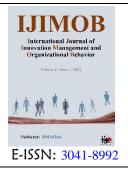


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Application of Meta-Analysis Approach in Determining Talent Management Indicators

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ABSTRACT

Objective: Talent management can be regarded as a tool to assist managers in formulating strategic plans and developing human resources. The purpose of this research is to investigate the effective indicators on talent management through meta-analysis.

Methodology: This research is applied in purpose, descriptive in type, and quantitative in nature. The current study aims to quantitatively integrate the results of research conducted in the field of talent management using the CMA2 software (Comprehensive Meta-Analysis).

Findings: Searching through various databases, out of 416 articles, 156 articles were selected based on predetermined criteria and examined. The analysis results showed that the highest effect size among the indicators affecting talent management includes alignment and retention of talents (0.595), talent pool (0.577), flexibility in recruitment and retention processes (0.556), organizational policies (0.585), structured talent selection/identification of key roles (0.542), and succession development (0.521).

Conclusion: The research results indicate that the effective indicators on talent management include alignment and retention of talents, technological advancements, strategic planning, competition in the job market, merit placement, talent pool, legal and regulatory factors, flexibility in recruitment and retention processes, work-life balance, compensation systems, organizational policies, knowledge management, career development path management, talent development and enhancement, governing management structure, succession development, opportunity creation, organizational culture, needs assessment, structured talent selection/identification of key roles, diversity and inclusion, organizational reputation and credibility, human capital welfare, and work arrangements.

Keywords: Talent management, Human resource development, Meta-analysis.

1 Introduction

lobalization has led to the expansion of human resource management requirements. Therefore, organizations must develop strategies for managing diversity and promoting inclusivity within the organization (Rajabipoor Meybodi & Mohammadi, 2020). The dynamic nature of globalization aids in enhancing access to numerous material and physical resources. However, possessing them no longer constitutes a significant competitive advantage among different organizations. As far as organizations are concerned, they strive to find other assets to increase efficiency in business processes and, consequently, pay more attention to their employees, their competencies, and knowledge, which becomes an important element in achieving better positions in a competitive environment. Hence, human resource management plays a crucial role in ensuring employee performance (Danilina et al., 2017), to the extent that in recent years, the concept of human resources has given way to human capital (Ranjbarian & Shokri, 2022). On the other hand, training committed and specialized human capital and providing an environment for attracting, guiding, and flourishing elites and superior talents is one of the most important strategies outlined in the country's high-level documents, such as the Vision 1404 Document and the Comprehensive Scientific Map of the Country (Sarfarazi et al., 2021; Shariatnejad, 2023). Also, the development of human resources is considered the secret to the longevity of organizations because technology is no longer the most significant challenge in the business sphere; rather, the utilization of intelligent human force is (Zaheri et al., 2022), as organizations often originate the development of exclusive talents instead of nurturing them (Kaliannan et al., 2023).

On the other hand, in the modern era, acquiring skills, cognitive abilities, knowledge, and good potential for the workforce for a more appropriate business strategy performance has become a very important and essential skill (Kaleem, 2019), which maintaining and creating a competitive and productive workforce on the organization's ability to identify exceptional talents, leads to increased productivity in the organization (Ziaee & Nargesian, 2023). However, how employers perceive talents and, consequently, the investment of appropriate resources to motivate and develop talented employees still needs attention (Chen et al., 2021). There is no doubt that attracting, developing, and retaining talents has emerged as one of the most critical issues that organizations worldwide

face (Gallardo-Gallardo et al., 2020). Recent research findings have shown that talented employees will be the most important business resources in the next twenty years, and human resource management must recognize the need for the presence of talented employees as an obvious factor for business development and productivity enhancement.

Thus, the concept of talent management must enter organizations (Danilina et al., 2017), as talented individuals and key employees also require special management in organizations (Rajabipoor Meybodi & Mohammadi, 2020). Due to the shortage of talent, organizations worldwide compete with each other to acquire and retain talents to maintain their operations and continue growth in terms of services and profitability (El Dahshan et al., 2018). For organizations to realize their vision, they need employees who have high potential and look to the future (Boštjančič & Slana, 2018). Therefore, human resource management values talent management as a global-local effort to ensure that strategic and operational decisions and human resources performance are oriented towards gaining a competitive advantage through people (Rumawas, 2021). Additionally, the competitive environment of organizations has not only made attracting talented individuals very difficult but also exposed them to a more serious risk of losing these efficient workforce (Ahmadi Moghadam & Soleyman por, 2019)). In response to this event, large organizations have implemented and executed talent management strategies in their organization (Poorhosseinzadeh¹ & Subramaniam, 2012).

The current literature on talent management has focused on describing talents, methods, and activities. Future talent management research should increase the conceptualization of talent management, activities, and related effects further (Atan & Stapf, 2017). Mastery in implementing a practical talent management model appears in the organization's capabilities to promote strategies, policies, and programs for attracting, developing, and retaining talented employees. This can be achieved by identifying the organization's needs for current capabilities or required talents. For the implementation and execution of a practical talent management model, the human resources department needs the help of the organization's senior management to be very effective from workforce planning to talent retention and beyond attracting and developing talented employees. The issue of meta-analyzing different talent management models, in order to develop a practical talent management model, is the missing link in organizations. The strength and innovation of the present research are examining previous domestic and international research in the field of talent

management and the effective indicators on it using the meta-analysis method. Given the mentioned points, the present research endeavors to answer the question of what the talent management model is like? Or how can a practical talent management model be presented using the meta-analysis method?

2 Methods and Materials

Meta-analysis is a statistical method for combining the results of a set of independent studies that all address a common hypothesis and use inferential statistics to conclude previous studies and research. Meta-analysis is a study about other researches that systematically investigates them, all concerning a specific topic. Meta-analysis is an independent study whose population is previous research. In the metaanalysis method, different research results are combined, and new and cohesive results are extracted using robust statistical methods. The fundamental principle of metaanalysis is calculating the effect size. The effect size is the ratio of the significance test to the study size. The effect size indicates the presence or degree of a phenomenon in the population, and the larger the effect size, the greater the presence of the phenomenon. With statistics such as T, χ^2 , R, and F, the effect size index related to them (r) can be estimated. For the r index, effect sizes of less than 0.3, 0.3-0.5, and more than 0.5 are considered small, medium, and large, respectively. The present study, in terms of data collection method, is descriptive-correlational and the

statistical population of the research includes quantitative studies conducted domestically and internationally, with domestic studies from 1390 to 1402 AH and international studies from 2012 to 2023 being examined. They had the necessary conditions in terms of the validity and reliability of measurement tools and sampling methods. The reliability of the research included identification reliability through expert agreement in selecting and classifying research and based on the significance level and effect size through agreement in effect size calculations between two metaanalysts. In the present study, purposive sampling was used, and qualified studies were entered into the analysis phase. Research criteria include indicators affecting talent management and providing necessary information for extracting the effect size. The sample size entered into the meta-analysis consisted of 156 cases. Selected studies were analyzed using CMA2 software (Comprehensive Meta-Analysis). CMA2 is software that provides statistical methods in line with the meta-analytical approach that enables the combination of multiple study data and calculates publication bias and heterogeneity of studies.

3 Findings and Results

The published domestic and international research in the field of talent management, categorized by their year of publication in reputable journals, are presented based on frequency and percentage of frequency.

Table 1

The Year of Publication, Frequency, and Percentage for Domestic and International Studies

International			Domestic				
Percentage	Frequency	Year of Publication	Percentage	Frequency	Year of Publication		
8.75	7	2012-2013	6.57	5	2011-2014		
6.25	5	2014	5.26	4	2015		
7.5	6	2015	2.63	2	2016		
3.75	3	2016	7.89	6	2017		
8.75	7	2017	11.84	9	2018		
13.75	11	2018	15.78	12	2019		
11.25	9	2019	6.57	5	2020		
7.5	6	2020	13.15	10	2021		
11.25	9	2021	15.78	12	2022		
13.75	11	2022	14.47	11	2023		
7.5	6	2023					
100	80	Total	100	76	Total		

As stated in Table 1, the highest number of domestic research studies examining the issue of talent management occurred in 2019 and 2022, with a frequency of 15.78%, and the lowest in 2016. Similarly, in international research, the

highest number of studies on talent management was in 2018 and 2022, with a frequency of 13.75%, and the lowest in 2016, with a frequency of 3.75%.



Table 2

Effect Size of Indicators Affecting Talent Management

Effective Indicators	Lower Limit	Upper Limit	Significance Level	Z	Effect Size
Alignment and Retention of Talents	0.171	0.503	0.000	6.005	0.595
Technological Advancements	0.119	0.515	0.000	6.017	0.154
Strategic Planning	0.264	0.457	0.000	5.349	0.225
Presence of Competition in the Job Market	0.469	0.643	0.000	4.139	0.325
Merit Placement	0.277	0.534	0.000	7.084	0.337
Talent Pool	0.501	0.254	0.000	8.015	0.577
Legal and Regulatory Factors	0.288	0.477	0.000	6.778	0.360
Flexibility in Recruitment and Retention	0.276	0.495	0.001	9.779	0.556
Work-Life Balance	0.209	0.469	0.000	4.805	0.339
Compensation Systems	0.505	0.062	0.003	2.415	0.283
Organizational Policies	0.245	0.325	0.000	6.281	0.585
Knowledge Management	0.049	0.353	0.016	2.501	0.201
Career Development Path Management	0.196	0.113	0.000	6.492	0.377
Talent Development and Enhancement	0.191	0.260	0.000	7.046	0.382
Governing Management Structure	0.181	0.469	0.000	6.295	0.385
Succession Development	0.127	0.516	0.002	3.757	0.521
Opportunity Creation	0.129	0.458	0.001	3.398	0.293
Organizational Culture	0.155	0.289	0.000	6.479	0.222
Needs Assessment	0.349	0.475	0.000	11.382	0.412
Structured Talent Selection/Identification of Key Roles	0.275	0.409	0.000	8.810	0.542
Diversity and Inclusion	0.208	0.324	0.000	5.363	0.266
Organizational Reputation and Credibility	0.276	0.094	0.000	3.867	0.185
Human Capital Welfare	0.390	0.153	0.000	2.264	0.271
Work Arrangements	0.358	0.193	0.000	6.200	0.275

The frequency of each independent variable (effective indicators) and their effect relative to the dependent variable of the study, which is talent management, have been examined and analyzed based on the research scope used in the meta-analysis. An effect size of less than 0.01 is considered very low significance, an effect size of less than 0.2 is low significance, an effect size between 0.2-0.5 is moderate significance, an effect size between 0.5-0.8 is high significance, an effect size between 0.8-1.2 is very high

significance, and finally, an effect size of 1.2-2 indicates immense significance. According to Table 2, the most significant indicators affecting talent management include alignment and retention of talents (0.595), talent pool (0.577), flexibility in recruitment and retention processes (0.556), organizational policies (0.585), structured talent selection/identification of key roles (0.542), and succession development (0.521). The results of the meta-analysis are stated in Table 3.

Table 3

Frequency Distribution of Effect Size Categories of Indicators Affecting Talent Management

Range of Impact Intensity	Frequency	Frequency Percent	
Below 0.3 (Low)	10	41.6%	
Between 0.3 and 0.5 (Medium)	8	33.2%	
Above 0.5 (High)	6	25.2%	

Table 3 shows the frequency distribution of effect size categories of indicators affecting talent management. Based on the data in Table 3, it can be stated that out of 24 identified factors, 6 variables, equivalent to 25.2%, are in the high

category, 8 variables, equivalent to 33.2%, are in the medium category, and 10 variables, equivalent to 41.6%, are in the low category.





Ojaghi Shirmard et al.

Table 4

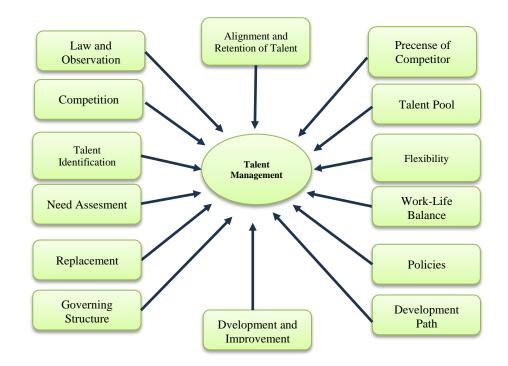
Egger's Publication Bias

Test Outcome	Z-value	P-value	Relation
Confirmed	34.827	0.000	Indicators Affecting Talent Management

The most important indicators affecting talent management are depicted in Figure 1.

Figure 1

Most Important Factors



To ensure the research's publication bias, a publication bias test was conducted according to the meta-analysis method to show that the research is less affected by bias, and its results can be seen in the Table 4. The results from the publication bias test in Table 4 show that the z-value is outside the interval (-1.96 and 1.96), and the p-value < 0.05. Therefore, it is significant at the 0.95 confidence level; thus, it can be argued that the current research is not affected by publication bias.

Duval and Tweedie's method for evaluating and adjusting publication bias in small samples uses a trim and fill method,

where discordant observations are removed from the funnel plot and then assigned values to missing studies are added. The emergence of many missing studies on one side of the effect size mean line is known as publication bias or small sample bias. In other words, in the absence of publication bias, the plot around the effect size mean becomes symmetrical. In fact, the method considers arranging and completing missing studies and then calculates the mean effect size.



Table 5

	Fixed Effect			Random Effect			Q	
	Point Estimate	Lower Bound	Upper Bound	Point Estimate	Lower Bound	Upper Bound	Required Studies	
Observed Value	22604/0	20569/0	22236/0	21847/0	14239/0	29963/0	6283/4398	
Adjust Value	22604/0	20569/0	22236/0	21847/0	14239/0	29963/0	6283/4398	

According to the data in Table 5, it can be stated that this study does not require any further study to be complete, as observed, the observed value 0.22604 is equal to the adjusted value 0.22604 in the fixed effect model and the observed value 0.21847 is equal to the adjusted value 0.21847 in the random effects model. Rosenthal assumes that if a number

K of studies is used for a meta-analysis and a significant result is obtained from their effect size combination, at least a few more studies (N) are needed to make the result nonsignificant. Table 6 shows the results of the fail-safe N test in this research.

Table 6

Fail-Safe N Test Results

Index	Value
Z-value for Observed Studies	34.827
P-value for Observed Studies	0.000
Alpha	0.05
Remainder (Sequence)	2
Z for Alpha	1.96
Number of Observed Studies	156
Number of Missing Studies to Reach Alpha	22,885

According to Table 6, 22,885 more studies would need to be added to the studies to prevent the P-value from exceeding 0.05. Conducting 22,885 more studies would result in an error in the final results and calculations analysis, demonstrating the high accuracy and validity of the information and results obtained in the research. In addition to examining publication bias, the research data, based on the significance level obtained from the fail-safe N tables and the Duval and Tweedie's trim and fill test, are subjected to Cochran's Q test to examine the homogeneity and heterogeneity of the obtained effect sizes. The null hypothesis indicates no significant difference in the obtained effect sizes, and the alternative hypothesis indicates a significant difference. Table 7 shows the results of Cochran's Q test in this research.

Table 7

Cochran's Q Test Results

Q Value	Degrees of Freedom (df)	Significance Level (p-value)	Test Outcome
4278.9282	155	0.000	Reject H0

According to Table 7, at a 95% confidence level, the significance level of the error rate (0.05) is smaller; therefore, H0 is rejected, and H1 is accepted. There is a significant difference between the obtained effect sizes, indicating the heterogeneity of the obtained effect sizes.

4 Discussion and Conclusion

The implementation of talent management requires a comprehensive and strategic approach that involves the commitment and participation of leadership, human resources specialists, and managers across the organization. This requires ongoing monitoring, evaluation, and adaptability to ensure that talent management strategies are

effective in attracting, developing, and retaining top talents. Overall, the implementation of talent management is vital for organizations to attract, develop, and retain top talents, create a positive work environment, and achieve overall organizational success. Effective talent management practices can lead to higher levels of productivity, innovation, and overall organizational performance by ensuring that employees have the skills, knowledge, and motivation to perform at their best. Effective talent management strategies can help organizations attract quality employees by creating a positive brand and showcasing growth and development opportunities. Numerous studies have examined indicators that can affect talent management, but there is no comprehensive research that has examined all effective indicators as a whole. The present research has examined the results of various studies on the effective indicators of talent management. Given the diversity of research, this study has conducted a meta-analysis of scientific works in domestic and international databases from 2011 to 2023 and 2012 to 2023. The research findings indicate that the effective indicators on talent management include alignment and retention of talents, technological advancements, strategic planning, the presence of competition in the job market, merit placement, talent pool, legal and regulatory factors, flexibility in recruitment and retention processes, work-life balance, compensation systems, organizational policies, knowledge management, career development path management, talent development and enhancement, the governing management structure, succession development, opportunity creation. organizational culture, needs assessment, structured talent selection/identification of key roles, diversity and inclusion, organizational reputation and credibility, human capital welfare, and work arrangements.

According to the meta-analysis results, among the indicators affecting talent management, alignment and retention of talents (0.595), talent pool (0.577), flexibility in recruitment and retention processes (0.556), organizational policies (0.585), structured talent selection/identification of key roles (0.542), and succession development (0.521) have the most significant effect. While meta-analysis corrects statistical indices such as sampling and measurement error, providing higher accuracy than other research, it has limitations. One limitation is the potential for publication bias. Another limitation could be related to some variables not being identified or the lack of necessary criteria for inclusion in the meta-analysis. Based on the research results, future researchers are suggested to empirically examine

variables that have a high effect size. It is also suggested that qualitative analysis methods be utilized in the field of talent management and then compare quantitative and qualitative research. Utilizing the DEMATEL method to examine the impact and influence of indicators could also be effective.

Authors' Contributions

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

Declaration

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

Transparency Statement

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

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

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

References

- Ahmadi Moghadam, A., & Soleyman por, M. (2019). Analyzing the relationship between electronic human resource management (e-HRM) and organizational innovation and talent management. *Journal of New Approaches in Educational Administration*, 9(36), 107-126. https://jedu.marvdasht.iau.ir/article_3355.html
- https://jedu.marvdasht.iau.ir/article_3355_a1494d6d0fd9e52e2ae1 d95a4ef593ad.pdf
- Atan, T., & Stapf, D. (2017). Conceptualizing talent management. International Journal of Economics, Commerce and Management, 7(8), 598-613. https://ijecm.co.uk/wpcontent/uploads/2017/08/5830.pdf



- Boštjančič, E., & Slana, Z. (2018). The role of talent management comparing medium-sized and large companies-major challenges in attracting and retaining talented employees. *Frontiers in psychology*, 9, 1750. https://www.frontiersin.org/articles/10.3389/fpsyg.2018.0175 0/full
- Chen, S.-Y., Lee, A. Y.-P., & Ahlstrom, D. (2021). Strategic talent management systems and employee behaviors: the mediating effect of calling. *Asia Pacific Journal of Human Resources*, 59(1), 84-108. https://doi.org/10.1111/1744-7941.12229
- Danilina, E. I., Reznikova, O. S., Verna, V. V., & Ganieva, A. K. (2017). Prospects for introducing the talent management concept into Russian companies. *Revista ESPACIOS*, 38(48). https://www.revistaespacios.com/a17v38n48/17384809.html
- El Dahshan, M. E., Keshk, L. I., & Dorgham, L. S. (2018). Talent management and its effect on organization performance among nurses at shebin el-kom hospitals. *International Journal of Nursing*, 5(2), 108-123. https://www.researchgate.net/profile/Laila-Dorgham/publication/330507104_Talent_Management_and_ Its_Effect_on_Organization_Performance_among_Nurses_at _Shebin_El_-

Kom_Hospitals/links/5e0cb8a84585159aa4aa3f7d/Talent-Management-and-Its-Effect-on-Organization-Performanceamong-Nurses-at-Shebin-El-Kom-Hospitals.pdf

- Gallardo-Gallardo, E., Thunnissen, M., & Scullion, H. (2020). Talent management: context matters. *The International Journal of Human Resource Management*, 31(4), 457-473. https://doi.org/10.1080/09585192.2019.1642645
- Kaleem, M. (2019). The influence of talent management on performance of employee in public sector institutions of the UAE. *Public Administration Research*, 8(2), 8-23. https://pdfs.semanticscholar.org/74a0/8c91ec232c8eeb935be 60988ec365ea46672.pdf
- Kaliannan, M., Darmalinggam, D., Dorasamy, M., & Abraham, M. (2023). Inclusive talent development as a key talent management approach: A systematic literature review. *Human Resource Management Review*, 33(1), 100926. https://doi.org/10.1016/j.hrmr.2022.100926
- Poorhosseinzadeh, M., & Subramaniam, I. D. (2012). Determinants of successful talent management in MNCs in Malaysia. Journal of Basic Applied Science Research, 2(12), 12524-12533. https://www.researchgate.net/profile/Mahan-Poorhosseinzadeh/publication/250306665_Determinants_of_ Successful_Talent_Management_in_MNCs_in_Malaysia/lin ks/5695d23d08aeab58a9a51115/Determinants-of-Successful-Talent-Management-in-MNCs-in-Malaysia.pdf
- Rajabipoor Meybodi, A., & Mohammadi, M. (2020). Designing an Integrated Model of Talent Management through Thematic Analysis. *Journal of Human Resources management*, 10(37), 79-104. https://www.magiran.com/paper/2191223
- Ranjbarian, R., & Shokri, H. (2022). The effect of talent management and succession planning on prevention of corruption (Case Study: Judiciary of West Azerbaijan Province). *Journal of Human Resources Excellence*, 3(1), 25-43. https://www.magiran.com/paper/2582423
- Rumawas, W. (2021). Talent Management Practices on Employee Turnover Intention. Journal of Theoretical and Applied Management (Jurnal Manajemen Teori dan Terapan), 14(3), 248-263. https://doi.org/10.20473/jmtt.v14i3.29433
- Sarfarazi, B. E., Yaghoubi, N. M., Mohammadi, M., & Jarahi, J. (2021). Identify the Components of Talent Management with Emphasis on the Sustainability of Knowledge Resources Using the Meta-Synthesis Method. *Administrative Law*, 8(25), 161-184. https://www.magiran.com/paper/2244563

- Shariatnejad, A. (2023). Identifying and analyzing the antecedents and consequences of the establishment of the human resources knowledge management program based on the human resources onboarding system. Scientific Journal of Organizational Knowledge Management, 6(23), 151-180. https://www.magiran.com/paper/2668785
- Zaheri, R., Moosavi, S. J., & Emami, F. (2022). Identify effective factors On Talent management in the Ministry of Sports and Youth of the Islamic Republic of Iran [Research]. New Trends in Sport Management, 10(36), 163-175. http://ntsmj.issma.ir/article-1-1762-en.html
- Ziaee, M. s., & Nargesian, J. (2023). Providing a Talent Retention Model among Generation Z Employees of Government Organizations. *Journal of Human Resource Management*, 13(1), 26-56. https://doi.org/10.22034/jhrs.2023.391233.2055

