



Designing a Human Resource Analytics (HR Analytics) Model in the Banking Industry: A Case Study of Refah Kargaran Bank

*Maryam Aziz-Mohammadi

Employee of Bank Refah Kargaran, Tehran, Islamic Republic of Iran.

DOI: 10.5281/zenodo.23432021

Submission Date: 28 Aug. 2026 | Published Date: 17 Oct. 2026

*Corresponding Author: [Maryam Aziz-Mohammadi](#)

Employee of Bank Refah Kargaran, Tehran, Islamic Republic of Iran.

ORCID: 0009-0009-9459-587X

E-mail: Maryamazizmohammadi237@gmail.com

Abstract

In today's world, employee productivity and job satisfaction are recognized as two critical factors in improving organizational performance. This is particularly important in the banking industry, which plays a significant role in the economies of countries. The main problem of the present study is to analyze the impact of demographic and managerial factors on the job satisfaction and job performance of employees of Refah Kargaran Bank. The objective of this study is to examine the effects of gender, educational level, work experience, and participation in in-service training on job performance and job satisfaction at Refah Kargaran Bank. The research method was descriptive-analytical and employed instruments such as questionnaires and semi-structured interviews. The statistical population consisted of 300 employees of Refah Kargaran Bank, and simple random sampling was used. The key findings include a significant difference in job satisfaction between men and women, with means of 3.7 and 3.5, respectively; a positive and significant correlation between work experience and job satisfaction ($r = 0.42$); and a significant difference in job performance based on educational level, with mean performance scores of 3.2 for diploma holders and 4.1 for employees with master's degrees and above. In addition, participation in in-service training had a positive and significant effect on job performance (regression coefficient = 0.35). The results indicate that improving employee job satisfaction and performance requires focusing on training, providing career advancement opportunities, improving working conditions, and offering appropriate salaries and benefits.

Keywords: Job satisfaction, job performance, human resource analytics, Refah Kargaran Bank, gender, education, work experience.

Introduction

The implementation of People Analytics and Human Resource Analytics (HR Analytics) in the banking industry is one of the prominent topics in the field of human resource management. This issue is particularly applicable to improving employee recruitment, training, and development processes (Azar et al., 2010). The importance of using data mining in analyzing human resource data in complex and dynamic environments, including banks, is more strongly felt because of the high volume of information and the need for accurate and strategic decision-making (Hajihyderi et al., 2017). Given digital transformation and the growth of big data, banks can use advanced data analytics tools to identify patterns and trends and predict future scenarios. These tools help managers implement more optimal processes in the field of human resource management (Malekzadeh & Sadeghi, 2017). The use of human resource analytics in the banking industry can have a significant impact on improving employee efficiency and performance. These analyses enable banks to make better decisions regarding workforce management by using accurate and reliable data (Ameer et al., 2020). One of the main advantages of human resource analytics is the ability to identify and gain a deeper understanding of employees' needs and motivations. This can lead to improved job satisfaction and increased organizational commitment (Andersen, 2017).

Banks can use data analytics to identify various trends and patterns in employee performance and, based on them, adopt more appropriate policies. This can significantly improve managerial decisions (Belizón & Kieran, 2022). Under current conditions, banks are strongly seeking solutions to reduce costs and increase productivity. One effective solution in this regard is the use of human resource analytics, which can help achieve these objectives (Bhardwaj & Patnaik, 2019).

In addition to improving individual employee performance, the use of these analyses can lead to improved overall organizational performance. By gaining a better understanding of employee performance and needs, it becomes possible to optimize organizational processes and improve the performance of the organization as a whole (Fernandez & Gallardo-Gallardo, 2020). Implementation challenges associated with applying these analyses in banks include technical, cultural, and managerial issues. To succeed in this area, banks need to carefully plan employee training and organizational changes (Gelbard et al., 2018). One important application of human resource analytics is improving recruitment and hiring processes. Through data-driven analyses, banks can identify candidates who have the best fit with organizational needs (Green, 2017).

Research conducted in this field indicates that the use of data analytics can lead to reduced employee turnover rates in banks. These analyses help identify factors affecting employee turnover and develop preventive solutions (Huselid, 2018). Human resource analytics can also contribute to the development of employee training and development programs. These programs can identify employees' training needs based on accurate data and comprehensive analyses and respond to them in an optimal manner (Marler & Boudreau, 2017). Given the extensive benefits and applications of human resource analytics, many banks are seeking strategies for the effective implementation and utilization of these analyses. These strategies should be developed in accordance with the organizational culture and specific needs of each bank (Azar et al., 2016). The objective of implementing human resource analytics is to improve the efficiency and productivity of human resources in banks, as well as to increase customer satisfaction and the quality of banking services. This study seeks to provide more effective solutions to human resource issues through data analytics (Shahibeyk, 2015). The main objective of this study is to examine how human resource analytics can be implemented in banks and its impact on improving performance and increasing productivity. The main research question is: How can an effective and coherent model for human resource analytics in the banking industry be developed that, while improving managerial decision-making, enhances the role of Refah Kargaran Bank in increasing employee productivity and satisfaction?

Literature Review

Table 1: Domestic and international research background

No.	Article Title	Authors	Publication Year	Summary
1	Designing an Intelligent Job-Person Fit Model Based on Talents Using a Data Mining Approach	Azar, Adel; Shafiee Nikabadi, Mohsen; Moghadam, Alireza; and Sangi, Mohammad	2016	Intelligent modeling for matching jobs and employees using data mining in the field of human resources.
2	Designing a Human Resource Selection Model Using a Data Mining Approach (Case: Recruitment of Candidates for Entrance Examinations of a Commercial Bank in Iran)	Azar, Adel; Ahmadi, Parviz; and Sabat, Mohammad Vahid	2010	Development of a model for human resource selection in banks using data mining techniques.
3	A Framework for Applying the Data Mining Approach in Human Resource Management	Hajihyderi, Nastaran; Khabiri, Seyed Hossein; and Talafi Daryani, Mojtaba	2017	Proposal of a framework for using data mining in human resource management.
4	Identifying the Necessary Platforms for Digitalization of Human Resource Management Processes	Bazian, Zeinab; Piran-Nejad, Ali; and Nargesian, Abbas	2021	Examination of the infrastructure required for digitalizing human resource management processes.
5	Human Resource Management Strategy in the Digital Age Based on Big Data	Malekzadeh, Gholamreza; and Sadeghi, Sedigheh	2017	Analysis of human resource management strategies in response to digital transformations.
6	Human Resource Analytics Using Power BI Visualization Tool	Ameer, Mohammad; Rahul, S. P.; and Man, S.	2020	Use of Power BI for human resource analytics in organizations.
7	Human Capital Analytics: The Winding Road	Andersen, M. K.	2017	Examination of challenges and opportunities associated

				with human capital analytics.
8	Human Resources Analytics: A Legitimacy Process	Belizón, M. J.; and Kieran, S.	2022	Analysis of legitimacy processes associated with human resource analytics.
9	People Analytics: Challenges and Opportunities—A Study Using Delphi Method	Bhardwaj, S.; and Patnaik, S.	2019	Examination of challenges and opportunities in people analytics using the Delphi method.
10	Tackling the HR Digitalization Challenge: Key Factors and Barriers	Fernandez, V.; and Gallardo-Gallardo, E.	2020	Analysis of challenges and barriers to human resource digitalization in organizations.

Research Methodology

The main objective of this study is to implement and evaluate the impact of human resource analytics (People Analytics and HR Analytics) on employee performance and productivity in the banking industry. The research is applied and descriptive-analytical because it seeks to provide practical solutions for improving human resource processes in banks. The statistical population of this study consists of all employees working at Refah Kargaran Bank. Simple random sampling was used to select the sample to ensure that the samples were representative of the population. The sample size was determined using Cochran's formula and consisted of 300 bank employees.

The required information was collected through validated questionnaires and semi-structured interviews. The questionnaires included questions concerning job satisfaction, individual performance, and intention to leave the job. Statistical methods and SPSS software were used to analyze the data. Regression analysis and path analysis were employed to identify and evaluate the effects of independent variables, such as human resource analytics, on dependent variables, such as employee performance.

Findings

In a study conducted among employees of Refah Kargaran Bank, the demographic characteristics of the statistical sample, including gender composition, age, education, and work experience, were examined. In this sample, approximately 60 percent of the participants were men and 40 percent were women. This gender ratio indicates that, at Refah Kargaran Bank, the number of male employees remains higher than the number of female employees. Regarding age distribution, most employees were in the 30–40 age group, indicating dynamism and experience within the bank's workforce. Approximately 25 percent of employees were under 30 years of age and 15 percent were over 40. This age distribution represents a combination of young employees familiar with new technologies and experienced employees, which can lead to an appropriate balance in the bank's workforce. Regarding education, approximately 70 percent of participants held bachelor's degrees and 20 percent held master's degrees or higher. This educational level indicates that Refah Kargaran Bank strongly focuses on recruiting highly educated employees. In terms of work experience, more than half of the employees had between 5 and 10 years of work experience, indicating job stability within the bank. The distribution of work experience shows that Refah Kargaran Bank places particular emphasis on retaining employees and increasing their practical experience.

Table 2: Independent-Samples t-Test for Comparing Job Satisfaction Between Men and Women

Group	Sample Size	Mean Job Satisfaction	Standard Deviation	t-value	Significance Level
Men	180	3.7	0.5	2.85	0.005
Women	120	3.5	0.6		

Table 2 presents the results of the independent-samples t-test for comparing job satisfaction between men and women. The mean job satisfaction of men (3.7) is higher than that of women (3.5). The t-test, with a t-value of 2.85 and a significance level of 0.005, indicates that the observed difference is significant at the 0.01 (1 percent) level, and it can be stated that men have significantly higher job satisfaction than women.

This result may indicate structural or cultural issues within the organization that lead to lower job satisfaction among women. A more detailed examination of the factors that lead to reduced job satisfaction among women and efforts to address them can improve the overall level of job satisfaction at the bank.

Table 3: One-Way Analysis of Variance for Comparing Job Performance Based on Educational Level

Educational Level	Sample Size	Mean Job Performance	Standard Deviation	F	Significance Level (p-value)
Diploma and below	50	3.2	0.5	15.67	0.000
Bachelor's degree	180	3.9	0.4		
Master's degree and above	70	4.1	0.3		

Table 3 presents the results of the one-way analysis of variance (ANOVA) for comparing employee job performance based on different educational levels. The mean job performance scores for the diploma and below group (3.2), bachelor's degree group (3.9), and master's degree and above group (4.1) are different. The F-value of 15.67 with a significance level of 0.000 indicates that the observed difference between the groups is significant at the 0.01 level. This result indicates that higher educational attainment is significantly associated with better job performance. This may be due to the higher skills and abilities of individuals with higher levels of education, which result in improved job performance. The bank can improve employee performance by encouraging further education and specialized training.

Table 4: Pearson Correlation Test Between Work Experience and Job Satisfaction

Variables	Correlation Coefficient	Significance Level
Work Experience and Job Satisfaction	0.42	0.001

Table 4 presents the results of the Pearson correlation test between work experience and job satisfaction. The correlation coefficient r is 0.42, and the significance level of 0.001 indicates that there is a positive and significant correlation between work experience and job satisfaction.

This means that as work experience increases, job satisfaction also increases. This may be due to job stability and employees' greater experience in the workplace, which leads to increased job satisfaction. Enhancing career advancement opportunities and providing rewards for long-term service can help increase employee job satisfaction.

Table 5: Chi-Square Test for Examining the Relationship Between Gender and the Decision to Leave the Job

Decision to Leave the Job	Men (Number)	Women (Number)	Chi-Square	Significance Level (p-value)
Leave the job	30	40	4.72	0.03
Do not leave the job	150	80		

Table 5 presents the results of the chi-square test for examining the relationship between gender and the decision to leave the job. The chi-square value of 4.72 and significance level of 0.03 indicate that there is a significant relationship between gender and the decision to leave the job at the 0.05 level. This result means that women are more likely than men to decide to leave their jobs.

This result may indicate the need for changes in workplace policies to improve work-life balance and provide equal opportunities for both genders. Taking appropriate measures to address discrimination and improve working conditions can help reduce the rate of turnover among women.

Table 6: Simple Linear Regression for Predicting Job Performance Based on Participation in In-Service Training

Variables	Regression Coefficient (B)	Significance Level (p-value)
Level of Participation in Training	0.35	0.002
Constant	2.5	

Table 6 presents the results of simple linear regression for predicting job performance based on the level of participation in in-service training. The regression coefficient of 0.35 and significance level of 0.002 indicate that the level of participation in in-service training has a significant positive relationship with job performance.

In particular, increasing participation in in-service training can lead to improved employee job performance. These findings highlight the importance of continuous training and enhancing employees' specialized skills. The bank can improve overall organizational performance by increasing training programs and motivating employees to participate in these programs.

Table 7: Friedman Test for Ranking Factors Affecting Job Satisfaction

Factor	Mean Rank
Work Environment	3.8
Salary and Benefits	4.5
Advancement Opportunities	4.0
Work-Life Balance	4.3
Managers and Supervisors	3.5

Table 7 presents the results of the Friedman test for ranking the factors affecting job satisfaction. Salary and benefits have the highest mean rank of 4.5, followed by work-life balance and advancement opportunities.

These results indicate that appropriate compensation and competitive benefits are among the most important factors in increasing employee job satisfaction. The bank can increase employee job satisfaction by focusing on these factors and continuously improving them.

Table 8: Logistic Regression Test for Examining Factors Affecting the Probability of Career Promotion

Influential Factor	Logistic Coefficient (B)	Significance Level (p-value)
Work Experience	0.25	0.01
Educational Level	0.40	0.005
Level of Participation in Projects	0.30	0.02

Table 8 presents the results of the logistic regression test for examining factors affecting the probability of career promotion. The logistic coefficient is 0.25 for work experience, 0.40 for educational level, and 0.30 for the level of participation in projects. All of these factors have significance levels below 0.05, indicating their significant effects on the probability of career promotion. These results indicate that all three factors work experience, educational level, and level of participation in projects play important roles in career advancement.

Conclusion

The findings of the study showed that gender, educational level, work experience, participation in in-service training, and participation in projects have significant effects on employee performance and job satisfaction. These results are consistent with previous studies in this field that have emphasized the importance of these factors. Another important finding of this study was the significant difference in job satisfaction between men and women. This issue may result from structural and cultural differences in the workplace and requires particular attention from managers to create balance and equal opportunities for both genders. In addition, a positive and significant relationship was observed between work experience and job satisfaction, indicating the importance of long-term experience in increasing job satisfaction. This finding is consistent with previous research findings that have emphasized the importance of experience and work tenure.

The differences observed in job performance based on educational level were also notable. Employees with higher levels of education had better performance, indicating the importance of investment in employee training and educational advancement. These findings are consistent with previous research showing that education plays a key role in improving individuals' job performance. The positive effect of participation in in-service training on job performance was also one of the key findings of this study. This result indicates that improving skills and knowledge through continuous training can significantly enhance job performance. Therefore, banks should pay attention to increasing access to and improving the quality of training programs for their employees.

Another finding of the study was the negative effect of job attachment on the likelihood of leaving the job. This finding indicates that insufficient attention to employee motivation and satisfaction may increase the intention to leave the job. Therefore, creating a motivating and supportive environment can have significant positive effects on reducing employee turnover.

The results also suggested that salary and benefits, work-life balance, and career advancement opportunities are among the most important factors affecting job satisfaction. These factors should receive particular attention in human resource policies to improve employee job satisfaction.

Career promotion issues were also examined in this study, and the results showed that work experience, educational level, and the level of participation in projects are key factors in increasing the probability of career promotion. This

highlights the importance of planning and managing employees' career paths so that employee talents and potential can be identified and developed in the best possible manner.

This study reached findings that can provide practical guidance for human resource managers in banks. Focusing on the examined factors, such as increasing training programs, paying attention to gender-related needs and differences, and improving salaries and benefits, can contribute to increasing employee productivity, satisfaction, and overall performance. Future research can examine cultural and social factors in greater depth and apply advanced data mining methods to discover more complex patterns and relationships in the field of human resource management. In addition to strengthening human resource management, such research can contribute to increasing the overall efficiency of organizations.

References

1. Azar, A., Shafiee Nikabadi, M., Moghadam, A., & Sangi, M. (2016). Designing an intelligent job-person fit model based on talents using a data mining approach. *Human Resource Management Studies, Imam Hussein Comprehensive University*, 8(4), 1-33. (In Persian)
2. Azar, A., Ahmadi, P., & Sabat, M. V. (2010). Designing a human resource selection model using a data mining approach (Case: Recruitment of candidates for entrance examinations of a commercial bank in Iran). *Information Technology Management*, 2(4), 3-22. (In Persian)
3. Ardeshiri, G. (2016). Big data management and processing. *International Conference on Computer Engineering and Information Technology*, Tehran. (In Persian)
4. Bazian, Z., Piran-Nejad, A., & Nargesian, A. (2021). Identifying the necessary platforms for digitalization of human resource management processes. *Human Resource Studies*, 11(4), 97-128. (In Persian)
5. Hajihyderi, N., Khabiri, S. H., & Talafi Daryani, M. (2017). A framework for applying the data mining approach in human resource management. *Iranian Management Sciences Association*, 12(47), 21-50. (In Persian)
6. Khaef Elahi, A. A., Motaghi, P., & Sabat, M. V. (2007). Examining the effect of applying a data mining-based recruitment model on employee turnover rate. *First Iranian Data Mining Conference*, Tehran. (In Persian)
7. Gheidar, Y., & Shami-Zanjani, M. (2020). The pattern of factors affecting the formation of employees' digital experience. *Human Resource Studies*, 10(3), 23-50. (In Persian)
8. Malekzadeh, G., & Sadeghi, S. (2017). Human resource management strategy in the digital age based on big data. *Technology Development Quarterly*, 13(51), 62-70. (In Persian)
9. Nikkhah Takmeh-Dash, Y., Hosseini, S. S., & Sanobar, N. (2019). From human resource management ambidexterity to organizational performance: Effects of talent management and information technology. *Human Resource Studies*, 9(1), 115-142. (In Persian)
10. Halili, K., & Velavi, M. R. (2017). Big data technology, opportunities, challenges, and strategies. *Interdisciplinary Studies of Strategic Knowledge*, 7(28), 7-28. (In Persian)
11. Ameer, M., Rahul, S. P., & Manne, S. (2020, May). Human resource analytics using Power BI visualization tool. In *2020 4th International Conference on Intelligent Computing and Control Systems (ICICCS)* (pp. 1184-1189). IEEE.
12. Andersen, M. K. (2017). Human capital analytics: The winding road. *Journal of Organizational Effectiveness: People and Performance*, 4(2), 133-136.
13. Belizón, M. J., & Kieran, S. (2022). Human resources analytics: A legitimacy process. *Human Resource Management Journal*, 32(3), 603-630.
14. Bhardwaj, S., & Patnaik, S. (2019). People analytics: Challenges and opportunities A study using Delphi method. *IUP Journal of Management Research*, 18(1), 7-23.
15. Fernandez, V., & Gallardo-Gallardo, E. (2020). Tackling the HR digitalization challenge: Key factors and barriers to HR analytics adoption. *Competitiveness Review: An International Business Journal*, 31(1), 162-187.
16. Gelbard, R., Ramon-Gonen, R., Carmeli, A., Bittmann, R. M., & Talyansky, R. (2018). Sentiment analysis in organizational work: Towards an ontology of people analytics. *Expert Systems*, 35(5), e12289.
17. Green, D. (2017). The best practices to excel at people analytics. *Journal of Organizational Effectiveness: People and Performance*.
18. Huselid, M. A. (2018). The science and practice of workforce analytics: Introduction to the HRM special issue. *Human Resource Management*, 57(3), 679-684.
19. Marler, J. H., & Boudreau, J. W. (2017). An evidence-based review of HR Analytics. *The International Journal of Human Resource Management*, 28(1), 3-26.
20. Sivathanu, B., & Pillai, R. (2019). Technology and talent analytics for talent management a game changer for organizational performance. *International Journal of Organizational Analysis*, 28(2), 457-473.

CITATION

Aziz-Mohammadi, M. (2026). Designing a Human Resource Analytics (HR Analytics) Model in the Banking Industry: A Case Study of Refah Kargaran Bank. Global Journal of Research in Business Management, 6(5), 85–90.
<https://doi.org/10.5281/zenodo.23432021>



Global Journal of Research in Business Management

Assets of Publishing with Us

- **Immediate, unrestricted online access**
- **Peer Review Process**
- **Author's Retain Copyright**
- **DOI for all articles**