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Levent Biber

Hüseyin Senkayas

Saraj Gupta, *The Pennsylvania State University*

Gül E. Kremer



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Effects of Human Resources Applications on Business Performance: A Survey

Levent Biber¹, Hüseyin İnçakaya², Saraj Gupta³ and Gül E. Okudan³

¹ Personnel Lieutenant Colonel, 4th Army Corps, Ankara, Turkey

² Adnan Menderes University, Aydın, Turkey

³ The Pennsylvania State University, University Park, PA 16802, USA

Abstract

Human resource management is vital for improving any organization's performance. As results of recent research have proven that human resource applications affect business performance, measuring the impact of various applications is necessary to use the limited resources wisely. A survey was conducted involving 156 firms from Turkey's top 500 companies and job enrichment, enlargement and simplification were among the human resource applications studied. Impact on organizational performance was operationalized using three variables: financial and market performance in addition to job satisfaction and firm loyalty. Finally, suggestions were made to HR Managers on effectively using the HRM variables to increase organizational performance.

Keywords: Human resources applications, organizational performance

1. Introduction

Human capital is the most important and promising resource for increasing productivity. All organizations have both technical and human aspects, and a balance in investments between these two is important. Accordingly, the study presented in this paper investigated the effects of human resource (HR) applications on organizational performance and is based on the results of the survey conducted within companies that are Turkey's largest 500. A comprehensive literature review was conducted to determine the performance factors and the types of parameters used for measuring these factors. Overall, the study serves three purposes: 1) to investigate the perceived importance of HR applications (job enrichment, job simplification, job enlargement, personnel selection process, performance evaluation process) in companies and the business world, 2) to identify those applications, which play an important role in increasing the performance, and 3) to understand the effect of HR applications on the business performance, specifically the changes in "company's financial and market performance" and "job satisfaction and loyalty to firm". Overall, the study should help companies select applications and invest in related resources in a more informed way. The remainder of this paper is as follows. We first present the literature review and then introduce the research methodology. We then present the results and discuss their significance and finally provide conclusions.

2. Literature Review

A positive relationship exists between human resource management (HRM) applications and productivity or individual organizational performance. Managerial support, motivation, participation, education and job organization are important for the efficient use of human resources for productivity [1]. It has been also found that the above-mentioned applications have an effect on profitability and employee turnover rate [2-5]. Moreover; an organization's performance is related to its HRM system. HR activities play a central role in relating employee capability with the performance needs of the firm [6].

In the literature, the studies on organizational performance reside in two fields: 1) economics, and 2) organizational behavior. Economical perspective emphasizes market performance issues such as the competitive position, whereas the organizational behavior point of view is based on behavioral-social paradigms and their adaptation to the environment. Both of these factors determine a company's performance. However, organizational factors affect the company performance more in comparison to economical factors [7]. Recent studies have concluded that each of the different competitive alternatives such as cost leadership, innovation and quality improvement should be supported by different HR applications. Besides, it is also emphasized that each of the designated behavioral structures needs to be supported by HRM applications. It is also important that HRM applications must be compatible with the management strategy [8-10].

Before examining the HR applications, we need to get the information from the job analysis as it is essential in decision making for recruitment, personnel selection, promotion, transfer, training and organizational

performance. Because of the changes in the workforce, these decisions are critical to an organization's success [11]. HRM applications are the main concern of this study and five sub-topics are analyzed in the scope of this research.

Job Enrichment delegates more responsibility to the workers by delivering more authority and increasing the complexity and level of the tasks that they should complete. It motivates the workers by letting them use their talents. Enriched jobs should include a series of tasks and opportunities in different talent levels in order to obtain feedback and be successful in performance [12]. With the application of job enrichment, the worker, who was responsible for only a part of a task, now takes responsibility of the whole process. An enriched job can result in high internal motivation, high-quality performance, high work satisfaction, along with low levels of absenteeism and turnover. It also moderates the relationship between leaders and followers in the firm. Job enrichment may motivate the employees to work for the sake of the organization in the absence of the leaders [13].

Job Simplification is based on the idea that the employee is the one who himself can improve his job better. It is a series of processes and thinking, which was developed in the 1930's. It was found that providing workers with incentives and educational opportunities for creative thinking yields a better outcome in comparison to a team of specialists focused on method analysis, time study and job measurement [1]. Job simplification positions the employees to clearly defined and specialized tasks by standardizing the job procedures. Increasing the efficiency is the main purpose of job simplification; however, productivity can decrease because of the motivational effect of the tiresome tasks [14]. Job simplification is an extension of division of labor and specialization of concepts.

Job Enlargement might consist of special project appointments, task rotations in work-groups and service method innovations for customers. For instance; an employee working in an engineering department can be asked to participate in a work-group dealing with a career path improvement project for technical personnel. As a result, an engineer, other than having the advantage of learning the career path development system, can use his/her leadership and organizational capabilities to help his/her task unit to attain success. Job enlargement increases the job diversity by combining the work done by several employees into a single job. Job rotation circulates different tasks to the employees in order to obtain job diversity. Enlargement and rotation make use of horizontal loads to increase the job depth [14].

Personnel Selection Process, both from inside and outside of the company, has cost associated with it. The decision to select personnel from inside or outside the company needs to be based on transactional costs involved [15] [16]. For example, although recruitment from outside decreases bureaucratic procedures, it prevents the organization from training its personnel in the long term. On the other side, recruitment from inside involves building of the employee skill base inside the organization [16]. If the right candidate is not chosen, implementation of other HRM applications will not be possible. At the same time, selection of the right candidate brings a competitive advantage to the organization and differentiates it from other firms. Organizations implement different selection methods depending on their characteristics. In addition to the conventional methods such as interviews, application forms and references; modern methods like biological data, psychological tests, and job samplings can also be applied [17].

Performance Evaluation System is an integral part of HRM. Proper evaluation of HR performance opens ways to successful HR planning as well as career management. Therefore, the problem of exposing the relationship between HRM applications and organizational performance is one of the main issues which the organization managers must emphasize on. Although the employee's performance at the workplace is important, the desired performance is not reached automatically, and a good performance evaluation system is needed. This system should consist of processes that define, encourage, measure, evaluate, develop and reward the employee's performance at the workplace. The system should form a connection between organizational strategy and organizational outcomes [18].

HRM performance would increase if it is planned in coordination with other department managers. For example, one can study the cause and effect relationship between specific HR applications and performance in order to maximize output with minimum input. However, some HR applications have practical difficulties in this regard; HR theories and organizational applications may be confounded [19]. It is found that HR applications help in increasing value-added output and also in decreasing costs [20], and as a result, studying the relationship between HRM applications and organizational performance is very important. One issue to consider is that depending on the locale's different cultural, industrial and economical development level, raw performance data may not mean much. In addition, it is not easy to evaluate HRM performance quantitatively for many personnel managers. This necessitates the study of correlations between the organization's productivity and the strategic HRM factors. Such information can help managers to develop appropriate strategies in order to improve firm's HRM and also for the purpose of increasing productivity [6]. Financial performance and market performance also affect organizational performance and are used as dependent variables in the study.

Beyond economical performance, behavioral performance requires analysis; however, behavioral performance, as a concept, has clarity problems. The first problem lies in its definition. The term “performance” is used for defining everything from effectiveness and efficiency, to its development. Second problem exists in its measurement. An insufficient definition leads to measurement problems and researchers use the performance term in order to define a series of measures consisting of input-effectiveness or output-effectiveness. Performance variables should be related with the subject and should be chosen in accordance with the objective [21]. As such, behavioral performance has been divided into two main variables in the context of this study: 1) employee satisfaction, and 2) loyalty to the firm.

A certain and direct relationship between job satisfaction and employee performance has not yet been discovered. Besides the positive outcomes obtained in the literature, there are also studies which cannot determine a close relationship between HRM applications and organizational performance. Cappeli and Newmark [22] have discovered that high performance job applications increase productivity. However, they state that this increase has also been accompanied by cost increases. HRM applications rarely have a relationship with performance; on the other hand a strong relationship exists between HRM applications and performance expectations [2]. Jans and Frazer-Jans [23] have observed that there is an increase in performance when the workforce is ready for a definite task. Otherwise, performance increase has been only related to personal attributes. On the other hand, job satisfaction is a function of performance and self-control rather than working hours [23].

Organizational loyalty is one of the key variables of benchmarking application. In a study by Maiga and Jacobs [24] to determine the effect of organizational loyalty on manufacturing and industrial performance, it was concluded that loyalty of employee to the firm affects the performance positively. Increase in yearly revenues, profitability and increasing returns in assets also support this conclusion.

3. Research Methodology

This study was conducted during the period of December 2002 - June 2003 and included the companies listed as Turkey’s 500 largest firms in 2001, as published by İstanbul Trade Chambers (İTO) in 2002. The participating firms shown in Table 1 are categorized according to their sectors. The companies, in general, operate in textile, food, automotive and construction sectors. In the table, 156 companies that responded to the mailed survey are acknowledged.

Table 1. Participating Firms Classified According to Their Sectors

Sectors	Number of Firms (n=156)
Textile – Ready Made	29
Stationary	5
Automotive	21
Plastics	5
Food	26
Mining	5
Metal	10
Chemistry-Medicine	11
Electrics-Electronics	10
Construction	18
Packing	10
Fodder	6

The independent variables of the study are defined as the five HR applications: job enlargement, job enrichment, job simplification, personnel selection process efficiency and performance evaluation process efficiency. Organizational performance is the dependent variable of the study, which consists of economic performance (financial and market performance), and behavioral performance (job satisfaction and loyalty to the firm).

In accordance with the objectives of the research, a multi-regression model is applied to study the relationship between HR applications and organizational performance. The hypotheses below are developed and tested in this context:

- Hypothesis 1-5: There is a significant relationship between job enrichment, job simplification, job enlargement, personnel selection process efficiency, performance evaluation process efficiency and HRM performance.
- Hypothesis 6-9: There is a significant relationship between job enrichment, job simplification, job enlargement and personnel selection process efficiency and financial and market performance of the firm.

- Hypothesis 10-11: There is a significant relationship between HRM performance, personnel satisfaction and loyalty and financial and market performance of the firm.
- Hypothesis 12: There is a significant relationship between performance evaluation process efficiency and financial and market performance of the firm.
- Hypothesis 13-17: There is a significant relationship between job enrichment, job simplification, job enlargement, personnel selection process efficiency, performance evaluation process efficiency and personnel job satisfaction and loyalty.

SPSS 10.0 software is used for data analysis. Analysis consists of a frequency distribution of the participating firms, factorial analysis, reliability tests, variable averages and correlation analysis showing the one-to-one relationship between variables, including the standard deviation and regression analysis for testing research hypothesis. 9 models are formed and are tested for analysis. Factorial analysis results show that the variables in the study are concepts, which are different from each other. Reliability coefficients of the factors vary from 56.76% to 90.12%. Alpha values of job enrichment, job simplification and job enlargement are relatively lower than the others. However, since the minimum alpha value that can be taken into consideration at the literature is .60, alpha value of job enrichment and job enlargement can be accepted as normal. Alpha value of job simplification variable, which is 56.76, is low. Internal consistency of answers about this variable is also not sufficient. In addition, while analyzing correlation coefficients, many of the two level variables analyzed were significant at the level of $p < 0.01$ and hypotheses about these variables were not verified in the above-mentioned way.

4. Analysis of Findings

Factors related to the firm’s performance, HRM performance, job enlargement, job enrichment and job simplification were analyzed. Basic Components Analysis and Kaiser Normalization with Varimax were used as Extraction and Rotation Methods.

- 9 questions were asked about the firm’s performance, and as expected, divided into 2 factors as a result of factor analysis. These factors are personnel satisfaction, and loyalty with financial-market performance. Total variation for firm performance is 63,513.
- 6 questions were asked about HRM performance, and as expected, collected under one factor as a result of factor analysis. Total variation is 67,354.
- 9 questions are asked about job enlargement, job enrichment and job simplification, and as expected, divided into 3 factors as a result of factor analysis. These factors are job enlargement, job enrichment and job simplification. Total variation is 62,662.

Regression models used in the study are listed in the order as shown below:

- **Model 1** – Regression model for the effect of HRM applications on HRM performance;

$$Y_1 = 0 + 1.X_1 + 2.X_2 + 3.X_3 + 4.X_4 + 5.X_5 \tag{1}$$

- **Model 2** – Regression model for the effect of HRM applications on financial and market performance;

$$Y_2 = 0 + 1.X_1 + 2.X_2 + 3.X_3 + 4.X_4 + 5.X_5 \tag{2}$$

- **Model 3** – Regression model for the effect of HRM applications on job satisfaction and firm loyalty;

$$Y_3 = 0 + 1.X_1 + 2.X_2 + 3.X_3 + 4.X_4 + 5.X_5 \tag{3}$$

Y_1 = HRM performance, Y_2 =Financial and Market Performance, Y_3 =Personnel Job Satisfaction and Firm Loyalty, 0 = constant coefficient (Y’s expected value when 1 2 ... are zero.) 1 2 ... 5 = Parameters about each variable (Y’s average change in one unit of change) X1=job enrichment, X2=job simplification, X3=job enlargement, X4= Personnel Selection Process Efficiency and X5=Personnel Evaluation Process Efficiency.

Regression analysis outcomes for HRM performance are presented in Table 2. $F=27.922$, $p=0.000$ and R^2 value is 0.639. As shown in the table, it is agreed upon that personnel selection process efficiency and performance evaluation have significant effects on HRM performance.

Table 2. Regression Analysis Results highlighting the Effect of HRM Applications on HRM Performance

Independent Variables	Standard Beta Coefficient ()	Coefficient ()
Job enrichment	.145	.057
Job simplification	.034	.628
Job enlargement	.024	.759
Personnel selection process	.459**	.000
Performance evaluation	.393**	.000

Regression analysis outcomes highlighting the effect of HRM applications on financial and market performance of the firm are presented in Table 3. $F=5.116$, $p=0.000$ and R^2 value is 0.254. As shown in the table, job simplification and personnel selection process efficiency have an effect on the financial and market performance of the firm.

Table 3. Regression Analysis Results for Effect of HRM applications on Financial and Market Performance

Independent Variables	Standard Beta Coefficient ()	Coefficient ()
Job enrichment	-.155	.166
Job simplification	.212*	.045
Job enlargement	.114	.323
Personnel selection process	.352**	.004
Performance evaluation	.074	.516

Regression analysis outcomes for Personnel Job Satisfaction and Loyalty to the Firm are presented in Table 4. $F=12.688$, $p=0.000$ and R^2 value is 0.458. As shown in Table 4, job enrichment, personnel selection process efficiency, performance evaluation efficiency and HRM performance have an effect on the personnel job satisfaction and loyalty to the firm.

Table 4. Regression Analysis Results of Effect of HRM applications on personnel job satisfaction and firm loyalty

Independent Variables	Standard Beta Coefficient ()	Coefficient ()
Job enrichment	.244**	.012
Job simplification	.124	.168
Job enlargement	.016	.867
Personnel selection process	.330**	.002
Performance evaluation	.269**	.007
HRM Performance	.457**	.001

5. Results

Based on the observed positive effect of personnel selection process efficiency on financial and market performance, it can be said that HRM applications have a positive effect on profitability. Consequently, the idea that HRM applications increase productivity is also supported. According to the obtained findings; job enrichment, personnel selection process efficiency and performance evaluation efficiency have positive effects on personnel job satisfaction and firm loyalty. In other words, efficient personnel selection process and performance evaluation system, along with job enrichment applications, will decrease employee turnover rate. An efficient personnel selection process and performance evaluation system also has an impact on the HRM performance. The five variables of HRM applications in the model had no effect on customer satisfaction. Job enrichment and job simplification along with HRM performance have a positive effect on financial and market performance of the firm. Furthermore, HRM performance affects personnel job satisfaction and firm loyalty positively. The more satisfaction employees get from their work, the better performance they show in their job. Satisfied employees also become more loyal to the organizational objectives, and this increases labor productivity.

6. Conclusions

The globalization of business life and increasing competition has made HRM and personnel selection a strategic and dynamic structure which necessitates the study of the relationship between personnel selection and job performance. In line with these study objectives, 17 hypotheses were formed and classified under 3 generic models. Based on the study, some suggestions can be brought up to the HR managers. They could make use of job enrichment and job enlargement to increase performance. These applications increase the employees' creativity alongside with the incentive to invent new and rare products. HR managers can also create positive effects on performance by using an efficient performance evaluation system, which will increase employee motivation and productivity, and also decrease employee turnover rate. This application will also increase job satisfaction and employee's loyalty to the firm. Findings of the research reveal the importance of an efficient personnel selection process as an efficient recruiting process helps in increasing the financial and market performance, along with job satisfaction and firm loyalty. The study, having theoretical as well as methodological limitations, focuses on the effect of HRM applications on organizational performance.

References

1. Prokopenko, Joseph; "Verimlilik Yönetimi, Uygulamalı El Kitabı", Translation: Olcay Baykal, Nevda Atalay, Erdemir Fidan, International Labor Organization (ILO), Third Edition, 1998.
2. Guest, David; Hoque, Kim; "Yes, personnel does make a difference", *Personnel Management*, Vol. 26, Issue 11, pp. 40 – 44, 1994.
3. Roberts, Keith; "The proof of HR is in the profits", *People Management*, Vol. 1, Issue 3, pp. 42 – 43, 1995.
4. Huselid, Mark A.; "The impact of human resource management practices on turnover, productivity, and corporate financial performance", *Academy of Management Journal*, Vol. 38, Issue 3, pp. 635 – 672, 1995.
5. Wright, Patrick M.; Boswell, Wendy R.; "Desegregating HRM: A Review and Synthesis of Micro and Macro Human Resource Management Research", *Journal of Management*, Vol. 28, Issue 3, pp. 247, 2002.
6. Chen, Liang-Hsuan; Liaw, Shu-Yi; Lee, Tzai-Zang; "Using an HRM Pattern Approach to Examine the Productivity of Manufacturing Firms – An Empirical Study", *International Journal of Manpower*, Vol. 24, Issue 3, pp. 299 - 318, 2003.
7. McGivern, Michael H.; Tvorik, Stephen J.; "Determinants of organizational performance", *Management Decision*, Vol. 35, Issue 6, pp. 417, 1997.
8. Schuler, Randall S.; Jackson, Susan E.; "Organizational Strategy and Organizational level as Determinants of Human Resource Management Practices", *Human Resource Planning*, Vol. 10, Issue 3, pp. 125 – 141, 1987.
9. Miles, Raymond E.; Snow, Charles C.; "Designing Strategic Human Resources Systems", *Organizational Dynamics*, Vol. 13, Issue 1, pp. 36 - 52, 1984.
10. Cooke, William N.; "Product Quality Improvement through Employee Participation: The Effects of Unionization and Joint Union-Management Administration", *Industrial & Labor Relations Review*, Vol. 46, Issue 1, pp. 119 – 134, 1992.
11. McEntire, Lauren E.; Dailey, Lesley R.; Osburn, Holly K.; Mumford, Michael D., "Innovations in Job Analysis: Development and application of metrics to analyze job data", *Human Resource Management Review*, Vol. 16, pp. 310–323, 2006.
12. Fourman, Louis S.; Jones, Jo; <http://www.joe.org/joe/1997october/iw1.html>
13. Whittington, J. Lee; Goodwin, Vicki L.; Murray, Brian; "Transformational leadership, goal difficulty, and job design: Independent and interactive effects on employee outcomes", *The Leadership Quarterly*, Vol. 15, Issue 5, pp. 593–606, 2004.
14. Schermerhorn, John R; Hunt, James G.; Osborn, Richard N.; "Organizational Behavior", Prepared by: Michael K. McCuddy, Valparaiso University, John Wiley & Sons, Inc., 2003.
15. Williamson, Oliver E.; "Markets and Hierarchies: Analysis and Antitrust Implications", Free Press, 1975.
16. Ahmad, Soheli; Schroeder, Roger C., "The Impact Human Resource Management Practices on Operational Performance: Recognizing Country and Industry Differences", *Journal of Operation Management*, Vol. 21, Issue 1, pp. 19, 2003.
17. Heraty, Noreen; Morley, Michael; "In Search of Good Fit: Policy and Practice in Recruitment and Selection in Ireland", *Journal of Management Development* Vol. 17, Issue 9, pp. 662, 1998.
18. Mathis, Robert L.; Jackson, John H.; "Human Resource Management", Ninth Edition, 2000.
19. Fenwick, Tara J.; "Toward a Critical HRD in Theory and Practice", *Adult Education Quarterly*, Vol. 54, Issue 3, pp. 193-209, 2004.
20. Becker, Brian; Gerhart, Barry; "The Impact of Human Resource Management on Organizational Performance: Progress and Prospect", *Academy of Management Journal*, Vol. 39, Issue 4, pp. 779-801 1996.
21. Heffernan, Margaret M.; Flood, Patrick C.; "An Exploration of the Relationships between the Adoption of Managerial Competencies, Organizational Characteristics, Human Resource Sophistication and Performance in Irish Organizations", *Journal of European Industrial Training*, Vol. 24, Issue 2/3/4, pp. 128-136, 2000.
22. Cappelli Peter; Newmark David, "Do High Performance Work Practices Improve Establishment Level Outcomes?", *Industrial and Labor Relations Review*, Vol. 54, Issue 4, pp. 737-775, 2001.
23. Jans, Nicholas; Frazer-Jans, Judy; "Career Development, Job Rotation, and Professional Performance", *Armed Forces & Society*, Vol. 30, Issue 2, pp. 255, 2004.
24. Maiga, Adam S.; Jacobs, Fred A.; "The Association between Benchmarking and Organizational Performance: An Empirical Investigation", *Managerial Finance*, Vol. 30, Issue 8, pp. 13, 2004.

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