

## RESEARCH ARTICLE

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## Scenario Development of Talent Management System in Iran's National Oil Products Distribution Company

Gholamreza Ghadirinejad<sup>1</sup>, Mojtaba Rajab Beigi<sup>2\*</sup>, Abdul Khaliq Gholami<sup>3</sup>**Abstract**

Undoubtedly, the present is the age of organizations and custodians of these organizations are humans, humans who, by possessing the greatest source of power, that is, thinking, can create the causes of excellence, movement and growth of organizations. By integrating effective talent management strategies into their workforce programs, organizations can use proven methods and systems to properly optimize human capital resources to increase their competitive advantage and maintain their market share. In this article, the system dynamics method is used in the design of the talent management system model. In this research, using articles, library sources, and using the opinions of experts and experts of the National Petroleum Products Distribution Company, as well as academic experts in the field of talent management, cause and effect diagrams have been drawn. Vensim software has been used to design the dynamic model of the system and the variables of talent alignment, human resources empowerment, organizational strategy and talent evaluation are the accumulation variables. The talent management model is specified as the final accumulation variable. Other variables are communication skills, mental characteristics, moral values, flow variables, and finally, five scenarios were developed to analyze the talent management system.

**Keywords:** *Scenario, Talent Management System, National Oil Products Distribution Company*

**Introduction**

Attention to the development and improvement of the quality of human resources is one of the most important concerns of large companies and organizations (Sabet et al., 2021; Sabet, & Razeghi, 2019). Accordingly, paying attention to the quality of employees' performance through the improvement of effective factors can be a way forward (Danaei Shandiz et al., 2020). Talent management has been the focus of many researchers in the last two decades (Barkhuizen & Gumede, 2021). Because it has predictive potential for various individual

and organizational outcomes (Mokgojwa, 2019; Masale, 2020; Barkhuizen et al., 2020), and creates a competitive advantage for the organization (Pagan-Castaño et al., 2022) and is considered a suitable moderator for organizational performance (Kaewnaknaew et al., 2022). The authors believe that people are born with a unique gift(s). These gifts should be discovered and nurtured so that people are recognized as a talent in the workplace and enable them to make a valuable and distinct contribution to achieving organizational goals (Barkhuizen & Gumede, 2021). These characteristics are complemented by the desire and ability to

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acquire and maintain basic employment skills (Barkhuizen, 2015). Regarding talent management, most definitions seem to include the concepts of "attraction", "development" and "Retention" of core skills (Abili, 2016, Fitzgerald, 2014). Some researchers look at talent management from a more "Strategic" approach by defining talent management as "Integrated systems and processes", "Corporate strategy", "Achieving business goals", "Competitive advantage" and "Sustainability" (Collings & Mellahi, 2009, Sparrow et al., 2016).

Academicians and specialists believe that talent management is one of the priorities of organizations worldwide because it can be a source of sustainable competitive advantage in the highly dynamic and often uncertain environment of the 21st century market (Kurbanov et al., 2017). Rewarding and motivating people is done, part of talent management as well strategic planning forms the workforce (DeVaro, 2020). Talent management is a systematic method for implementing human resources tasks, with a broader view and more detailed performance. Talent management is a complete set of processes to identify, employ and manage people in order to successfully implement the business strategy required by the organization. In simple language, talent management assures the organization that competent people, with the right skills, are in the right job position in order to achieve the expected goals of the business (Farjam & Malekpour Naqneh, 2015). These processes, which are effective in the life cycle of employees, are divided into three main areas: talent attraction, talent alignment and retention, and talent development (Mirza Hakim & Poursaid, 2017).

When managers try to identify talented employees, they give opportunities to employees to prove their abilities and talents, and they support enthusiastic people to work better, and scientific and field efforts are made to select talented and capable employees, and there is a difference between the position of employees and ability and Their talent must be matched, then the level

of innovation will be improved and finally we can witness a talent-oriented and coherent organizational system in the National Oil Products Distribution Company.

Therefore, one of the gaps in talent management research is the lack of a unified and coherent theory and theoretical framework in this field. In order to achieve this goal, we will evaluate the principles emphasized in human resource policy (at the top of which is talent management) so that we can examine and identify the importance of each of the components in the five dimensions of recruitment, employment, development and maintenance of talents. Therefore, according to the mentioned contents, the talent management system scenario has been discussed in Iran's National Oil Products Distribution Company.

### **Theoretical Framework**

In the 21st century, a lot of emphasis has been placed on retaining talented people in such a way that it has become one of the basic priorities of human resource management in organizations. But the skill that needs to be learned is talent management, the managers of the organizations should be familiar with the way of talent management in the organization and be able to discover the hidden talents of the employees by adopting appropriate talent management policies and according to the needs of the organization, take steps to flourish their talents in To organize according to the goals (Suwarno, 2022).

Today, talent management has become a fundamental need for organizations, and most organizations agree on capital and talented human resources that create a competitive advantage. In the last 15 years, no topic has been as much attention as talent management in the human resource management literature; nevertheless, the lack of a clear and precise definition of talent management has become one of the key challenges of management science scholars over the past decade. This has caused the current organizations to face the phenomenon of the destruction of talents and the preservation and maintenance of key

talents has become a problem for human resource managers (Khaligh, G., & ranjbarian).

Talent management is defined as an integrated process to ensure that the organization can attract, retain and motivate the talented employees it needs to achieve its goals. The process of talent management includes planning and developing succession in the company, realizing the development and optimal use of talents. Talent management is a set of activities that are carried out in the organization and refers to the way of attracting, selecting, developing and managing employees by the organization in a strategic and integrated way (Suwarno, 2022). In another perspective, talent management is a part of the human resources management process that focuses on managing a specific group of human resources of the organization, such as talents and elites (O'Connor et al, 2019).

Talent is a general word that is used in various fields, however, there are still significant ambiguities and fundamental differences between the existing theories about it, since there is a need for specific and well-defined approaches to identify talent and its correct orientation. The existence of these ambiguities and the current multiplicity have created obstacles for the realization of this importance in societies (Gallardo-Gallardo, 2013). They define talent as a characteristic that depends on individual abilities, the environment in which a person works, the organization and the conditions in the organization also affect these characteristics. According to individual, environmental and organizational factors, the talent management system can be defined as "a person with special abilities (knowledge, skills, experience) who is committed to his work and helps the organization to achieve its goals (Saddozai et al, 2017).

The supremacy of scientific evidence and psychological knowledge requires a rethinking of giving meaning to human potential. Such an effort helps to resolve social disputes related to public education, especially the education of gifted people and

educational policies that guarantee justice and promotion of talents (Du et al, 2020).

In fact, the future is already here and is constantly evolving. Undoubtedly, management changes do not only cause instability in the traditional and established human resources function, but also become an opportunity for talent management in organizations (Claus, 2019). In the field of talent management, several definitions have been presented in modern theories of organization and management, so that Omotunde & Alegbeleye (2021) state that one of the distinctions of a successful talent management program is the creation of a talent pool in an organization, which makes an internal resource Organizational and reliable and compatible with talent to be provided for the organization. The development of talent resources facilitates the training and development of desirable skills and traits in a wide group of employees and ultimately leads to improved performance in tasks and levels.

De Bok et al. (2018) believe that talent management is the strategic management of the flow of talent through the organization, the purpose of which is to ensure the availability of talents and to place the right people in the right job and time based on the strategic goals of the business. It has been proven in the experiences of top companies in the world that talent management belongs to all human resource development processes and it should be institutionalized as a system in the flow of each human resource development process, so with this point of view, talent management is also a system for Identifying, recruiting, nurturing, promoting and maintaining talented people is aimed at optimizing the organization's ability to realize business results.

McDonnell et al. (2017) consider talent management as a forward-looking activity and consider the issue of talent management to be affected by the definition of the category of talent by the managers of each organization. Krishnan and Scullion (2017) liken talent management to the process of organized recruitment, identification,

employment, employment and maintenance and expansion of people with potential growth opportunities and believe that the presence of such people in organizations has a special value for them. It brings and ensures that the application of talent management puts the right skilled professionals in the right place.

Makram (2017) believes that the category of talent management in the role of a process

to identify, employ, cultivate, develop and maintain talented people, with the aim of optimizing the power and value creation within the organization in order to achieve job results, is of great importance in organizations. Has several factors can be considered as principles in the definition of talent management presented in table (1).

Table 1.

*Several factors in the definition of talent management (Ashton and Morton, 2005)*

|                        |  |
|------------------------|--|
| <b>Talent mindset</b>  | <b>Values that are intrinsically held and behaviors that reflect the assumption that people have the potential to be the most valuable capital that can be developed for the organization.</b> |
| <b>being different</b> | Knowing which role makes a difference in the organization and ensuring the fit between the job and the employee.   |
| <b>Success</b>         | Awareness that talent is owned by operational managers is enabled by HR.   |
| <b>Structure</b>       | Having the necessary enablers for talent management (tools - processes and techniques) to achieve business goals.  |
| <b>System</b>          | Creating lasting policies to embed talent knowledge and talent management in the foreseen framework.   |

The current state of the global economy has led to an overall increase in job seekers in the labor market worldwide, but there is still a significant talent shortage in various sectors and countries, leading to an increase in the "talent mismatch" problem. As today's corporate world requires someone with multi-tasking skills, talent acquisition is becoming increasingly difficult. As a result, finding the "right" person for a particular job becomes more challenging. Not only acquiring, but also retaining talented workforce has become the biggest challenge of the organization. The human resource system can provide the possibility of gaining a competitive advantage for the organization when it has a high power. The talent management system gives the necessary power to the human resource system.

Talent management will be very effective in creating an organization that is based on human capital. Organizations around the world have realized the role of the knowledge, skills and abilities of their talented employees as a main source for gaining a competitive advantage for their organization. Therefore, organizations should

develop specific strategies for the maintenance of talented employees. The design of employee development systems leads to the improvement of the job prospects of employees and ultimately improves the company's performance and employee retention (Deery & Jago, 2015).

Therefore, the organization can integrate effective talent management strategies in its workforce programs from proven methods and systems for proper optimization of human capital resources to increase their competitive advantage and maintain their market share, and also "prepare" employees as replacements for such is the relative transfer and increase of points (hongal & Kinange, 2021).

Considering the importance of the research topic, studies have been conducted that have similarities with the current study in terms of approach, which we mention a few examples:

In Latin Studies; Shet & Bajpai, (2023) examine the challenges ahead in the integration of competency modeling (CM) in talent management (TM) and propose a framework for this integration.

Kaliannan et al. (2022) stated in their research that comprehensive talent development (that is, career development through training for all employees regardless of individual performance) can complement management to retain employees.

Omotunde & Alegbeleye (2021) showed that there is a positive and significant relationship between the performance of talent management and the job performance of librarians. Kelechi-Kanu (2020) also showed that all dimensions of entrepreneurial talent management in contrast to entrepreneurial skill and entrepreneurial knowledge significantly affect adaptability and alertness Liu et al. (2020) presents a model that examines the multi-level dynamics of bicultural talent management.

Hersh and Festing (2019) have presented a contextual perspective through which the process of inherent dynamic capabilities of talent and organization can be explained Clive (2019) talent management includes management frameworks such as design thinking, management agility, behavioral economics and analytics to enhance human resource competencies. Organizations will not be able to sustainably innovate their existing talent management practices unless they expand the talent management discourse. Awadhi and Kamali (2018) concluded that, if examined, three factors add great value to talent management processes. These factors are: a- communication, b- understanding, c- preparation of managers.

Sharifi et al. (2022) showed in their research that the "strategic categories" of talent management in Tehran schools include 4 subcategories: school leadership; merit-oriented; continuous growth and development of teachers; Decentralization and delegation. Babaei et al. (2022) showed that the main dimensions and categories of managers' talent management include planning and organization, talent search, professionalism and development-oriented, justice-oriented, specialization and meritocracy, livelihood, knowledge creation, providing feedback, culture building, and staffing and human resource management.

Akhavan Dorbash et al. (2019) showed that the optimal model of talent management consists of causal conditions, which include factors (inside and outside the industry), contextual conditions (organizational development), intervention conditions (organizational learning), central phenomenon (talent management and development), strategy (establishment of a comprehensive performance management system) and finally, the consequences consist of three categories of individual, organizational and extra-organizational consequences.

Shakuri et al. (2019) classified talent-based management coding which includes four processes, strategic convergence, attraction, development and application of diverse talent Barzegar et al. (2019) presented a suitable framework for moving towards the ideal state of talent management, which includes 185 primary codes, 53 concepts and 18 categories. Khalili et al. (2019) she owed that performance management has the highest degree of importance in the field of talent management and personal development, and has the lowest degree of importance.

Roshan et al. (2019) talent management system should at least include three key components of recruitment and selection, training and development, and maintenance. Therefore, it seems necessary to design the map of the talent management system for the organization, all three components should be considered and emphasized in human resource planning.

Khaajeh Ali Jahan Tighi and Geshtegar (2017) showed that there is a direct and meaningful relationship between talent management and organizational innovation. There is a direct and meaningful relationship between attracting talents, developing human resources, and maintaining talents and organizational innovation, but there is no significant relationship between evaluating and discovering talents and organizational innovation. The best predictor of organizational innovation is talent attraction, so it was suggested that managers formulate

and implement short-term and long-term plans for talent management in the bank. System dynamics (SD) is a valid method for modeling and understanding the behavior of complex systems. This model has been widely used to model the dynamic behavior of complex nonlinear systems. Liao et al. (2015) developed a system dynamics computer model to assess the dynamic relationships between an organization's IT investment strategy and market performance. In their study, system dynamics is a useful support tool for analyzing IT investment strategies. Liu et al. (2015) also analyzed the lake watershed system through system dynamics modeling for lake water quality management, and they used two reinforcing loops and three balancing loops in their dynamic model hypothesis.

### Research Method

The current research method is of the applied type according to the purpose, and in terms of the research data collection methods, it is in the category of descriptive methods. The basis for designing the talent management system model in Iran's National Oil Products Distribution Company is using fuzzy Delphi technique and system dynamics. The results of the research provide a picture of the relationship between different factors and variables in the creation of this talent management. The sample of the statistical population of this research includes 5 selected university professors and 15 selected managers within the reach of Iran's National Oil Products Distribution Company. The tool used was the library method (in the library method of internet sites, books and articles, documents and official reports in the field of talent management in Iran's National Oil Products Distribution Company), as well as open interviews with relevant experts in a semi-structured manner. It was structured. Knowing the influencing variables, the relationships between the variables is one of the output results of the interview. Finally, the system dynamics models combine both quantitative and qualitative aspects of the problems and investigate the behavior of the

system. The qualitative aspect of the model is the cause and effect diagrams that show the structure of the system and the relationships between its parameters. The quantitative aspect also includes data and simulation model materials (Sweeney et al, 2000) which shows the assumptions and impact of the implementation of strategies, policies and decisions on the system and the risks of these implementations using the scenario tool. In this way, this method provides the possibility of checking various hypotheses and tests by this simulation approach.

### Research Findings

Based on the expert interviews conducted, 15 indicators were finally identified out of 115 indicators. Fuzzy Delphi method has been used to screen and ensure the importance of the identified indicators and select the final indicators. Experts' point of view has been used to measure the importance of indicators. Although experts use their mental skills and abilities to make comparisons, it should be noted that the traditional process of quantifying people's views cannot fully reflect the human thinking style.

### Screening with fuzzy Delphi technique

In other words, the use of fuzzy sets is more compatible with linguistic and sometimes vague human explanations, and therefore it is better to use fuzzy sets (using fuzzy numbers) to make long-term predictions and make decisions in the real world. In this study, triangular fuzzy numbers have been used to the experts' point of view. The opinion of experts about the importance of each index has been compiled with a 7-degree fuzzy spectrum. Table (2) mentions the open coding of the components.

Table 2.

### *Symbolization of open codes in Delphi technique*

| No. | Open coding       |
|-----|-------------------|
| C1  | Talent components |
| C2  | Talent retention  |
| C3  | Policy            |

| No. | Open coding                                 |
|-----|---|
| C4  | Organizational Culture                      |
| C5  | Career passion                              |
| C6  | Identification and recruitment of talents   |
| C7  | Homogenization of talents                   |
| C8  | Talent development                          |
| C9  | Supervision                                 |
| C10 | Workforce analysis                          |
| C11 | Talent assessment                           |
| C12 | Empowering human resources                  |
| C13 | Creating individual capabilities            |
| C14 | Organizational strategy                     |
| C15 | Implications of effective talent management |

### System dynamics model

System dynamics method has been used to design the pattern of causal relationships of variables. System dynamics is an approach to understand the nonlinear behavior of complex systems over time using feedback loops. This method was introduced in 1961 by Jay Forrester in the book *Industrial Dynamics* and spread rapidly.

To design a dynamic system, first of all, the variables of the model must be identified. A closed boundary refers to a range that clearly separates the variables of a dynamic problem from unrelated variables. Each closed boundary has feedback loops that affect each other. For the effects of the mentioned rings, the behavior is desired. Each feedback loop is actually the cornerstone of the desired system structure. This theory is presented against the traditional view that considered the flow of influence between phenomena to be one-way.

The dynamics of systems is caused by feedback loops. Therefore, the modeler should try to make the cause and effect chain into a cause and effect loop. The continuity of system dynamics requires the existence of cause and effect loops. Vensim software has been used to design the dynamic model of the system. Table (3) mentions the components of the research.

Table 3.

*Components of the research model*

| No. | Open coding                                 |
|-----|---|
| C1  | Talent components                           |
| C2  | Talent retention                            |
| C3  | Policy                                      |
| C4  | Organizational Culture                      |
| C5  | Career passion                              |
| C6  | Identification and recruitment of talents   |
| C7  | Homogenization of talents                   |
| C8  | Talent development                          |
| C9  | Supervision                                 |
| C10 | Workforce analysis                          |
| C11 | Talent assessment                           |
| C12 | Empowering human resources                  |
| C13 | Creating individual capabilities            |
| C14 | Organizational strategy                     |
| C15 | Implications of effective talent management |

### Modeling

After reviewing the criteria raised in the qualitative section and evaluating them using experts' opinions, the criteria transferred to the model and the relationships between them are expressed in Figure (1).

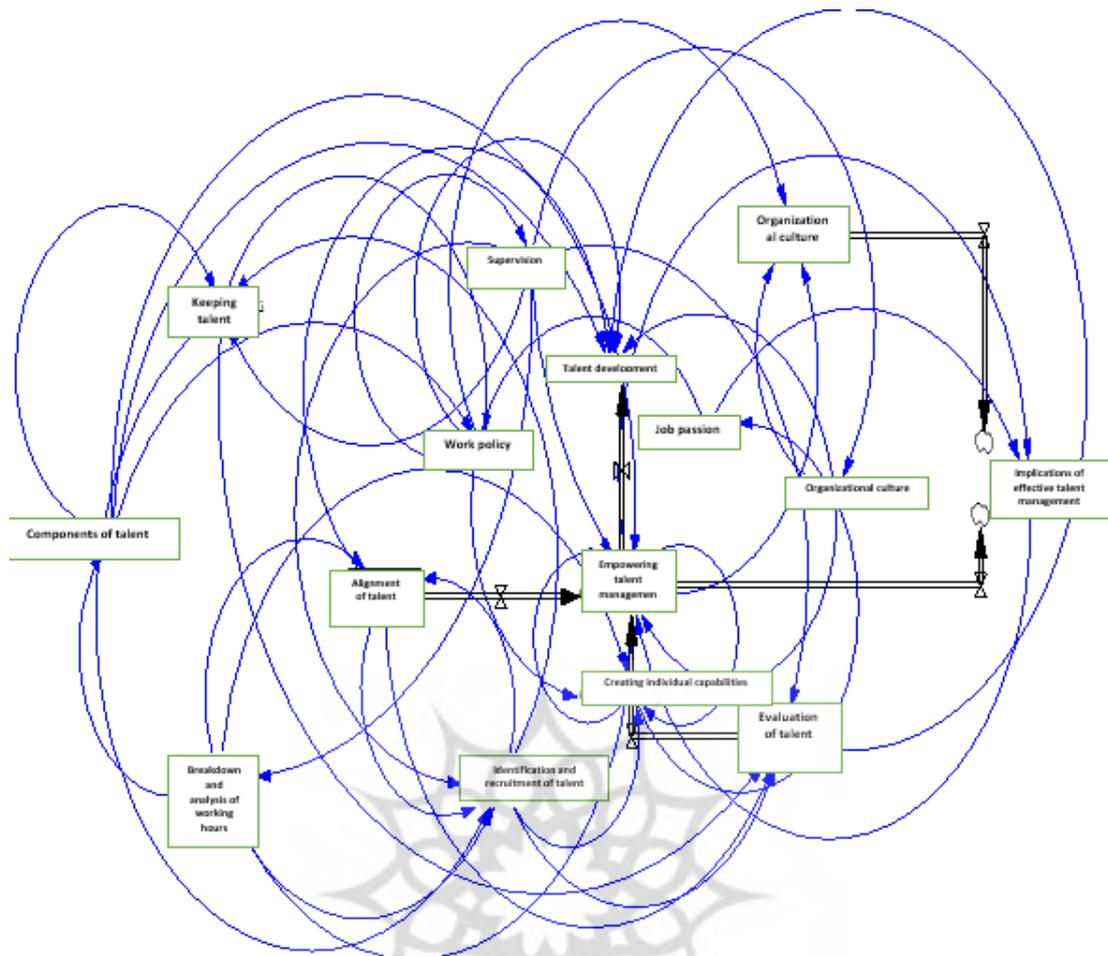


Figure 1. *Research problem model*

In the beginning, the variable is the design mode of the talent management system model in Iran's National Oil Products Distribution Company. In this talent management model, it consists of various factors. The positive performance of learning improves performance and consequently increases the productivity of support management in this regard. This effect leads to the improvement of the business process performance as well as the improvement of the functional characteristics of talent management and trust considerations.

### Drawing the accumulation-flow diagram

Cause and effect diagrams provide a visual understanding of system structure; but these diagrams are not enough to investigate the behavior of the system over time, and for a better understanding of the behavior of the system, the

relationships between the variables of the system must be formulated and the value of the variables must be simulated over time. To do this, flow charts must be designed. Drawing the causal-disability pattern is done qualitatively, but at this stage, quantitative methods should be used. Formulating means expressing the relationships of the variables of the conceptual model in the form of mathematical relations, which is based on the accumulation-flow diagram.

One of the main parts of system dynamics modeling is the flow diagram of the model, whose main components are state variables and flow variables. Because system dynamics studies have both quantitative and quantitative aspects, feedback circles should be defined by a quantitative and calculable tool. For this purpose, the activity of a feedback loop is defined by measurable variables.

In order to be able to explain the activity of a feedback circle, two types of variables are necessary: the first type of variable must show the level or state of the system continuously, and the second variable should represent any type of increase or decrease in the level or state. Flow and state are the names of the variables that exist in the system and are used in drawing the stock-flow diagram (the stock is the state variable.)

This study is based on a period of 5 years (60 months) and the simulation was carried out in this period of time. Also, the simulation has been done according to Euler's proposed method with monthly time steps. The state-flow diagram of the

implementation of the talent management model is presented. The variables of talent alignment, human resource empowerment, organizational strategy and talent evaluation are accumulation variables. Finally, the talent management model has been identified as the final accumulation variable. Other variables such as communication skills, mental characteristics, moral values, are flow variables.

Figure (2) shows the cause-effect diagram and the loops of the model, and Figure (3) shows the state diagram of the talent management model.

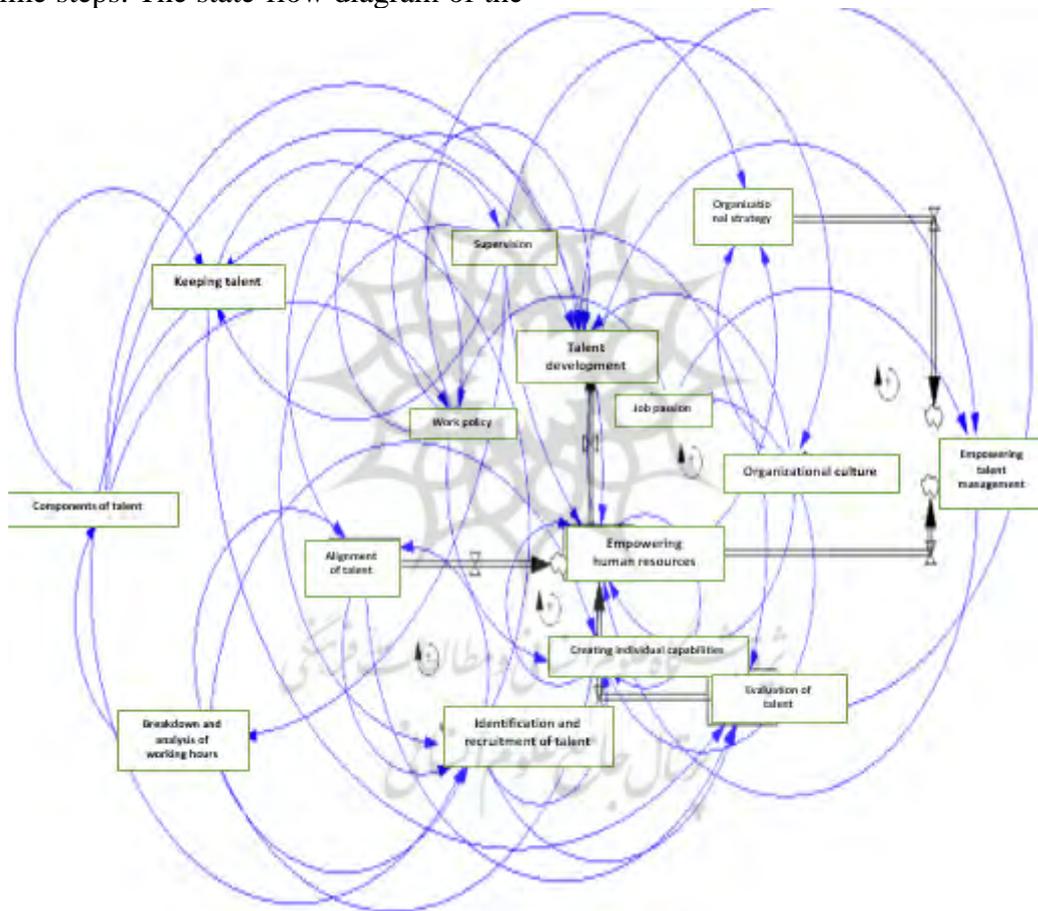


Figure 2. Cause-effect diagram and model loops

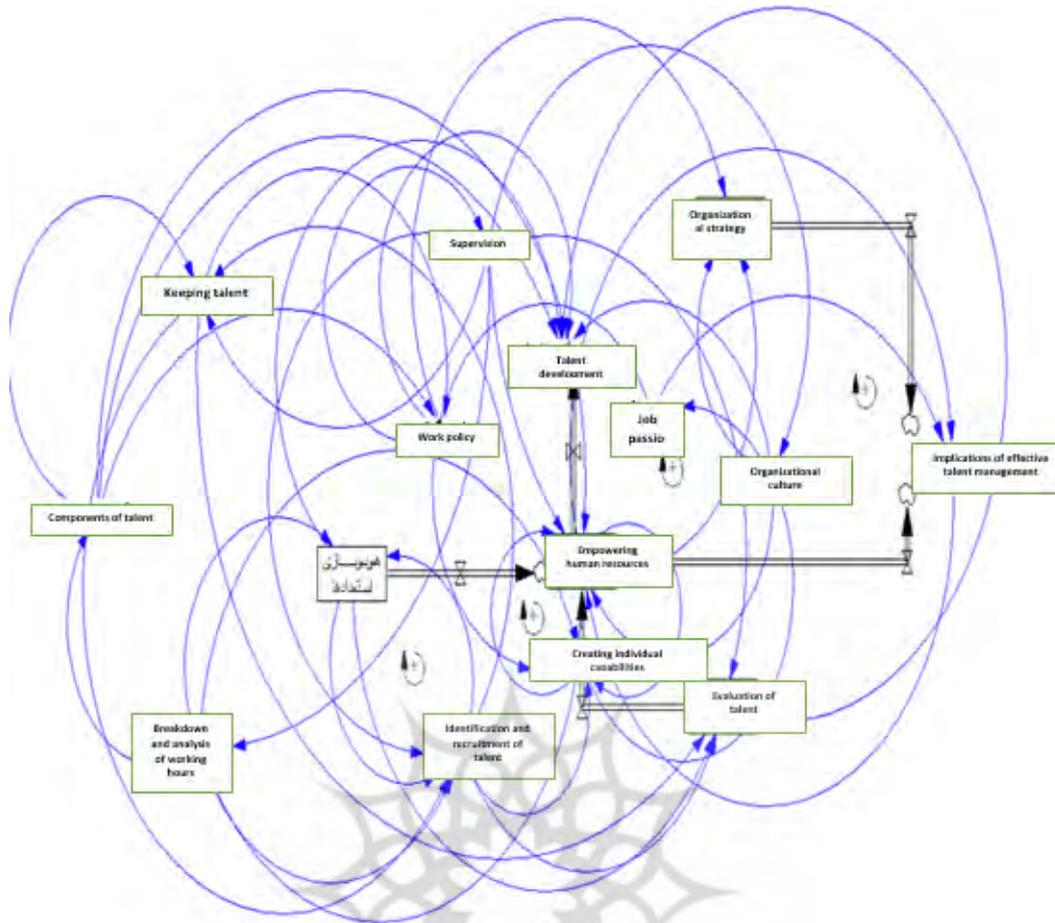


Figure 3. State diagram of the effective implementation of the talent management model

### Validation of the model structure

In the boundary adequacy test, the question must be answered whether the important concepts related to the problem within the model have been considered? In this research, the proposed model is based on the literature review and qualitative analysis, and all the key variables of the model are built, based on the recognition of their importance in the literature review related to the design of the talent management model. In addition to this, the necessity and importance of all the variables mentioned in the research literature for related decisions in expert meetings with experts have also been examined, and the variables in the model are the results of the variables confirmed by the research literature and experts.

### Border adequacy test

To investigate this question, does the behavior of the model show a significant change after removing the boundary assumptions? The results of the presented model were examined after removing parts of the model and changing the model boundary.

#### Scenario 1 - Removing the monitoring variable

Figure (4) shows the effect of removing the monitoring agent. This is a policy factor. Removing this variable means ignoring it in the simulation (and not the lack of...). This case shows the necessity of considering all the variables and the relationships between them. If this variable is not included, the system shows a virtual performance increase, which is far from the real conditions.

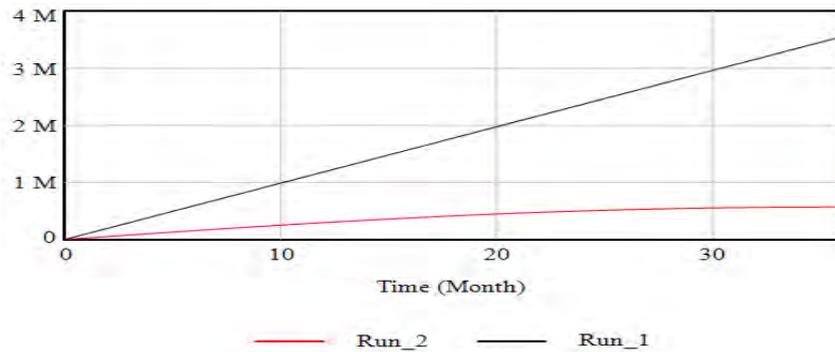


Figure 4. The effect of remove of monitoring variable

### Scenario 2 - Removing the variable of organizational strategies

Figure (5) shows the effect of removing the factor of organizational strategies. This factor is effective on the empowerment of human resources, policy making and organizational culture and all the variables of accumulation. Removing this

variable means ignoring it in the simulation (and not the lack of...). This case shows the necessity of considering all the variables and the relationships between them. If this variable is not included, the system shows a virtual performance increase, which is far from the real conditions.

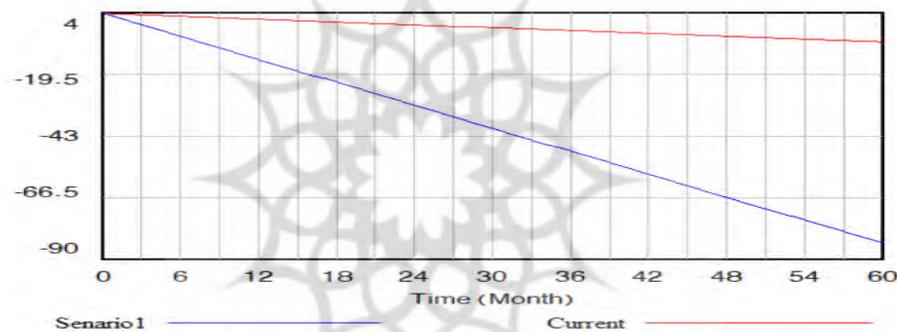


Figure 5. The effects of removing organizational strategies variable

Organizational strategies are one of the important and influential factors on the talent management model. Removing this factor, which means ignoring it in the design and planning of the system, has shown a decrease in virtual performance according to the blue diagram. Meanwhile, by considering this variable and in the case of problems in the multidimensional analysis section and discovering hidden relationships and patterns, the red diagram shows the real conditions of the system. In the diagram, the effect of removing the fine and deepening factor is shown in the information. Based on this form, by removing an important factor such as organizational strategies, it cannot create real conditions. However, the exclusion conditions

indicate the high importance of the variable of organizational strategies in the overall performance of the proposed dynamic model.

### Structure evaluation test

The purpose of the structure evaluation test is to determine the conformity of the model structure with the descriptive knowledge related to the system and to check the rationality of the decision rules in shaping the behavior of the variables and the correctness of the structure of the model equations. Since in this research, the equations related to the model are written in the Vensim software environment, the correctness of the structure of the model equations was confirmed by the software. Which is shown in figure (6).

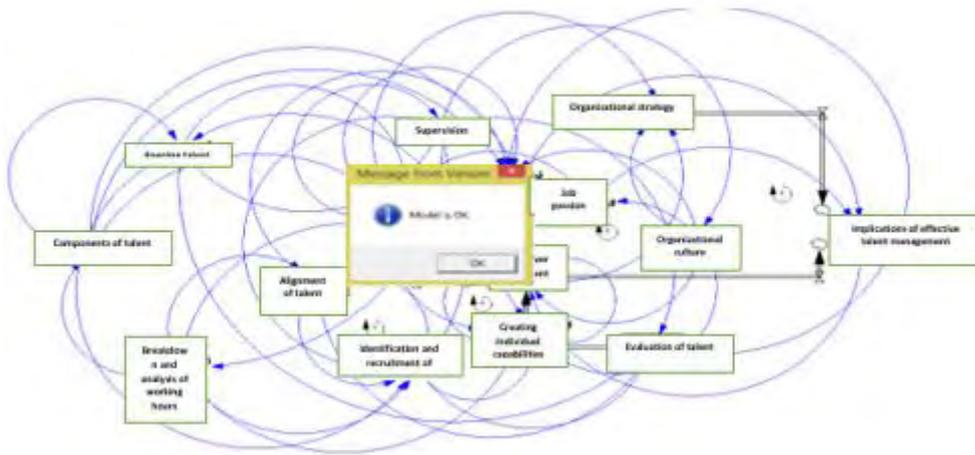


Figure 6. Confirmation of correctness of the structure of equations in Vansim software

**Limit condition test**

The limit condition test answers the question whether the model shows appropriate behavior when its inputs are placed in limit conditions such as zero or infinity. In other words, the model must be stable even in limiting conditions; there are two ways to perform the limit condition test: firstly, all the equations used in the model are examined in the limit conditions of their variables; second, it examined the behavior of the model in the scenarios where the inputs of the model are in limit conditions. In the adequacy test section, the status

of variables in the zero state (minimum value) was checked.

Scenario 3- Model behavior in the limit states of business processes

- The first situation: in this situation, the empowerment of human resources is at its best (black diagram).
- The second situation: in this situation, human resource empowerment is at its worst (blue diagram).

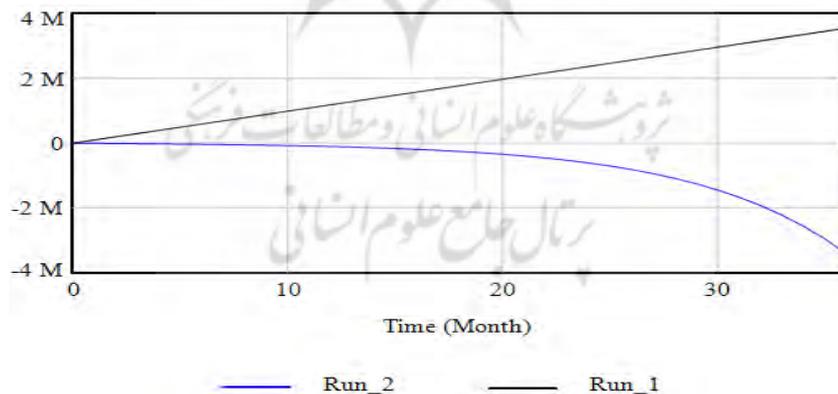


Figure7. Model behavior in the limit states of business processes

Scenario 4 - Behavior of the model in limit states of talent alignment

- Third state: In this state, talent alignment is at its maximum (red diagram).

- Fourth state: In this state, talent alignment is at its minimum (blue diagram).

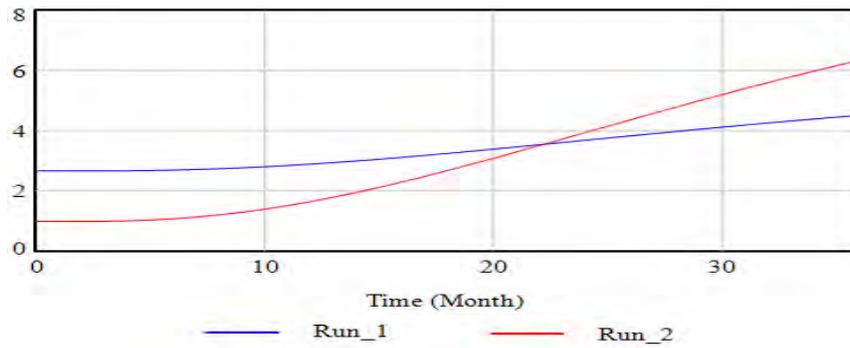


Figure 8. Behavior of the model in limit states of talent alignment

Scenario 5- Model behavior in limit states of talent assessment

- Fifth state: In this state, talent assessment is at its maximum (red diagram).

- Sixth state: In this state, talent evaluation is at its minimum (blue graph).

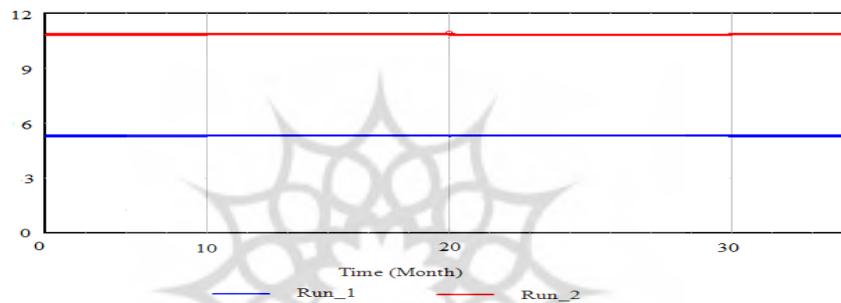


Figure 9. Behavior of the model in limit states of talent assessment

**Integrity error test**

This test shows the sensitivity of the results of the model to the choice of time period, which was changed from 36 months to 72 months to perform this test. As it is clear from figure (10) and two graphs of 36 and 72

months, no change in the behavior of the model was observed with the change in the time frame of the model, and the factors affecting the talent management model, if controlled, will still improve the talent management model.

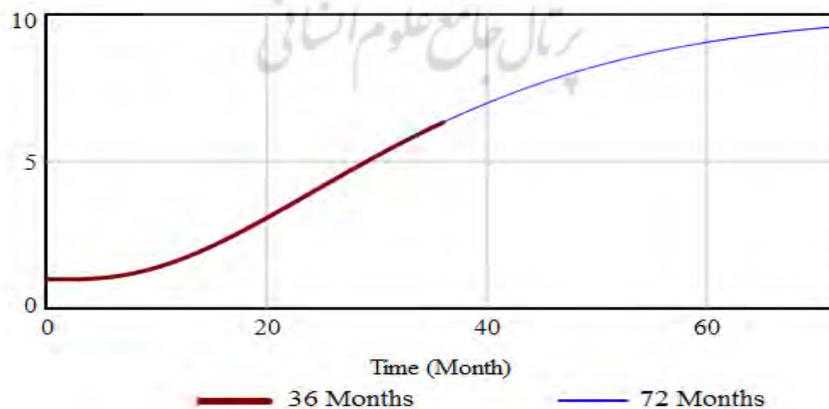


Figure 10. Integrity error test

### Behavior reproduction test

This test answers the question whether the built model is able to reproduce the behavior of the real system. As explained in previous chapters, the model of this research claims to include the effective variables of the talent management model and is able to predict the

behavior of the system after identifying the criteria. It is shown in figure (11) that by controlling the factors affecting the performance, it is possible to prevent the reduction of productivity. But there are many factors involved in improving performance, which require more time to coordinate.

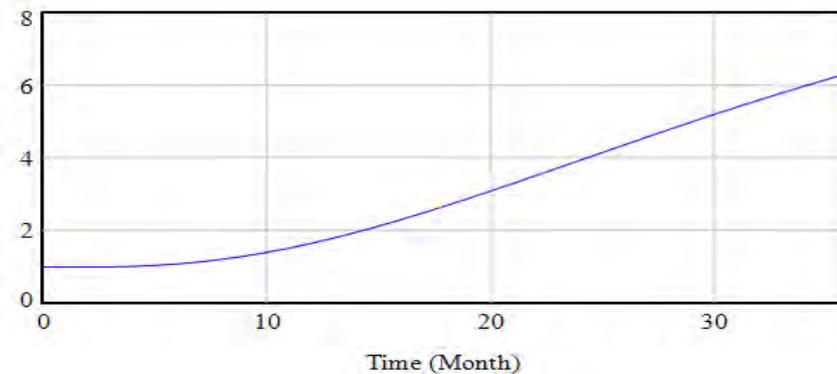


Figure 11. *The behavior of the talent management model after controlling the factors*

### Sensitivity analysis test

After simulating and observing the behavior of all the components of the model in the desired period of time, changing the different variables of the model and analyzing their effect on the main variable under investigation, which is the model of the talent management model, which in fact in the previous sections, this test was also tested and its results were shown in different graphs with changes in boundary and non-boundary values.

### Conclusion

Talent management is one of the main issues facing every organization. Unfortunately, this aspect of organizational management in our country suffers from both scientific poverty and practical poverty. The lack of awareness among managers of organizations regarding the necessity and importance of managing the potential and actual talents of employees and human resources at their disposal has become one of the prominent challenges in the field of managing organizations. When the dynamic modeling of the system is done, it means that a model is designed that does not become obsolete and still has its own dynamics and innovation, based on the model that has been

designed and the factors that have been confirmed in Delphi, it is concluded that all these factors influence each other. They are transitional and some influence each other back and forth and finally we can have the alignment of talents, have the capability of human resources, talent assessment, and organizational strategy and finally reach the effective sustainability of talent management.

As seen in the model, workforce analysis, talent component, talent retention, etc., cause talent alignment to happen, and talent alignment itself leads to human resource capability, and talent evaluation leads to human resource capability, which is a component are the main ones, and finally, the capability of human resources leads to the development of talent, and also the organizational strategy can have the effective sustainability of talent management, and again, the capability of human resources has the effective sustainability of talent management. The variables that are inside the box and those that are drawn in the form of clouds and talent development are the main variables that by keeping one of the variables dynamic, the other variables that do not have a box can always be kept up-to-date

and dynamic, and the talent management of the oil company updated the

Based on the results of the research, the variables of talent alignment, human resources empowerment, organizational strategy and talent evaluation are accumulation variables; The talent management model is defined as the final accumulation variable, and other variables such as communication skills, mental characteristics, moral values, and flow variables, and if these variables are not considered, the system shows a virtual performance increase, which is different from the real conditions. Has gone away the positive performance of learning improves performance and as a result increases the productivity of support management. This effect leads to the improvement of the business process performance as well as the improvement of the functional characteristics of talent management and trust considerations. Finally, the factors affecting the talent management model in the case of open control lead to the improvement of the talent management model. Omotunde & Alegbeleye (2021), Kelechi Charles et al (2020); Liu et al. (2020); Shakuri et al (2019) and Barzegar et al.(2019) also showed models and patterns of talent management in their articles. But paying attention to the model of talent management system in Iran's National Oil Products Distribution Company was not considered with the system dynamics approach, so in this article, an attempt was made by using the presented analysis; a comprehensive system model should be considered.

## References

- Abili, K. (2016). Identifying Talent Development Mechanisms in Iranian Electric Industry. *Quarterly Journal of Training and Development of Human Resources*, 2(7), 1. doi: 139501311135471993.
- Akhavan Dorbash R, Zakaraei M, Entesar Foumany G H.(2021) Optimal Talent Management Model in the National Iranian Oil Company based on The Grounded theory. *Strategic studies in the oil and energy industry*; 12 (46):167-184.
- AL AWADHI, KAMALI, KHALID MOHD AMIN, 2018, he Implementation of Talent Management Practices in U.A.E. Organizations, The British University in Dubai (BUiD). And Services. Vol.13:99- 109. doi: 2014212170.
- Ashton, C., & Morton, L. (2005). Managing talent for competitive advantage: Taking a systemic approach to talent management. *Strategic HR Review*, 4(5), 28-31. <https://doi.org/10.1108/14754390580000819>
- Babae, M., Hashemi, S., & Gholtash, A. (2022). Explaining and identifying the dimensions of the talent management model in the administrators of the field of academic Jihad education. *The Journal of Modern Thoughts in Education*, (), -.
- Barkhuizen, E. N. (2015). Talent management: The catalyst for the 21st century business world.
- Barkhuizen, N. E., & Gumede, B. (2021). The relationship between talent management, job satisfaction and voluntary turnover intentions of employees in a selected government institution. *SA Journal of Human Resource Management*, 19, 12. <https://doi.org/10.4102/sajhrm.v19i0.1396>
- Barkhuizen, N.E., Lesenyeho, D.L., & Schutte, N.E. (2020). Talent retention of academic staff in South African higher educational institutions. *International Journal of Business and Management*, 12(1), 177–190. <https://dergipark.org.tr/en/pub/ijbms/issue/52544/676826>.
- Claus, Lisbeth.(2019). HR disruption---Time already to reinvent talent management . BRQ Business Research Quarterl. <https://doi.org/10.1016/j.brq.2019.04.002>
- Collings, D. G., & Mellahi, K. (2009). Strategic talent management: A review and research agenda. *Human resource management review*, 19(4), 304-313. <https://doi.org/10.1016/j.hrmr.2009.04.001>
- Danaei Shandiz, S., Ghoroneh, D., Charabin, M., & Akbari, A. (2020). Designing a Comprehensive Human Resources Model Based on ISO34000 Standard. *Journal of System Management*, 6(1), 177-186 doi: 10.30495/jsm.2020.673657.
- De Boeck, G., Meyers, M. C., & Dries, N. (2018). Employee reactions to talent management: Assumptions versus evidence. *Journal of Organizational Behavior*, 39(2), 199-213. <https://doi.org/10.1002/job.2254>.
- Deery, M. (2008). Talent management, work-life balance and retention strategies. *International*

- journal of contemporary hospitality management*, 20(7), 792-806.  
<https://doi.org/10.1108/09596110810897619>
- DeVaro .Jed. (2020). Strategic Compensation and Talent Management. University Printing House, Cambridge CB2 8BS, United Kingdom.
- Du, B., Candela, M., Huffaker, B., Snoeren, A. C., & Claffy, K. C. (2020). RIPE IPmap active geolocation: mechanism and performance evaluation. *ACM SIGCOMM Computer Communication Review*, 50(2), 3-10.  
<https://doi.org/10.1145/3402413.3402415>
- Farjam, Saeed and Malekpour Naqneh, Saeed, (2015), Talent Management, *fourth scientific research conference on new findings of management, entrepreneurship and education sciences in Iran*, Tehran.
- Fitzgerald, M. (2014). Talent and talent management insights. *NHS Leadership Academy*, 1-22.
- Gallardo-Gallardo, E., Dries, N., & Gonzalez-Cruz. (2013). What is the meaning of 'talent' in the world of work? *Human Resource Management Review*. (23), 290-300.  
<https://doi.org/10.1016/j.hrmr.2013.05.002>
- Harsch, Katharina, Festing, Marion (2019), Dynamic talent management capabilities and organizational agility—A qualitative exploration, ORIGINAL ARTICLE.  
<https://doi.org/10.1002/hrm.21972>
- hongal, P., & Kinange, U. (2021). A study on talent management and its impact on organization performance-an empirical review. *International Journal of Engineering and Management Research*, 10.  
<https://doi.org/10.31033/ijemr.10.1.12>
- Kaewnaknaew, C., Siripipatthanakul, S., Phayaphrom, B., & Limna, P. (2022). Modelling of Talent Management on Construction Companies' Performance: A Model of Business Analytics in Bangkok. *International Journal of Behavioral Analytics*, 2(1).  
<https://ssrn.com/abstract=4018709>
- Kaliannan, M., Darmalinggam, D., Dorasamy, M., & Abraham, M. (2022). Inclusive talent development as a key talent management approach: A systematic literature review. *Human Resource Management Review*, 100926.  
<https://doi.org/10.1016/j.hrmr.2022.100926>
- Kelechi Charles, Oga, Onouha, B. Chima,(2020), *International Journal of Management Sciences*, Pages 61 – 77.
- Khaajeh Alli Jahan Tighi, M & Geshtegar, AA. (2017), Organizational agility and its relationship with talent management (Study case: Management of social security treatment in Sistan and Baluchistan Province), *third national conference on new approaches in humanities, Challenges and solutions*, Tehran.
- Khaligh, G., & ranjbarian, R. (2022). The effect of organizational talent and knowledge management on job satisfaction. *Journal of Human Capital Empowerment*, 4(4), 275-287.  
[20.1001.1.26456222.1400.4.4.3.6](https://doi.org/10.26456222.1400.4.4.3.6)
- Khalili A, Golami A, Daneshfard K.(2022) Identification and Evaluation of Factors Affecting Talent Management in Iran's National Gas Industries (Case: Fajr Jam Refining Company). *Strategic studies in the oil and energy industry*; 11 (43):139-160
- Krishnan, T. and Scullion, H. (2017). Talent management and dynamic view of talent in small and medium enterprises. *Human Resource management Review*, 27(3), 431-441.  
<https://doi.org/10.1016/j.hrmr.2016.10.003>
- Kurbanov, R. A., Zenov, V. E., Khairullin, L. R., Shulga, T. I., Filinkova, E. B., Latysheva, V. V., ... & Modestum, L. T. D. (2017). Projecting and implementation of future managers' integrated practical activity. *Eurasian Journal of Analytical Chemistry*, 12(7), 1597. DOI: 10.12973/ejac.2017.00290a.
- Liao, Y. W., Wang, Y. M., Wang, Y. S., & Tu, Y. M. (2015). Understanding the dynamics between organizational IT investment strategy and market performance: A system dynamics approach. *Computers in Industry*, 71, 46-57.  
<https://doi.org/10.1016/j.compind.2015.02.006>
- Liu, H., Benoit, G., Liu, T., Liu, Y., & Guo, H. (2015). An integrated system dynamics model developed for managing lake water quality at the watershed scale. *Journal of environmental management*, 155, 11-23.  
<https://doi.org/10.1016/j.jenvman.2015.02.046>
- Liu, Y., Vrontis, D., Visser, M., Stokes, P., Smith, S., Moore, N., & Ashta, A. (2020). Talent management and the HR function in cross-cultural mergers and acquisitions: The role and impact of bi-cultural identity. *Human Resource Management Review*, 100744.  
<https://doi.org/10.1016/j.hrmr.2020.100744>
- Makram, H.S., Parrow, P. and Greasley, K. (2017). How do strategic actors think about the value of talent management? Moving from talent practice to the practice of talent. *Journal*

- of Organizational Effectiveness: People and Performance, 4(4), 259-378. <https://doi.org/10.1108/JOEPP-06-2017-0051>
- Masale, R. (2020). Exploring the antecedents and consequences of a talent culture for government institutions in Botswana. *Unpublished doctoral thesis, Department of Industrial Psychology, Mmabatho.*
- McDonnell, A., Collings, D.G., Mellahi, K. and Schuler, R. (2017) Talent management: a systematic review and future prospects. *European International Management*, 11(1), pp.86–128. <https://doi.org/10.1504/EJIM.2017.081253>
- Mirza Hakim, H, Poursaid, MM (2017), investigating the relationship between talent management and organizational innovation in Sepah Bank branches in Kerman, *Bimonthly Journal of Applied Studies in Management and Development Sciences*, 1.
- Mokgojwa, D. M. (2019). The development of a talent risk management tool for academic staff in South African higher education institutions. *Unpublished doctoral thesis, North-West University, Mmabatho.*
- O'Connor, E. P., & Crowley-Henry, M. (2019). Exploring the relationship between exclusive talent management, perceived organizational justice and employee engagement: bridging the literature. *Journal of Business Ethics*, 156(4), 903–917. <https://doi.org/10.1007/s10551-017-3543-1>
- Omotunde, O. I., & Alegbeleye, G. O. (2021). Talent management practices and job performance of librarians in university libraries in Nigeria. *The Journal of Academic Librarianship*, 47(2), 102319. <https://doi.org/10.1016/j.acalib.2021.102319>
- Pagan-Castaño, E., Ballester-Miquel, J. C., Sánchez-García, J., & Guijarro-García, M. (2022). What's next in talent management?. *Journal of Business Research*, 141, 528-535. <https://doi.org/10.1016/j.jbusres.2021.11.052>
- Roshan, S. A., Barzegar, K., & Yaghoubi, M. (2020). Designing a Basic Model for Talent Management System. *Public Management Researches*, 13(47), 161-188. doi: 10.22111/jmr.2020.29665.4569.
- Sabet, S., Goodarzvand Chegini, M., Rezaei Klidbari, H., & Rezaei Dizgah, M. (2021). Designing a Model of Human Resource Mentoring System Based on a Mixed Approach, With the Aim of Increasing Productivity. *Journal of System Management*, 7(2), 205-229. doi: 10.30495/jsm.2021.1933379.1490
- Sabet, A., & Razeghi, S. (2019). Presentation of Structural Equation Modeling the Role of Human Resource Strategies on the Development of Job Performance. *Journal of System Management*, 5(2), 189-210. [20.1001.1.23222301.2019.5.2.9.2](https://doi.org/10.30495/jsm.2021.1933379.1490)
- Saddozai, S. K., Hui, P., Akram, U., Khan, M. S., & Memon, S. (2017). Investigation of talent, talent management, its policies and its impact on working environment. *Chinese Management Studies*, 11(3), 538-554. <https://doi.org/10.1108/CMS-10-2016-0206>
- Shakuri, Neda, Shirazi, Ali, Rahim Nia, Fariborz, Kafashpour, Azar. (2019). Explaining and presenting the integration model of talent management and diversity management with the GT approach. *Talent Development*, No. 2, Year 2, 1-21. [20.1001.1.27172597.1399.2.2.6.0](https://doi.org/10.1001.1.27172597.1399.2.2.6.0)
- sharifi, M., abaszade, N., & shafzade, H. (2023). Strategic categories of talent management in schools: A qualitative study. *Political Sociology of Iran*, 5(11), 7220-7238. doi: 10.30510/psi.2022.293005.1930
- Shet, S. V., & Bajpai, A. (2023). Integrating competency modeling in talent management: Framework for implications in a disruptive environment. *Thunderbird International Business Review*, 65(1), 177-187. <https://doi.org/10.1002/tie.22246>
- Sparrow, P., Cooper, C., & Hird, M. (2016). *Do we need HR?: Repositioning people management for success*. Springer.
- Suwarno, E., Susita, D., & Wolor, C. W. (2022). The influence of talent management and transformational leadership: A study on work effectiveness as mediated by employee engagement. *The International Journal of Social Sciences World (TIJOSSW)*, 4(1), 281-296. DOI: <https://doi.org/10.5281/zenodo.6629759>
- Sweeney, L. B., & Serman, J. D. (2000). Bathtub dynamics: initial results of a systems thinking inventory. *System Dynamics Review: The Journal of the System Dynamics Society*, 16(4), 249-286. <https://doi.org/10.1002/sdr.198>