
Poor (P) (0-10)	–
Fair (F) (10-21)	48
Good (G) (21-30)	35
Very Good (Vg) (31-40)	12
Excellent (E) (41-50)	88

The initial sample in this study was 183 articles, which reached theoretical saturation point by reviewing and analyzing 72 research articles. However, the researcher, considering the usual procedure and custom in similar research and also to strengthen the results, reviewed all articles that had succeeded in acquiring excellent to average scores, totaling 183 articles.

Step Five: Analysis and Combination of Findings: In this stage of the meta-synthesis method, the findings from the previous stages are presented. In this way, the codes extracted from the selected articles are categorized and thus concepts are created. The concepts obtained actually refer to succession planning. Then, the components that referred to a common category were placed together. Then, by comparing and combining these concepts, the dimensions of succession planning were extracted, taking into account the strategic development system. Table 7 shows the result of the metasynthesis process of the articles, which includes 700 codes (not displayed due to the increase in the number of pages), 44 concepts, and 12 categories.

Step Six - Quality Control: In the present study, the researcher used a comparison of his coding with an expert

Table 7: Indicators and concepts extracted from the meta-synthesis process

Category	Concepts	Resources
Strategic stages of succession planning	Analyzing and identifying potential	[1, 4, 8, 12, 13, 17, 20, 21, 24, 25, 26, 30, 32, 34, 35, 37, 41, 42, 43, 45, 47, 48, 49, 50, 51, 52, 53, 55, 57, 58, 60]
	Developing and preparing future leaders	
	Monitoring and evaluating strategic performance	
	Strategic leadership and direction	
Strategic configuration of the organization	Organizational structure	[5, 19, 23, 40, 59, 65]
	Internal and external environment analysis	
	Identification of obstacles and opportunities	
	Political and economic analysis	
Strategic culture and core organizational values	Strategic requirements and adaptation to the environment	[31, 32, 35, 48, 49, 50, 52]
	Organizational culture and values	
	Supportive and strategic culture environment	
	Culture of Innovation and Commitment to Values	
Policies and strategies	Creating Cultural Alignment	[2, 7, 27]
	Developing Effective Communications and a Transparent Culture	
	Developing succession strategies	
	Strategic planning for succession	
Training and development	Continuous monitoring and evaluation of succession performance	[5, 13, 19, 22, 27, 32, 35, 37, 48, 49, 50, 52, 56, 59, 65]
	Human Resource Empowerment	
	Cultural Development and Learning	
	Organizational Learning Process	
Talent selection and development strategies	Management with Succession Planning	[2, 17, 24, 25, 30, 31, 40, 47, 57, 60]
	Talent Management and Competency Selection	
	Candidate competency assessment	
	Identify key positions and competency requirements	
Strategic management and leadership in succession planning	Analyze organizational capacities and competencies	[4, 13, 29, 32, 35, 37, 49, 50, 52]
	Develop key competencies and essential competencies	
	Strategic leadership style in succession management	
	Leadership support and commitment to succession management	
Encouraging and motivating succession planning	Leadership active participation in talent development	[5, 7, 31, 65]
	Monitoring and evaluating successor performance	
	Employee motivation and engagement	
Innovation and technology strategies	Understanding individual needs and expectations	[4, 13, 19, 35, 37, 49, 50, 52, 59]
	Developing career paths for successor candidates	
	Innovation and technology	
Strategic change management	Integrating innovations into processes	[23, 32, 48, 56]
	Strategic process analysis	
	Change and adaptation	
	Coordination of change processes	
Systematic performance evaluation models	Leadership and employee skills development	[7, 65]
	Strategic recruitment and retention of key talent	
	System evaluation	
Effective communication strategies	Identify and analyze strategic needs	[5, 7, 24, 25, 29, 40, 47, 57, 65]
	Continuous improvement based on performance evaluation	

to control the quality of the extracted concepts, codes, and categories. Using SPSS software, a significant number of 0.000 and an index value of 0.782 were calculated. Given that the significant number is smaller than 0.05, the assumption of independence of the extracted codes is rejected. Therefore, it can be claimed that the extraction of the codes had appropriate reliability. Table 8 shows the results of the agreement test.

Table 8: Results of the agreement test between the selected expert coder and the researcher

Number of valid observations	Amount	Estimated standard deviation	Estimated Tb	Estimated significance level (Sig)
Kappa coefficient of agreement	0.782	0.165	4.006	0.000

Seventh step - Presentation of results: Based on previous studies, extracted codes and obtained concepts, the main components of the indigenous succession planning model in the National Iranian Gas Company based on the strategic development system with a meta-synthesis approach include the following: 1. Strategic stages of succession planning; 2. Strategic configuration of the organization; 3. Strategic culture and core organizational values; 4. Policies and strategies; 5. Training and development; 6. Competency selection and talent development strategies; 7. Strategic

management and leadership in succession planning; 8. Encouraging and motivating succession planning; 9. Innovation and technology strategies; 10. Strategic change management; 11. Systematic performance evaluation models; 12. Effective communication strategies.

5 Analysis

To write the mathematical formulas of fuzzy analysis related to the topic of “Providing a Native Model of Succession Development in National Iranian Gas Company Based on a Strategic Development System with a Meta-Composition Approach”, we first need to define the main concepts and relationships precisely. Here, according to your request for fuzzy analysis, there are two main parts that we need to focus on:

- Fuzzy model for evaluating employee capabilities and selecting successors
- Strategic development system with a meta-composition approach and fuzzy analysis

1. Fuzzy model for evaluating employee capabilities and selecting successors

In this part, we use fuzzy logic to assess the capabilities of individuals for succession. In the fuzzy approach, instead of using exact values (e.g. 80 percent or 90 percent), different degrees of membership in fuzzy sets are used to assess different characteristics.

A. Definition of Fuzzy Sets: Suppose a set of employee characteristics is defined as follows:

S_1 : Management Competence

S_2 : Technical Competence

S_3 : Experience

S_4 : Communication Skills

These features can be assigned to fuzzy values in the range $[0, 1]$. For each feature, there is a fuzzy membership function. $\mu_s(x)$ that represents the membership of the value in the fuzzy set associated with that feature. For example:

$$\frac{1}{1^\sigma(1x - 1\mu)_{-e+1}} = \mu_{1s}(x) \quad (5.1)$$

where (1μ) and 1^σ are the parameters of the membership function model.

For the final evaluation of employees and the selection of successors, we need to combine different features. One common approach in this case is to use fuzzy combination rules. For example, suppose we want to calculate the final score based on the combination of E features and their membership degrees:

$$\min(\mu_{1s}(x), \mu_{2s}(y), \mu_{3s}(z), \mu_{4s}(\omega)) = E \quad (5.2)$$

where, x, y, z and ω are the values of different employee capabilities.

B. Successor Selection Using Fuzzy Ranking:

After calculating E the values for each candidate, we can design a fuzzy ranking system to select successors based on the final E values. For example, fuzzy membership-based ranking systems can be used to compare and select successors.

2. Strategic development system with a meta-composition approach and fuzzy analysis

In this section, we can use metasynthesis techniques to analyze different succession strategies in the National Iranian Gas Company. Here, we need to model different strategic development approaches and analyze these models in a fuzzy manner.

A. Fuzzy analysis model of strategies:

Suppose that for strategic development, there are several different strategies that can be evaluated using fuzzy values. For each i strategy, we have a fuzzy set of performance values $p_i(x)$ that represent the strategy's performance under different conditions:

$$\mu_{ip}(x) = P_i(x) \quad (5.3)$$

In this model, x values can represent different environmental conditions, available resources, and different capabilities.

B. Combining strategies with fuzzy meta-combination:

After evaluating each strategy using fuzzy logic, we need to combine them using meta-combination methods. One of the common methods of combining strategies in fuzzy analysis is using weighted summation or fuzzy multiplication:

$$F_{final} = \sum_{i=1}^n i^{\omega} \cdot \mu_{ip}(x) \quad (5.4)$$

where i^{ω} the weight of each strategy and $\mu_{ip}(x)$ the fuzzy membership function represent the i strategy performance in x situation.

These models help to evaluate different succession strategies in a fuzzy and meta-composition-based framework and make better decisions in the field of succession selection and strategic development. Using these methods, the National Iranian Gas Company can create a native and flexible model for succession that is consistent with the specific conditions and characteristics of this company.

6 Conclusion and suggestions

Succession models in organizations, especially in large and state-owned companies such as the National Iranian Gas Company, need a coherent framework and process that helps to continuously improve and upgrade the organization. In this regard, the components mentioned above are effective in the indigenous model of succession planning in this organization based on the strategic development framework. The strategic stages of succession planning help the organization to organize how to identify, develop, and retain talents and potential successors in a systematic and efficient manner. By defining specific stages, the organization can ensure that successors are prepared continuously and systematically and that the succession planning process becomes an ongoing program. Strategic configuration is related to the structure and organization of resources and tasks in the organization. The existence of an appropriate configuration can help facilitate the training and development of successors and ensure that these individuals are in the right departments and levels to gain the necessary experience and skills. Organizational culture plays a significant role in the success of succession planning. A positive and supportive culture that emphasizes core values can provide an environment in which talent is identified, nurtured, and developed. A strong culture motivates people to perform well in leadership roles. The presence of clear policies and strategies helps the organization align succession plans with the organization's larger goals. These policies should be designed to ensure that successors are properly assessed and selected through transparent and measurable processes. Ongoing training and development in various managerial and technical areas is critical for successors. This component helps individuals acquire the necessary capabilities, develop personally and professionally, and prepare for future challenges. Appropriate selection processes help improve the quality of succession selection and, by focusing on identifying and nurturing talent, ensure that the right people are available for key positions. These strategies should be designed according to the needs and priorities of the organization. Strategic management and leadership play a key role in guiding and shaping the succession process. Leaders must have the ability to identify talent, guide them towards organizational goals, and support their development. Strategic leadership can facilitate the succession process by providing the right vision and direction and ensuring that successors are aligned with the organization's larger goals. Motivating and encouraging employees to participate in succession programs is one of the factors for success in this process. By activating financial incentives, job satisfaction, and career growth opportunities, the organization can encourage talented individuals to prepare to accept key roles. These incentives can help employees better understand the value of succession and increase the level of activation and participation. Using technology and innovation in the succession process allows the organization to identify and develop talent in new and more efficient ways. Innovation strategies can include the use of digital tools for talent identification and assessment, learning management systems, and advanced simulations to prepare successors. This can lead to process optimization and increased productivity. In any organization, changes are inevitable, and the ability to manage these changes is crucial for the success of succession planning. The organization must be able to effectively respond to internal and external changes and update the succession planning process in line with these changes. Change management can help identify new opportunities and challenges and continuously strengthen the succession planning model. The existence of performance evaluation models helps to accurately monitor the succession planning process. By implementing appropriate evaluation systems, the organization can properly assess the competencies and performance of successors and identify their strengths and weaknesses. These evaluations will help to continuously improve the succession planning process and ensure compliance with the desired standards. Effective communication is of great importance in the succession planning process. Creating open and transparent communication channels can help exchange ideas, experiences, and feedback among organization members. In addition to increasing team

collaboration, these communications lead to clarifying goals and expectations and increase trust among employees. Overall, each of these components mutually influences each other and helps create an efficient model of succession planning in the National Iranian Gas Company. Based on the findings, it is recommended:

- Establish specific steps for identifying, training, and developing potential successors, along with timelines and metrics.
- Develop an annual plan to evaluate and review the processes and progress of successors based on organizational goals.
- Assess the current structure of the organization to identify roles and responsibilities and determine future needs in the field of succession planning.
- Establish specialized units for succession management that are responsible for identifying, evaluating, and developing talents.
- Promote a culture of continuous learning and sharing knowledge formally and informally among employees.
- Design programs to reinforce the organization's core values that help develop talents and successors.
- Create and disseminate coherent and clear policies in the field of succession planning that respond to the needs of the organization.
- Develop incentive policies to motivate employees to participate in succession planning programs.
- Define clear selection criteria to identify outstanding talents and potential successors.
- Designing personal development programs to identify the strengths and weaknesses of successors and help develop the required skills.
- Providing training opportunities for current managers and leaders in the field of succession planning and talent management.
- Encouraging managers to play an active role in identifying and developing talents.
- Designing rewards and incentives commensurate with success in the succession planning process.
- Clarify career advancement opportunities for successors through career planning and mapping programs.
- Utilizing performance management systems and new technologies to identify, select, and evaluate talents.
- Creating and developing analytical tools to evaluate performance and identify needs in the succession planning process.
- Forming a committee to manage changes in the succession planning process and ensure responsiveness to emerging challenges.
- Holding workshops and training courses to increase employee capability in the face of changes.
- Identifying and developing a variety of systematic and specific criteria for evaluating successors.
- Plan for regular and ongoing assessments to identify weaknesses and strengths in the succession planning model.
- Design and implement effective and transparent communication channels to facilitate the exchange of information and experiences among employees.
- Create a space for providing opinions and suggestions about the succession planning process that promotes trust and employee engagement.

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