KMÜ Sosyal ve Ekonomik Araştırmalar Dergisi (KMUSEKAD)
KMU Journal of Social and Economic Research
Yıl/Year: 2023, 25(45): 1284-1297

Geliş/Received: 25.10.2023
Kabul/Accepted: 13.12.2023

The Impact of Human Resources Practices on The Financial Performance of Companies: The Analysis of BIST 30 Companies

Filiz ÖZŞAHİN KOÇ*
Emine ATALAY**
Ali DERAN***

Abstract

The aim of this study is to reveal the relationship between companies' human resources practices (HRP) and financial performance (FP) indicators. For this aim, the data of 30 companies traded in the Borsa Istanbul (BIST) 30 Index between 2018 and 2022 are analyzed. Panel data analysis methods were used in the study. As a consequences of the analysis, it was concluded that asset size and sales revenue variables have a significant effect on ROA, ROE and Tobin's Q Ratio. On the other hand, HRP have a significant effect on ROA and ROE, but have no significant effect on Tobin's Q Ratio. It is concluded that the number of employees variable has a significant effect only on ROA but not on ROE and Tobin's Q Ratio. A limited number of studies with this scope and content have been found in the national literature. In this context, it is considered that the study will contribute to the literature and practitioners in terms of the results obtained.

Keywords: Human Resource Practices, Financial Performance, Panel Data Analysis.

Article Type: Research Article

Şirketlerin İnsan Kaynakları Uygulamalarının Finansal Performansları Üzerine Etkisi: BİST 30 Şirketleri Uygulaması

Öz

Bu çalışmanın amacı, şirketlerin insan kaynakları uygulamaları ile finansal performans göstergeleri arasındaki ilişkiyi ortaya koymaktır. Bu amaç doğrultusunda, Borsa İstanbul (BİST) 30 Endeksinde işlem gören 30 şirketin 2018-2022 yılları arası verisi incelenmiştir. Çalışmada panel veri analizi yöntemleri kullanılmıştır. Yapılan analizler sonucunda aktif büyüklüğü ve satış hasılatı değişkenlerinin ROA, ROE ve Tobin'nin Q Oranı üzerinde anlamlı bir etkisi olduğu sonucuna varılmıştır. İnsan kaynakları uygulamalarının ise ROA ve ROE üzerinde anlamlı bir etkisi olduğu ancak Tobin'nin Q Oranı üzerinde anlamlı bir etkisi bulunmadığı belirlenmiştir. Çalışan sayısı değişkeninin sadece ROA üzerinde anlamlı bir etkisi olduğu ROE ve Tobin'nin Q Oranı üzerinde anlamlı bir etkisi bulunmadığı sonucuna ulaşılmıştır. Ulusal literatürde bu kapsam ve içerikte sınırlı sayıda araştırmaya rastlanılmıştır. Bu bağlamda çalışmanın ulaşılan sonuçlar itibariyle literatüre ve uygulayıcılara katkı sağlayacağı değerlendirilmektedir.

Anahtar Kelimler: İnsan Kaynakları Uygulamaları, Finansal Performans, Panel Veri Analizi.

Makale Türü: Araştırma Makalesi

* Dr. Öğr. Üyesi, Nevşehir Hacı Bektaş Veli Üniversitesi, İİBF Fakültesi, İşletme Bölümü, filiz.ozsahin@nevsehir.edu.tr, ORCID iD: 0000-0002-0211-869X

** Dr. Öğr. Üyesi, Tarsus Üniversitesi, Sağlık Hizmetleri Meslek Yüksek Okulu, Yönetim ve Organizasyon Programı, emineatalay@tarsus.edu.tr, ORCID iD: 0000-0002-1911-4951

*** Prof. Dr., Tarsus Üniversitesi, Uygulamalı Bilimler Fakültesi, Finans ve Bankacılık Bölümü, alideran@tarsus.edu.tr, ORCID iD: 0000-0001-5377-6740

1. INTRODUCTION

Human resources management (HRM) first emerged as a welfare secretariat unit in the 1900s and has been called HRM since the 1980s with a number of functional functions added over time. According to the most common definition in the literature, HRM is defined as a discipline that deals with human resources, which is the most important element in achieving the company's goals (Gürbüz, 2017: 19). In this context, the functions that make up HRM can be classified as job analysis and job design, human resources planning and candidate search, recruitment, career development, training and employee selection, performance evaluation, wage, development and reward management, and employee health and safety (Uyargil et al., 2015; Gürbüz, 2017).

Companies have many objectives such as producing goods and services, benefiting people, creating value for customers, sustainability, continuity and shareholder maximization. However, the most fundamental objective of companies is to maximize the market value of the company (Ceylan and Korkmaz, 2017: 18). The most important factor that contributes to the realization of this objective is the company's profits and earnings. In other words, it is to maximize FP. In this context, return on assets (ROA) and return on equity (ROE) are considered as short-term FP indicators, while Tobin's Q Ratio is considered as a long-term FP indicator. The aim of this study is to reveal the relationship between companies' HRP and FP indicators. In other words, the aim of this study is to find the answer to the question of whether the HRP carried out in companies have an impact on FP.

A review of the literature reveals that there are many studies examining the relationship between HRP and FP of companies. Some of these studies are as follows; [Datu, Pamiınto and Jamaluddin (2023); Anvar and Abdullah (2021); Ali and Atan (2020); Mulollı and Boskovska (2020); Nguyena et al., (2020); Sadiq, Alamgir and Ali (2020); Turan (2019); Bilaloğlu (2019); Başkurt (2016); Kipkorir (2013); Pirzada et al., (2013); Osemeke (2012); Özutku and Çetinkaya (2012); Arumugam et al., (2011); Bozkurt (2011); Benligiray, Geylan and Duman (2010); Ferguson and Reıo (2010); Ağdelen and Erkut (2003); Huselid (1995)]. As a result of the evaluation of these studies as a whole, it has been determined that the number of studies examining the effect of direct HRM practices on FP is quite low and the studies are generally conducted using survey management. Therefore, there is no comprehensive study examining the effect of direct HRP on FP indicators (ROA, ROE and Tobin's Q Ratio). In this context, it has been determined that there is a gap in the field and this study has been conducted with the view that this study will fill this gap. The study is expected to contribute to both practitioners and the literature. In the study, the data of 30 companies traded in the Borsa Istanbul (BIST) 30 Index between 2018 and 2022 were analyzed. The effects of the independent variable of total number of HRP and control variables such as size and total number of employees on short-term FP indicators such as ROA, ROE and long-term FP indicator Tobin's Q ratio are analyzed by panel data analysis method.

This study is important in terms of being one of the studies conducted in Turkey with this scope and content and contributing to the literature by presenting findings on the relationship between HRP and FP. In addition, it is important in terms of providing empirical evidence on the increase in FP that may occur as a consequences of HRP implemented in companies and thus the importance of human resources units in company organization.

In the study, firstly, general information about HRP is given, then the literature on the impact of HRP on FP is examined, the dataset, variables and model of the research, the findings obtained are explained within the scope of the research method. The findings are discussed in the conclusion section and recommendations are presented.

2. HUMAN RESOURCES MANAGEMENT CONCEPTUAL FRAMEWORK

HRM first functioned as a welfare secretariat unit in the 1900s, then as a personnel management unit in the 1930s, and finally as a HRM unit in the company organization with a number of functions added after the 1980s (Gürbüz, 2017: 23). Although HRM is based on personnel management (Sabuncuoğlu, 2018: 8), it has differences in terms of having different content and functions compared to personnel management (Dökünter, 2006: 49). It is possible to give the following examples of these differences: While personnel management is short-term and tactically oriented, HRM is long-term and strategy-oriented. While personnel management deals with the problems within the company one by one, human resource management analyzes the company with a holistic framework. While the participation of employees in decision-making is limited in the personnel management approach, the participation of employees in decisions is important in human resource management (Çetin, 2012: 242). According to the most common definition in the literature, HRM is defined as a discipline that deals with human resources, which is the most important element in achieving the company's goals (Gürbüz, 2017: 19). As a result of these explanations, it is possible to list the functions of HRM as follows (Uyargil et al. 2015; Gürbüz, 2017):

- *Job analysis and job design,*
- *Human resources planning and candidate search and finding,*
- *Employee selection,*
- *Performance evaluation,*
- *Training and development,*
- *Career development,*
- *Wage and reward management,*
- *Employee health and safety.*

Job analysis and job design: The correct definition of jobs is referred to as job analysis (Gürbüz, 2017: 73). In addition, the knowledge, skills and abilities required in the employee who will do the job are also considered within the scope of job analysis (Uyargil et al., 2015: 50). Job design, on the other hand, is defined as a series of activities aimed at determining the content, method and relationship of the jobs within the company with other jobs in order for meet the organizational and technological requirements and the individual and social needs of the employee doing the job (Buchanan, 1979: 21).

Human resource planning and candidate search: Human resources planning can be defined as determining the need for labor force that is needed or will be needed in accordance with the changing environmental conditions for companies and creating programs to meet the demand for employees from internal and external resources of the organization by predicting this demand in the short and long term with some forecasting techniques (Okakın and Şakar, 2015: 23). Candidate search and finding is the process of announcing open jobs to potential candidates, encouraging candidates to apply for this position and creating a qualified candidate pool (Gürbüz, 2017: 116).

Employee selection: After the candidate pool is created as a result of the candidate research and finding phase, the selection of the employee to be hired is referred to as employee selection (Uyargil et al., 2015: 131).

Performance evaluation: While the concept of performance refers to the quantitative and qualitative indicators of the level of achievement of the objectives intended for individuals, organizations or groups to perform a job, performance evaluation is defined as a process that involves the measurement of the performance of individuals, organizations or groups according to predetermined standards (Söyük, 2020: 163).

Training and development: Although training is a process of change, ensuring that the behaviors of employees change in the desired direction can be defined as training (Ertürk, 2018: 149). Development, on the other hand, can be expressed as ensuring the completion or improvement of the knowledge previously gained through training (Sabuncuoğlu, 2018: 156).

Career management: Career is defined as all of the work-related experiences that an individual acquires throughout his/her life (Decenzo and Robbins, 2007: 233). Career management refers to anapproach to help develop the career skills and interests of employees and to integrate individual career preferences and organizational needs (Gürbüz, 2017: 243).

Wage and reward management: In its most basic form, wage is defined as "the price of labor" (Uyargil et al., 2015: 352). Wage management refers to the activity of establishing and executing a wage system that meets the needs of both the company and the employees and all other relevant parties (Göksu and Öz, 2008: 420). Strategic wage management, on the other hand, refers to replacing traditional wage structures with a broadband structure, making remuneration based on competence rather than job-based remuneration, giving wages focused on market compliance rather than internal equality, increasing variable wages depending on individual or team performance, and rewarding by taking individual achievements into consideration (Uyargil et al., 2015: 364).

Employee health and safety: Occupational health and safety can be defined as a function that involves anticipating, assessing, identifying and controlling hazards arising in or around the workplace that may impair the well-being and health of workers (Alli, 2008: 7).

The impact of the above-mentioned HRM practices on the FP of companies is the subject of this study and the literature review on the subject is given below.

3. LITERATURE RESEARCH

The literature review on the impact of HRM on FP was conducted in Web of Science, Research Gate, Google Scholar, Scopus databases covering all years with the keywords "human resource management", "financial performance", "firm performance", "organizational performance". In the first stage, the keywords and abstracts of the studies were analyzed and the bibliographies of the studies overlapping with the purpose of this study were also reviewed. In this context, some of the studies in the international and national literature and the consequences obtained are presented in Table 1.

Table 1. Some Studies in National and International Literature

Author(s)/Year	Purpose of the Study	Sample	Methodology of the Study	Results
Datu, Pamiınto, and Jamaluddin (2023)	To determine whether audit quality, HRM and competitive advantage have an impact on FP through financial decisions in company organization.	"Data for 2017-2021 for all transportation companies listed on IDX".	"Regression Analysis"	HRM has no significant effect on FP.
Anvar and Abdullah (2021)	To examine the impact of HRM practices on the performance of public organizations.	"300 participants working in the public sector"	"Survey Regression Analysis"	As a consequences of the study, it was found that decentralization has a positive relationship with organizational performance.
Ali and Atan (2020)	To investigate the impact of HRM practices on sustainable performance in Islamic and conventional banks.	"150 staff working in Islamic and conventional banks in Lebanon"	"Survey Correlation Analysis"	It has been determined that HRM practices and sustainable performance levels in banks have a high score and there is no significant difference.

Mulolli and Boskovska (2020)	To determine the best HRP in terms of FP of companies.	"53 surveys"	"Survey Correlation Analysis"	As a consequences of the study, it was determined that HRP such as "remuneration and rewarding" are the practices that increase the FP of companies more.
Nguyena et al., (2020)	To determine the impact of HRM on the FP of companies.	"Financial statements of major companies listed on the Ho Chi Minh Stock Exchange (HOSE) and 127 surveys of these companies"	"Survey Regression Analysis"	The study concluded that information sharing and authorization in the management system is an important determinant affecting the creativity of individuals and organizations.
Sadiq, Alamgir, and Ali (2020)	To examine the relationship between total quality management, HRM, agility in business and FP of companies.	"290 participants selected by simple random sampling method working in Chinese organizations"	"Structural Equation Analysis with Smart-PLS"	Total quality management, HRM and business agility are positively related to the FP of companies.
Turan (2019)	To investigate the impact of HRM practices on FP in a sample of banks.	"Bank's data for 2013-2017"	"Ratio Analysis"	There is a significant relationship between HRM practices and FP.
Bilaloğlu (2019)	To determine to what extent and in what direction new generation management approaches affect company performance through strategic HRP.	"387 questionnaires collected from company owners, middle and senior managers working in randomly selected large and medium-sized companies operating in Ankara, Bursa, Istanbul and Izmir"	"Survey Structural Equation Analysis with Smart-PLS"	It is concluded that innovation capability, one of the new generation management approaches, has positive effects on company performance. In addition, it was determined that the learning organization has a positive effect on company performance through mediating variables. In the study, it was determined that talent management does not have a mediating role in the effects of new generation management approaches on company performance.
Başkurt (2016)	To determine the effect of strategic HRM practices on company performance in the institutionalization of family businesses.	"Employees of 200 randomly selected family businesses operating in Istanbul, Ankara, Izmir and many other cities in Turkey"	"Survey Correlation-Regression Analysis"	It is found that the importance given to the institutionalization of family firms and the presence of HRP positively affect company and employee performance.
Kipkorir (2013)	To investigate the impact of HRM practices on FP.	"134 middle managers in the sugar industry"	"Survey Correlation-Regression Analysis"	It is concluded that there is a relationship between HRM practices and financial results.
Pirzada et al., (2013)	To analyze the effects of HRM practices on productivity, labor turnover and corporate FP.	"Data from 145 companies in Pakistan"	"Survey Correlation Analysis"	It has been determined that when HRP are carried out effectively in enterprises; turnover will decrease, productivity and motivation will increase.
Osemeke (2012)	To determine whether Guinness Nigeria company HRM practices affect organizational performance.	"80 employees of Guinness Nigeria"	"Survey T-test"	There is a positive relationship between effective HRP (effective performance appraisal, recruitment and selection) and organizational performance of Guinness Nigeria.

Özutku and Çetinkaya (2012)	To examine the moderating effect of internal and external fit on the relationship between strategic HRM and FP in the Turkish Automotive Industry.	"112 companies in the Turkish Automotive Industry"	"Survey Correlation - Hierarchical Regression Analysis"	Companies with strategic HRM policies and practices are found to have higher performance than companies with traditional HRM policies and practices. In the relationship between strategic HRM and company performance, it is concluded that innovation strategy, which is considered as an external fit variable, has a moderating effect on the company performance variables of productivity, market share and product quality, while price and quality strategies do not have a significant effect on company performance.
Arumugam et al., (2011)	To investigate the relationship between HRM practices and job satisfaction in Malaysian industry and to present a model for HRP to improve FP.	"300 staff working in the Malaysian industry"	"Survey Structural Equation Analysis"	There is a positive relationship between HRM practices and FP and job satisfaction.
Bozkurt (2011)	To examine the impact of the interaction of HRP and employees' organizational citizenship behavior on FP.	"Employees of 19 deposit banks in Turkey"	"Survey Pearson Correlation - Regression analysis"	It is concluded that HRM practices of deposit banks are related to organizational citizenship behavior. In addition, the interaction between HRP and organizational citizenship behavior is found to be effective on return on equity, one of the FP indicators.
Benligiray, Geylan, and Duman (2010)	To investigate whether the strategic orientation of HRM of companies has an impact on FP.	"In 2006, all of the companies included in the list of Turkey's ISO Top 500 Industrial Enterprises"	"Secondary Data Anova- T Test"	It is concluded that the strategic orientation of HRM of companies does not have a significant effect on FP.
Ferguson and Reio (2010)	To investigate the contribution of human resource inputs and HRP to organizational outcomes; job performance and company performance.	"350 US companies and 91 professional executives"	"Survey Correlation - Hierarchical Regression Analysis"	HRM inputs and practices are found to have a significant and positive impact on job performance and company performance.
Ağdelen and Erkut (2003)	To examine the impact of HRM practices on the FP of the company.	"54 companies operating in the manufacturing sector in Turkey"	"Survey Regression Analysis"	It is found that HRM practices have a significant impact on the FP of companies.
Huselid (1995)	To determine the impact of HRM practices on turnover rates, productivity and corporate performance.	"3452 Publicly-traded US companies"	"Secondary Data Correlation-Regression Analysis"	HRM practices have a statistically significant impact on both intermediate employee outcomes (turnover and productivity) and short and long-term corporate FP measures.

As a result of the evaluation of the above literature as a whole, it has been observed that the number of studies directly examining the impact of HRM practices on FP is limited. In some studies examined in the literature, it has been concluded that HRM practices do not have any effect on FP. These studies; [Datu, Pamiınto and Jamaluddin (2023); Özutku and Çetinkaya (2012); Benligiray, Geylan and Duman (2010)], while some studies found a significant relationship between HRM practices and FP [Mulollı and Boskovska (2020); Sadiq, Alamgir and Ali (2020); Turan (2019); Başkurt (2016); Kipkorir (2013); Osemeke, (2012); Arumugam et al., (2011); Bozkurt (2011); Ferguson and Reıo (2010; Ağdelen and Erkut (2003); Huselid (1995)]. It was determined that the studies in the literature were generally conducted with data obtained through surveys (primary data) and using correlation, regression and structural equation methods.

4. DATA AND METHODOLOGY

The dataset of the study consists of the data of the companies traded on BIST 30 for the period 2018-2022. The data for the companies were obtained from the companies' annual reports, financial statement footnotes and disclosures, Public Disclosure Platform (KAP) and Datastream database in February 2023. In the research, the last five-year data of the companies for the years 2018-2022 were analyzed and this constitutes the limitation of the study.

Information on the variables of the study is given in Table 2.

Table 2. Information on Variables

Abbreviation of Variables	Variables	Calculation of Variables
"ROA %"	"Return on Assets"	"Net Profit / Total Assets"
"ROE %"	"Return on Equity"	"Net Profit / Total Equity"
"TOB Q"	"Tobin's Q Ratio"	"(Market Value + Total Debt)/Total Assets"
"Ln TNHRP"	"Total Number of Human Resources Practices[1]"	"Ln (Number of Human Resources (HR) Practices implemented in the company)"
"Ln SIZE 1"	"Total Assets[2]"	"Ln (Total Assets) – Ln (TA)"
"Ln SIZE 2"	"Total Sales[3]"	"Ln (Total Sales) – Ln (TS)"
"Ln TNE"	"Total Number of Employees[4]"	"Ln (Total number of employees working in the company)"

In order to examine the impact of HR practices on financial performance, ROA, ROE and Tobin's Q ratio are considered as FP indicators. The calculation of these variables is presented in Table 2 and information on these variables is obtained from the annual reports and financial statement footnotes and disclosures of the companies.

In the research, the number of HRP implemented in the companies was taken as the independent variable and its logarithm was calculated to ensure linearity. Information on the number of HRP was obtained from the companies' web pages and annual reports.

Based on previous studies [Özutku and Çetinkaya (2012); Benligiray, Geylan and Duman (2010); Ferguson and Reio (2009); Ağdelen and Erkut (2003)], size (total assets and total sales) and number of employees are considered as control variables in this study. The calculation of these control variables is presented in Table 2 and information on these variables was obtained from the companies' web pages, annual reports, financial statement footnotes and disclosures and Datastream database.

Within the scope of the research, total number of HR practices is considered as the independent variable, total assets, total sales and total number of employees as control variables and ROA, ROE and Tobin's Q Ratio as dependent variables. In this context, since ROA and ROE provide information about the short-term FP of companies, and Tobin's Q Ratio provides information about long-term financial performance, the model of the research is formed within this framework. The model of the research is illustrated in Figure 1.

[1] The logarithm of the total number of HRP was calculated to ensure linearity.
[2] The logarithm of total assets was calculated to ensure linearity.
[3] The logarithm of total sales was calculated to ensure linearity.
[4] The logarithm of the total number of personnel was calculated to ensure linearity.

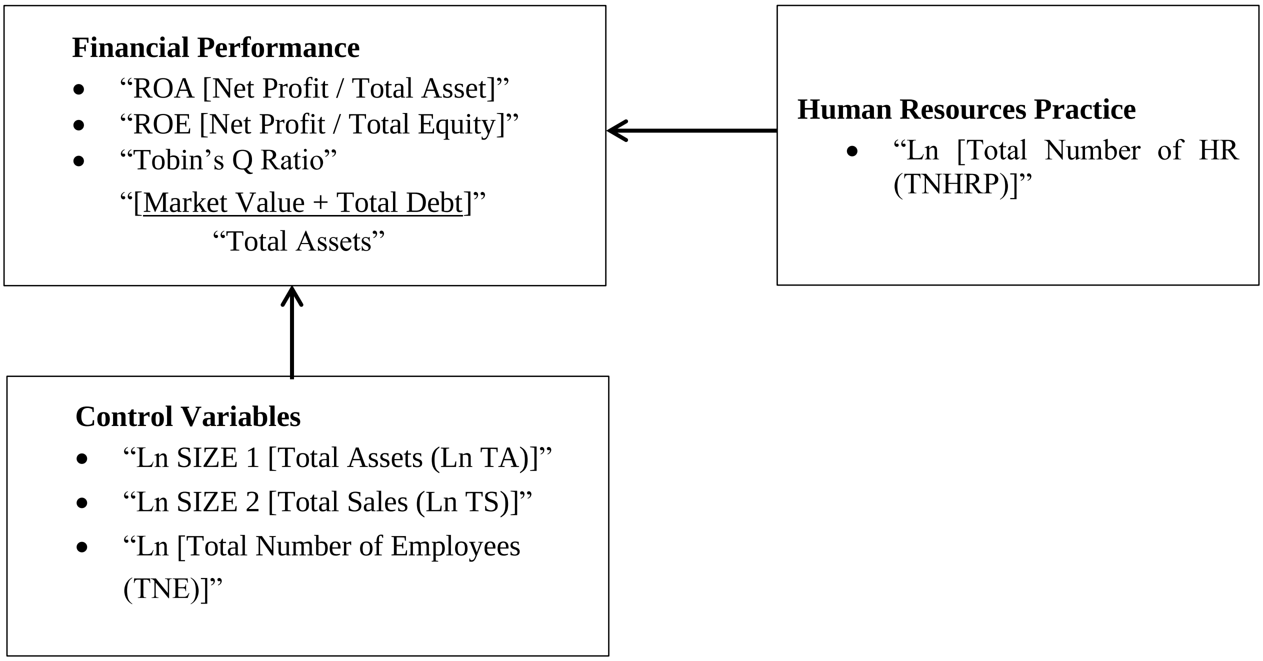

Figure 1. Research Model: The Impact of HR Practices on Financial Performance

The panel regression models established to determine the effect of HRP on the FP of companies are as follows. In this context, FP indicators are ROA, ROE and Tobin’s Q Ratio and three separate models are as follows:

$$ROA_{(i,t)} = \beta_0 + \beta_1(\mathrm{LnTNHRP})_{(i,t)} + \beta_2(LnSIZE1)_{(i,t)} + \beta_3(\mathrm{LnSIZE2})_{(i,t)} + \beta_4(\mathrm{Ln}TNE)_{(i,t)} + \epsilon_t \quad (1)$$

$$ROE_{(i,t)} = \beta_0 + \beta_1(\mathrm{LnTNHRP})_{(i,t)} + \beta_2(LnSIZE1)_{(i,t)} + \beta_3(\mathrm{LnSIZE2})_{(i,t)} + \beta_4(\mathrm{Ln}TNE)_{(i,t)} + \epsilon_t \quad (2)$$

$$TOBQ_{(i,t)} = \beta_0 + \beta_1(\mathrm{LnTNHRP})_{(i,t)} + \beta_2(LnSIZE1)_{(i,t)} + \beta_3(\mathrm{LnSIZE2})_{(i,t)} + \beta_4(\mathrm{Ln}TNE)_{(i,t)} + \epsilon_t \quad (3)$$

Information on the variables in the above panel regression model equations is explained in detail in Table 2. In these three models, i = 1,2,........N denotes the number of companies (30 companies); t = 1, 2, 3, ...T denotes the time periods (2018 to 2022; 5 years). NxT is the total number of observations in the dataset (30x5 = 150).

5. FINDINGS

Descriptive statistics of the dependent and independent variables used in the analysis are presented in Table 3.

Table 3. Descriptive Statistics

Variables	Mean	Standard Deviation	Minimum	Maximum	Number of Observation
ROA (%)	0.823	0.085	-0.086	0.481	
ROE (%)	0.209	0.197	-0.365	0.870	
TOB Q	1.391	0.888	0.333	6.279	
Ln TNHRP	2.029	0.402	0	2.197	150
Ln SIZE 1	18.945	2.798	11.600	25.286	
Ln SIZE 2	18.042	2.789	10.746	24.544	
Ln TNE	8.632	2.105	0	11.650	

Table 3 presents the minimum and maximum values, means and standard deviations of the dependent, independent and control variables. In this context, ROA, ROE and Tobin's Q ratio FP indicators are considered as dependent variables and it is seen that the minimum value of ROA is "-0.086" and the maximum value is "0.481"; the minimum value of ROE is "-0.365" and the maximum value is "0.870"; the minimum value of Tobin's Q ratio is "0.333" and the maximum value is "6.279"; the minimum value of the independent variable total HRP is "0" and the maximum value is "2.197". Among the variables within the scope of the analysis, the highest standard deviation is observed in asset size (Ln SIZE 1) and the lowest standard deviation is observed in return on assets (ROA).

Table 4 presents the correlation matrix between independent and control variables and FP indicators.

Table 4. Correlation Matrix for Independent and Control Variables

	ROA	ROE	TOB Q	Ln SIZE 1	Ln SIZE 2	Ln TNE	Ln TNHRP
Ln SIZE 1	-0.198*	-0.151	0.047	1			
Ln SIZE 2	-0.060	-0.020	0.171*	0.920**	1		
Ln TNE	-0.328**	0.031	-0.145	-0.042	-0.084	1	
Ln TNHRP	0.038	0.017	0.009	-0.072	0.047	-0.065	1

"Note 1: ** significant at p<0.01; * significant at p<0.05"
"Note 2: Correlation Coefficient 50 and below => weak; 50 and above => strong[Nakip (2003: 322)]"

Table 4 shows that there is a weak negative correlation between asset size (Ln SIZE 1) and ROA. There is a weak positive correlation between the Sales Revenue (Ln SIZE 2) variable and Tobin's Q ratio. There is also a weak negative correlation between the total number of employees and the ROA variable. However, it is determined that there is no significant relationship between the independent variable, total human resources practices, and any of the dependent and control variables.

In this study, firstly, unit and/or time effects are analyzed by linear regression test to determine whether the pooled ECM method, one of the traditional static panel data analyses, is appropriate for each model. In this context, the following hypotheses were tested.

H_0 = There is no unit and/or time effect.

H_1 = There is a unit and/or time effect.

According to the test results, if there are unit and/or time effects in the model, it is not appropriate to use pooled ECM.

According to the test results for Model 1, Model 2 and Model 3, H0 is rejected as all three models have 0.0000<0.005. In other words, since at least one of the unit and/or time effects existed, it was determined that the use of pooled ECM for Model 1, Model 2, and Model 3 was not appropriate.

In this context, when it is examined which of the unit effect and/or time effect is present in the study models, it is found that both unit effect (0.0000<0.05) and time effect (0.0005<0.05) are present in Model 1; both unit effect (0.0000<0.05) and time effect (0.0000<0.05) in Model 2 and both unit effect (0.0002<0.05) and time effect (0.0005<0.05) in Model 3 as in Models 1 and 2. Since there are both unit and time effects in all three models, it can be stated that Model 1; Model 2 and Model 3 are two-way panel data models. Hausman test was conducted to determine which of the fixed effects or random effects estimators is valid in the two-way panel data model and since the test statistics are (0.0000<0.05) for all three models, it is concluded that the fixed effects estimator is appropriate for all models. Since the valid estimator within the scope of Mode1-2-3 is fixed effects, Modified Wald Test tests were applied to determine the changing variance (Ün, 2018: 76-77) and the statistics and probability values of the tests are as follows: 32252.23; 0.0000<0.05 for Model 1; 37788.26; 0.0000<0.05 for Model 2;

5160.25; 0.0000<0.05 for Model 3. Born and Breitung (2016) HR test was conducted to determine autocorrelation in the models. According to the results of the test, it was determined that autocorrelation did not exist in all models, as 0.449 >0.05 for Model 1, 0.622>0.05 for Model 2 and 0.588 >0.05 for Model 3. Friedman (1937) Test was applied to determine whether there is correlation between units and according to the test statistic results (Model 1; 11.867; 0.9979>0.05 - Model 2; 11.280; 0.9987>0.05 - Model 3; 40.987; 0.0691>0.05), it was determined that there is no correlation between units in all three models.

As a matter of fact, Model 1, Model 2 and Model 3 are found to be free of autocorrelation and correlation among units and Parks (1967)-Kmenta (1986) estimator is applied due to the presence of only varying variance. In this context, the panel regression results obtained using the robust estimator are reported in Tables 5-6-7 below for each model.

Table 5. Model 1 Panel Regression Results

Independent Variable	Standardized Beta Coefficient	T value	Standard Error
Ln TNHRP	-0.015***	-3.63	0.004
Ln SIZE 1	-0.026***	-13.41	0.001
Ln SIZE 2	0.022***	10.54	0.002
Ln TNE	-0.011***	-8.09	0.001
	N= 150		

“Note 1: *** significant at p<0.01; ** significant at p<0.05; * significant at p<0.10”

“Dependent Variable: Return on Assets (ROA)”

“Independent Variable: Ln TNHRP, Ln SIZE 1, Ln SIZE 2, Ln TNE”

According to the results of the panel data analysis for Model 1, it is concluded that human resources practices, number of employees, asset size (SIZE 1) and sales revenue (SIZE 2) variables have a statistically significant effect on ROA at 1% significance level.

Table 6. Model 2 Panel Regression Results

Independent Variables	Standardized Beta Coefficients	T value	Standard Error
Ln TNHRP	-0.060**	-2.48	0.024
Ln SIZE 1	-0.057***	-7.14	0.008
Ln SIZE 2	0.051***	6.29	0.008
Ln TNE	-0.002	0.50	0.003
	N= 150		

“Note 1: *** significant at p<0.01; ** significant at p<0.05; * significant at p<0.10”

“Dependent Variable: Return on Equity (ROE)”

“Independent Variable: Ln TNHRP, Ln SIZE 1, Ln SIZE 2, Ln TNE”

According to the results of the panel data analysis conducted within the scope of Model 2, it is concluded that asset size (SIZE 1) and sales revenue (SIZE 2) variables have a statistically significant effect on ROE at 1% significance level. It is concluded that HRP have a statistically significant effect on return on equity (ROE) at p<0.05 significance level. However, the number of employees has no significant effect on ROE.

Table 7. Model 3 Panel Regression Results

Independent Variables	Standardized Beta Coefficients	T value	Standard Error
Ln TNHRP	-0.042	-0.98	0.044
Ln SIZE 1	-0.116***	-5.57	0.021
Ln SIZE 2	0.143***	5.77	0.025
Ln TNE	-0.025	-1.37	0.018
	N= 150		

Note 1: *** significant at p<0.01; ** significant at p<0.05; * significant at p<0.10

“Dependent Variable: Tobin’s Q Ratio (Tob Q)”

“Independent Variable: Ln TNHRP, Ln SIZE 1, Ln SIZE 2, Ln TNE”

According to the results of the panel data analysis obtained in the context of Model 3, it is concluded that asset size (SIZE 1) and sales revenue (SIZE 2) variables have a statistically significant effect on Tobin’s Q ratio at 1% significance level. On the other hand, HRP and number of employees have no significant effect on Tobin’s Q ratio.

5. CONCLUSION

The functions that make up HRM, which fulfills an important role in companies, are job analysis and job design, human resources planning and candidate search, recruitment, employee selection, training and development, performance evaluation, career development, wage and reward management, and employee health and safety. Companies have many different objectives such as producing goods and services, benefiting people, creating value for customers, sustainability, continuity and shareholder maximization. In this context, the main objective of companies is to maximize their market value. The most important factor affecting the realization of this objective is the maximization of profit and earnings. In other words, it is to maximize the FP of the company. In measuring the performance of companies, return on assets (ROA) and return on equity (ROE) are considered as short-term FP indicators, while Tobin’s Q Ratio is analyzed as a long-term FP indicator.

The aim of this study is to reveal the relationship between companies’ HRP and FP indicators. For this purpose, the data of 30 companies traded in the Borsa Istanbul (BIST) 30 Index for the years 2018-2022 were analyzed and as a result of the analysis, it was concluded that asset size (SIZE 1) and sales revenue (SIZE 2) variables have a significant effect on ROA and ROE, which are short-term FP indicators, and Tobin’s Q Ratio, which is a long-term FP indicator. On the other hand, HRP have a significant effect on ROA and ROE, but have no significant effect on Tobin’s Q Ratio, which is a long-term FP indicator. It is concluded that the number of employees variable has a significant effect only on ROA but not on ROE and Tobin’s Q Ratio.

In some studies examined in the literature, HRM practices have no effect on FP [Datu, Pamiınto and Jamaluddin (2023); Özutku and Çetinkaya (2012); Benligiray, Geylan and Duman (2010)], while in some studies there is a significant relationship between HRM practices and FP [Mulollı and Boskovska (2020); Sadiq, Alamgir and Ali (2020); Turan (2019); Başkurt (2016); Kipkorir (2013); Osemeke (2012); Arumugam et al., (2011); Bozkurt (2011); Ferguson and Reıo (2010); Ağdelen and Erkut (2003); Huselid (1995)]. It was determined that the studies in the literature were generally conducted using questionnaire administration. In this context, it is not possible to make a direct comparison between the findings of this study and the findings of this study.

It can be suggested that future studies should include a larger dataset; different indices and sectors; more than one country sample; and different data analysis methods.

Ethical Statement

We followed the Research and Publication Ethics rules during the writing and publication of this research titled "The Impact of Human Resources Practices on The Financial Performance of Companies: The Analysis of BIST 30 Companies".

Contribution Rate Statement

Both of the authors in the study contributed to all processes from the writing of the study to the drafting and read and approved the final version.

Conflict Statement

This study did not lead to any individual or institutional/organizational conflict of interest.

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Extended Abstract

The Impact of Human Resources Practices on The Financial Performance of Companies: The Analysis of BIST 30 Companies

Human resources management (HRM) first emerged as a welfare secretariat unit in the 1900s and has been called HRM since the 1980s with a number of functional functions added over time. According to the most common definition in the literature, HRM is defined as a discipline that deals with human resources, which is the most important element in achieving the company's goals (Gürbüz, 2017: 19). In this context, the functions that make up HRM can be classified as job analysis and job design, human resources planning and candidate search, recruitment, career development, training and employee selection, performance evaluation, wage, development and reward management, and employee health and safety (Uyargil et al., 2015; Gürbüz, 2017). Companies have many objectives such as producing goods and services, benefiting people, creating value for customers, sustainability, continuity and shareholder maximization. However, the most fundamental objective of companies is to maximize the market value of the company (Ceylan and Korkmaz, 2017: 18). The most important factor that contributes to the realization of this objective is the company's profits and earnings. In other words, it is to maximize FP. In this context, return on assets (ROA) and return on equity (ROE) are considered as short-term FP indicators, while Tobin's Q Ratio is considered as a long-term FP indicator. The aim of this study is to reveal the relationship between companies' HRP and FP indicators. In other words, the aim of this study is to find the answer to the question of whether the HRP carried out in companies have an impact on FP. A review of the literature reveals that there are many studies examining the relationship between HRP and FP of companies. Some of these studies are as follows; [Datu, Pamiınto and Jamaluddin (2023); Anvar and Abdullah (2021); Ali and Atan (2020); Mulollı and Boskovska (2020); Nguyena et al., (2020); Sadiq, Alamgir and Ali (2020); Turan (2019); Bilaloğlu (2019); Başkurt (2016); Kipkorir (2013); Pirzada et al., (2013); Osemeke (2012); Özutku and Çetinkaya (2012); Arumugam et al., (2011); Bozkurt (2011); Benligiray, Geylan and Duman (2010); Ferguson and Reıo (2010); Ağdelen and Erkut (2003); Huselid (1995)]. As a result of the evaluation of these studies as a whole, it has been determined that the number of studies examining the effect of direct HRM practices on FP is quite low and the studies are generally conducted using survey management. Therefore, there is no comprehensive study examining the effect of direct HRP on FP indicators (ROA, ROE and Tobin's Q Ratio). In this context, it has been determined that there is a gap in the field and this study has been conducted with the view that this study will fill this gap. The study is expected to contribute to both practitioners and the literature. In the study, the data of 30 companies traded in the Borsa Istanbul (BIST) 30 Index between 2018 and 2022 were analyzed. The effects of the independent variable of total number of HRP and control variables such as size and total number of employees on short-term FP indicators such as ROA, ROE and long-term FP indicator Tobin's Q ratio are analyzed by panel data analysis method. This study is important in terms of being one of the studies conducted in Turkey with this scope and content and contributing to the literature by presenting findings on the relationship between HRP and FP. In addition, it is important in terms of providing empirical evidence on the increase in FP that may occur as a consequences of HRP implemented in companies and thus the importance of human resources units in company organization. As a consequences of the analysis, it was concluded that asset size and sales revenue variables have a significant effect on ROA, ROE and Tobin's Q Ratio. On the other hand, HRP have a significant effect on ROA and ROE, but have no significant effect on Tobin's Q Ratio. It is concluded that the number of employees variable has a significant effect only on ROA but not on ROE and Tobin's Q Ratio.