

## Human Resource Management Practices, Employee Outcome and Performance of Coffee Research Foundation, Kenya

Kennedy Alusa 1,2 Anne Kariuki PhD3\*

- 1. Postgraduate Student Egerton University, P.O. Box, 536 Njoro ,Kenya
  - 2. Coffee Research Foundation, P O Box 4 00232, Ruiru, Kenya
- 3. Assistant Lecturer, Dedan Kimathi University of Technology, P.O. Box, 104065-00101, Nairobi, Kenya \*E-mail of corresponding author: w.kariuki@hotmail.com

## **Abstract**

Although studies have examined the influence of Human Resource Management (HRM) practices on performance, few have examined the influence of employee outcome in a developing country context. To address recent calls of research to address the role of employee outcome, this study examined the mediating role of employee outcome on the influence of HRM practices and performance. Data was collected from 84 employee of a government organization. Seventy eight (78) filled the questionnaire and retuned the questionnaire. Using multiple regression analysis the result showed that HRM Practices have a significant influence on organizational performance. Further, using stepwise regression analysis, the study established that employee outcome fully mediates the influence of HRM practices on organizational performance.

**Key Words**: Human resource management practices, Employee outcome, Organizational performance, Coffee Research Foundation

#### 1. Introduction

The effects of structural change and competition have contributed to Human Resource Management (HRM) practices as a source of competitive advantage. Scholars in Strategic Human Resource Management (SHRM) have suggested that an organization can use High Performance Work Systems (HPWS) or HRM practices to drive organizational performance (Jackson and Schuler, 1995; Huselid, 1995). These scholars argue that human resource management practices reinforce the expected behaviors leading to reduced turnover and productivity, thereby enhancing performance (Huselid, 1995).

Our research differs from previous studies in several ways. First, in contrast to most studies which occur within the context of industrialized western economies, the present study focused on HRM practices in developing economies. Second, consistent with latter that propose that combination of HRM practices as opposed to a single practice account more for performance, we examined a bundle of 4 practices as opposed to a single practice. In addition, studies have provided evidence on the relationship between HRMP and performance; few studies have taken into consideration the complexities in which an organization creates value through a series of intervening or linked constructs. Becker and Gerhart (1996) agreed that the mechanism by which human resource decisions create and sustain value are complicated and not well understood. In a similar vein, Guthrie et al, (2004) noted that few studies have not addressed the question as to how this occurs and refers to this limitation as 'black box'. To this end, the study departs from previous studies by introducing employee outcomes as a mediating variable. Specifically, we examined; (1) the relationship between HRM practices and performance, (2) the mediating influence of employee outcome on the relationship between HRM practices and firm performance.

## 2. Human Resource Management Practices

Despite significant progress in developing and testing the concept of HRM practices, scholars have failed to reach consensus on actual meaning of HRM practices. Scholars emphasize that HRM practices can be considered from three distinct perspectives: universalistic, contingency and configuration. Proponents of universalistic approach uphold that some HRM practices are better than others, commonly referred to as 'best practice' and all organizations should adopt these practices (Osterman, 1994, Pfeffer, 1994; Tsui, et al. 1997). Scholars taking this view have focused on practices such as participation, empowerment, incentive pay, training and skill development, innovative work practices such as teams, job rotation, quality circles and total quality management. The universalistic or best practices were advocated by Pfeffer (1994; 1998). His argument is based on the notion that some HRM practices are always better than others that all organizations should adopt these practices to improve on profitability. Pfeffer (1994) initially identified sixteen HRM practices associated with organizational performance. However, subsequent studies, simplified these practices into seven practices. These are employment security, selective hiring, self-managed teams, compensation based on performance, extensive training, reduction in status differences and information sharing. Scholars taking this view have focused on



practices such as participation, empowerment, incentive pay, training and skill development, innovative work practices such as teams, job rotation, quality circles and total quality management. Huselid (1995) referred to human resource practices as high performance work practices such as recruitment and selection, incentives and compensation, performance management, extensive employee involvement and training. A major setback in this approach is that the theory has not been able to justify cases where the said practices have failed to lead to high performance. In contrast, to best practices approach, the contingency approach, postulates that HRM practices depends on internal and external context of which the organization operates (Wood, 1999). The contingency theory explains how a number of human resource practices are consistent with different strategic positions and how these practices relate to firm performance (Schuler and Jackson, 1987). Contingency theorists argue that, in order to be effective, an organization's HR practices must be consistent with other aspects of the organization.

Since the late 1990s, configuration approach has gained prominence. This theoretical perspective views HRM practices as a combination of practices or 'bundles' implying that combination of various practices has a greater advantage on performance than isolated effect (McDuffie, 1995; Ichniowski et al. 1997). The configuration approach posits that combination of HRM practices in different forms has a greater effect on organizational performance has a greater effect than when practices are explored individually (Ichniowski et al. 1997). McDuffie (1995) argues that the strategic link between different HR practices to performance does not involve individual practices but interrelated and internal practices called bundles, this means that there are various configurations of HR practices that go hand in hand and enhancing a firm's competitive advantage depends on a bundle or set of HR practices configured together. Adopting the configuration approach Boselie, et al 2005) submitted that the most studied HRM practices comprise of training and development, pay and reward, and performance management.

## 3. Human Resource Management Practices and Performance

Drawing on configuration approach, Huselid (1995) studied the impact of HRM policies and practices on firm performance. He found that these practices have a significant impact on employee outcome (turnover and productivity) and on overall performance. His study implies that HRM practices have an impact on employee outcome. Huselid et al. (1997) using a sample of 293 US firms, evaluated the impact of HR managers capabilities on HR effectiveness and capabilities and impact on corporate performance. They found that effectiveness was associated with capabilities and attributes of HR staff and that a relationship exists between HRM effectiveness, productivity, and cash flow and market share. Wright et al. (1999) examined the impact of HRM practices (selection, training, compensation and performance appraisal) and participation of financial performance of 190 US petro-chemical refineries. The results indicated the existence of a direct relationship between training and compensation with workforce motivation. They also found that in highly participative systems, human resource practices (selection, compensation and appraisal) are positively related to firm performance. In a related study, McDuffie (1995) studied human resource bundles of HRM practices and found that the bundles affect performance not as an individual but as a group. Fey et al (2000) studied the relationship between human resource management (HRM) practices and the performance of 101 foreign-owned subsidiaries in Russia and found that investments in HRMP have an impact on performance.

Wan et al. (2002) studied six HR variables (training, staffing, empowerment, performance appraisal, job design, and performance-based pay) on financial performance in 191 Singapore Companies. Their results indicated that different HR bundles have a positive influence on organizational outcome such as HR-performance-employee productivity, job satisfaction and commitment. Shadzad et al. (2008) examined the relationship between compensation, promotion and performance evaluation on perceived employee performance among university teachers in Pakistan. The results of their study indicated a positive relationship between compensation, promotional practices and perceived employee performance while performance evaluation was not positively correlated with perceived employee performance. In a related study, Osman et al. (2011) demonstrated that the effectiveness of implementing HRMP in a company does indeed have a major impact towards a firm's performance. The findings also show that HRMP have an impact of nearly 50 percent on firm performance. In their study, Nayyab et al. (2011), established that HRMP contribute to bank performance. Further the results indicated that training, employee participation in decision making was significantly related with banks performance. Unlike studies that have examined the influence of each practice on performance, the current study examines the practices as a bundle of practices. For the purpose of the current research the following hypothesis was formulated:

 $H_1$ : HRM Practices are positively related to organizational performance.



# 4. The mediating influence of employee outcome on the relationship between Human Resource Management Practices and Firm Performance

Empirical research suggest that HRM practices are likely to offer an array of benefits including commitment competency and flexibility, improved staff performance, organizational performance (Huselid, 1995, Koch and McGrath, 1996) and are negatively related turnover (Huselid, 1995). Employee outcome has been studied by scholars and has been conceptualized and measured in various ways. Common to all conceptualization of employee outcome is the link between employee outcome and performance. Although previous studies have examined organization citizenship behavior (OCB), affective commitment and job satisfaction as mediating variables in the relationship between HRM practices and performance, the results have yielded mixed results (Kehoe and Wright, 2013). According to Meyer and Smith (2000) HRM practices and policies have been suggested as influencing factors that increase organization commitment. Although previous research has addressed the key role of employee outcome, little is known on the role in a developing country context. In state corporations, HRM practices are viewed as a means of retaining employees and improving the quality of services offered by the employees. It is suggested those employees who perceive to be managed with HRM practices are likely to express increase employee outcome such as affective commitment (Kehoe and Wright, 2013). Pauwe (2009) posits that employee outcome is an intermediary outcome of HRMP- performance relationship. OCB, perceived organizational support, commitment, employee intentions and organizational support, employee engagement are commonly studied employee outcomes in the link between HRM practices and performance. As stated by Kehoe and Wright (2013), increased levels of commitment are then likely to affect organizational performance. Based on the discussion, the following hypothesis was formulated.

 $H_2$ . The relationship between HRM practices and organizational performance is mediated by employee outcome.

## 5. Methodology

The target population consisted of 215 employees from Coffee Research Foundation (CRF) in Kenya. The organization is a state corporation and was selected because of improved performance recorded in previous years (Performance Contracting Year 2013-2014). Using stratified sampling a total of 84 questionnaires were randomly issued for a period of 2 months. A total of 78 employees responded yielding a response rate of 92.1 percent. Our response rate is consistent with other survey-based studies of HRM practices or HPWS (Becker and Huselid, 1998). Thus, the response rate was acceptable.

## Measures

**Dependent variable:** Organizational performance was measured using 5 perceptual measures. The use of perceptual measures was informed by the fact that the firm under study is a government organization, thus financial data was not easily available. Huselid (1996) and Guthrie (2001) found that there was little difference between objective and subjective measures. Guthrie (2001) found that the correlation between subjective and objective measures as a second-best alternative but instead, the researcher should weigh the tradeoffs between subjective and objective measures against the research context to determine the most favorable under the circumstances (Richard et al. 2009). The items had a cronbach alpha of 0.914, thus a good measure for the study.

**Independent variable:** A 24-scale item was used to measure HRM practices. Responses were rated on a five Likert-type scale with anchors, 1-'Not at all' to 5-'to a very large extent'. The measures were compiled from previous studies (Huselid, 1995; Kehoe and Wright, 2013) in SHRM and modified to suit the context of the study. The Cronbach Alpha Coefficient of the 24-item instrument was found to be 0.864 which indicates a highly reliable scale.

**Mediating variable:** Employee-outcome, the mediating variable was measured on a 13-item scale adopted from extensive literature review measured on a five point scale. The scale had a cronbach alpha of 0.895 which represents a good reliability. Is it possible to briefly elaborate what is employee outcome?

## 6. Results and Analysis

A multiple linear regression was employed to examine the effect of 4 HRM practices on performance. All the 24 items measuring the 4 HRM practices were combined into a single index score, HRMP for purpose of testing the mediating effect of employee outcome on the relationship between HRM practices and performance. The mediating effect was examined in four steps as suggested by Baron and Kenny (1986). Table 1 presents the demographic characteristics of the 78 participants.



TABLE 1 Demographic Profile of the participants

Variables	Values	Frequency	
Gender	Male	75.6	
	Female	24.4	
Age Group	<25	17.9	
0 1	26-35	34.6	
	36-45	19.2	
	46-50	20.5	
	>50	7.7	
Education			
	Primary	23.1	
	Secondary	29.5	
	Professional certificates	14.1	
	Diploma	11.5	
	Bachelors	14.1	
	Masters	3.8	
	PhD	3.8	
Length of Service	<3	7.7	
Ç	4-6	17.9	
	7-10	42.3	
	>10	32.1	

Table 1 shows that 75.6 percent of the respondents were male, while women were 24.6 percent. The majority of respondents were between 25-35 years (34.6 percent) and 7.7 percent were more than 50 years. For education level 29.5 percent had a secondary school certificates forming the highest number and the least was Masters and PhD with a combined 7.6 percent. On length of service, majority of employee had served in the organization for 7-10 years implying that they had good knowledge of HRM practices in the company.

## **Hypothesis Testing**

The reliabilities and correlations of the study variables are presented in Table 2. The bivariate results indicate a significant relationship between broad-scale human resource management practices, employee outcome and performance. Human resource management practices was positively correlated with employee outcome (r=0.629, p<0.05), employee outcome and performance (r=0.596, p<0.05) and performance and employee outcome (r=0.430, p<0.05).



Table 2: Reliabilities and Correlations

Variable	Cronbanch Alpha Coefficient			
		1	2	3
HRM practices	.864	1		
Employee outcome	.895	.629**	1	
Performance				
	.914	.430**	.596**	1

\*\*P< 0.05

Cronbach Alpha Coefficient =0.903

N = 78

A simultaneous multiple regression analysis was conducted to examine Hypothesis 1. The linear combination of HRM practices explained 21.7% of the variance in performance, F (5.068, P<0.05). However, of the 4 HRM practices, compensation was found to be significant ( $\beta$ =0.306, t=2565, p<0.05) and recruitment ( $\beta$ =0.356, t=1.747, p<0.05). Therefore, compensation and recruitment emerged as significant predictors of performance.

TABLE 3: Results of Regression Analysis of HRM practices on Organizational performance

Variable	β	t	P-Value	
Constant	.430	6.894	.000	
Recruitment	.356	1.747	.085	
Training	242	-1.196	.236	
Compensation	.306	2.565	.012	
Performance Appraisal	009	083	.934	
R = 0.466				
$R^2 = 0.217$				
Adjusted $R^2 = 0.174$				
F=5.068*				

Notes: All variables were measured on a 5 point likert-type scale. \*P<0.05

Hypothesis 2 suggested that the relationship between HRM practices and organizational performance is mediated by employee outcome. Following the convention for assessing mediation effect, (Baron and Kenny, 1986), the 24-items measuring the 4 HRM practices were combined into a single index score. In model 1, we first tested whether the independent effect (HRMP) had an effect on firm performance. The model confirmed that HRMP accounted for 18.5% of the variance in organizational performance, F=17.207, P<0.05. In model 2, we tested whether the independent variable accounted for the variation in the presumed mediator (Employee-outcome). HRMP accounted for 39.5% of the variance in employee outcome, and overall model was significant (F=49.679, P<0.05). In model 3 we tested whether the mediator accounted for organizational performance. Employee outcome explained 35.5% of the variation in organizational performance. In Model 4, we tested whether, the independent variable accounted for firm performance, when controlling for mediation. As shown in Table 4, HRMP accounted for 36.0% of the variance.



The beta values for model 1, 2, 3 are significant. When controlling for the mediator (employee outcome) in model 4, HRM practices becomes insignificant ( $\beta$ =0.091 p>0.05), while the mediator, employee outcome is a significant predictor of organizational performance ( $\beta$ =0.538, p<0.05), suggesting full mediation. There is also an observed in reduction in beta from step 1,  $\beta$ =0.430 when HRM practices and when controlling for employee outcome,  $\beta$ =0.091 (beta change=0.339). Thus Hypothesis 2 was supported.

TABLE 4. Results of Regression Analysis of Human resource management practices and Employee outcome on firm performance

Dependent Inde	ependent Variables	$\mathbb{R}^2$	F-value	В
Firm performance Model 2	HRMP	.185	17.207 *	.430*
Employee outcom Model 3	e HRMP	.395	49.679*	538*
Firm Performance Model 4	Employee Outcome	.355	41.760*	.596*
Firm Performance	Employee outcome HRMP	.360	21.064*	.538* .091

<sup>\*</sup>P<0.05

## Discussion

The primary purpose of this study was to investigate the relationship between HRM practices and organizational performance; and explore whether the relationship was direct or through the mediating effect of employee outcome. The results support the relationship between HRM practices and performance, and an emerging stream of research has began to call for empirical work on more proximal relationship in HRM practices chain (Becker and Gerhart, 1996).

Hypothesis 1 predicted that HRM practices are positively related to organizational performance. The results of bivariate correlation in Table 2 shows that a correlation of 0.462 between HRM practices and performance. In addition, the regression results in Table 3, support that HRM practices positively influences performance. In general our findings provide evidence that a relationship exists between HRM practices and performance. The findings support previous empirical research studies that demonstrated a positive relationship between HRM practices and organizational performance (Huselid, 1995; McDuffie, 1995; Huselid et al. 1997; Wright et al. 1999; Fey et al. 2000; Shadzad et al. 2008, Nayaab et al. 2011). The results of the multiple regression analysis revealed that of the 4 HRM practices examined; only compensation ( $\beta$ =0.306, p<0.05) and recruitment ( $\beta$ =0.356, p<0.05) were found to be significant predictors of performance, while training ( $\beta$ =-0.0242, p>0.05) and performance appraisal ( $\beta$ =-0.009, p>0.05) had no significant effect on performance. Sub-hypothesis 1a and 1c were supported. The insignificant association can be attributed to the cost incurred in investing in training. Drucker (1999) argued that training is an expensive way of attempting to enhance employee productivity. The results of their study are consistent with Shadzad et al. (2008) who found a negative correlation between performance evaluation and perceived employee performance.

Our study differs from previous research, in that it tested for the mediating effect of employee outcome on the relationship between HRM practices and organizational performance. Although this relationship has been tested, to some extent in western context we are able to extend the empirical in a developing country context. In addition, the findings indicate that employee outcomes fully mediate the relationship between HRM practices and performance. Our results are closely related to prior studies such as Kehoe and Wright (2013) who found that affective commitment partially mediates the relationship between high-performance HR practice perception and organization citizenship behaviour and fully mediates the relationship between high- performance HR practices perception and intention to remain in the organization.

A few practical implications can be inferred from the above findings. This study supported the hypothesis that HRM practices positively and significantly influences performance. This implies that HRM practices can enhance performance and therefore, organizations should implement recruitment and selection, compensation, training and development as bundles. The results make a theoretical and empirical contribution in a developing



country context. Furthermore, the study builds on studies that have supported the configuration theory that propose that combination of HRM practices in different forms has a greater effect on organizational performance than when practices are explored individually. The study provides support to the growing body of knowledge and research that attest to the importance of integration of HRM practices.

## **Study Limitations and Directions for Future Research**

While this study makes several contributions, there are number of ways in which it can be improved and advanced from a methodological and theoretical perspective. First, the respondents were employees of a single institution posing a problem of generalizability. Another problem lies to the responses to the questions which relied on the likert-type scale. Bollen et al (2005) amongst others intimate that reaction of respondents influences the respondents, mean that some people tend to give extreme answers whereas others prefer cautious answers. To mitigate this limitation, the study relied on employees reports as opposed to managerial report. Future studies should consider a number of organizations to provide a basis for generalization. Second, this study only looked at perceptual measures of performance.

Notwithstanding the limitations mentioned above, the current study contributes to the understanding of strategic human resource management and especially on the influence of HRM practices and employee outcome on performance. The study also does hold implication for future research on HRM practices.

## Acknowledgements

This paper is published with the permission of the Director of Research, Coffee Research Foundation.

## References

- Baron, R. M. & Kenney, D. A. (1986). The moderator-mediation variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Becker, B.E., and Gerhart, B. (1996). The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal*, 39, 779-801.
- Becker, B. and Huselid, M. (1998). High performance work systems and firm performance: A synthesis and managerial implication. *Research in Personnel and human resource Management*, 16, 53-101.
- Becker, B. and Huselid, M. (2006). Strategic human resource management: Where do we go from here? *Journal of Management*, 32, 898-925.
- Bollen, L., Vergauwen, P. and Schnieders, S. (2005). Linking intellectual capital and intellectual property to company performance. *Management Decisions*, 43(9), 1161-1185.
- Boselie, P., Dietz, G., and Boon, C. (2005). Commonalities and contradictions in HRM and performance research. *Human Resource Management Journal*, 36 (1), 39-47.
- Drucker, P. (1999). The shape of things to come. Leaders to leaders: Enduring insight on leadership., *Drucker Foundation's award –winning journal*, 109-120
- Fey, C. F., Bjorkman, I. and Pavlovsky, A. (2000). The effect of human resource management practices on firm performance in Russia. *International Journal of Human Resource Management*, 1(1), 1-18.
- Guthrie, J.P. (2001). High involvement work practices, turnover and productivity: Evidence from New Zealand. *Academy of Management Journal*, 44, 180-190.
- Guthrie, J.P., Datta, D.K. & Wright, P.M. (2004). *Peeling back the onion Competitive advantage through people: Test of casual model.* CAHRS Working Paper 04-09.
- Huselid, M.A. (1995). The impact of human resource management practices on turnover, productivity and corporate financial performance. *Academy of Management Journal* 38(3), 635-672
- Huselid, M.A. (1996). The impact of human resource management practices on turnover, productivity and corporate financial performance. *Academy of Management Journal*, 38, 635-672.
- Huselid, M.A., Jackson, S.E., and Schuler, R.S. (1997). Technical and strategic human resource management effectiveness as determinants of firm performance. *Academy of Management Journal*, 40,171-188.
- Ichniowski, C, Shaw, K and Prennushi G. (1997). The effects of human resource management practices on productivity: A study of steel finishing lines: *The American Economic Review*, 87 (3), 291-313.
- Jackson, S.E. and R.S. Schuler, (1995) .Understanding human resource Management in the Context of organizations and their environments. *Annual Review of Psychology*, 46, 237–64.
- Kehoe, R. and Wright, P.M. (2013). The impact of high-performance human resource practices on employee attitudes and behaviour. *Journal of Management*, 39(2), 366-391.



- Koch, M. J. and McGrath, R.G. (1996). Improving labor productivity, human resource management policies do matter. *Strategic Management Journal*, 175(5), 335-354.
- Meyer, J.P., and Smith, C.A. (2000). HRM practices and organizational commitment: Test of mediation model. *Canadian Journal of Administrative Science*, 17(4), 319-331.
- McDuffie, J.P. (1995). Human resource bundles and manufacturing performance: Flexible production systems in the world auto industry. *Industrial and labor Relations Review*, 48, 197-221.
- Paauwe, J. (2009). HRM and performance: Achievements, methodological issues and prospects. *Journal of Management Studies*, 46, 129-142.
- Pfeffer, J. (1994). Competitive advantage through people. Boston, MA: Harvard
- Pfeffer, J. (1998). *The human equation building profits by putting people first*. Boston, MA, Harvard Business School Press.
- Schuler, R.S. and Jackson, S.E.(1987). Linking competing strategic and human resource management practices. *Academy of Management Executive*, 1(3), 207-219.
- Shahzad, K., Bashir, S. and Ramay, M. (2008). Impact of human resource practices on perceived performance of University teachers in Pakistan. *International Review of Business Research Papers*, 4(2), 302-315.
- Nayyab, H.H., Hanid, M., Naseer, F., and Igbal, M. (2011). The impact of human resource management practices on organizational performance. *Interdisciplinary Journal of Contemporary Research in Business*, 3(3), 661-667.
- Osterman, P. (1994). How common is workplace transformation and who adopts it. *Industrial and labour Relation Review*, 47,173-188.
- Tsui, A., Pearce, J., Porter, L. and Tripoli., A .(1997). Alternative approaches to the employee; Organization relationship does investment in employees pay off? *The Academy of Management Journal*.
- Wood, S. (1999). Human Resource Management and Performance. International Journal of Management Reviews, 1 (4), 367-413.
- Wright, P.W., McCormick, B., Sherman, W., and McMahan, G.C. (1999). The role of human practices in Petro-Chemical refinery Performance. *International Journal of Human Resource Management*, 10(4), 551-571.
- Wan, D., Ong, C.H. and Koh, V. (2002). Strategic human resource management and Organizational Performance in Singapore. *Compensation Benefits Review*, 34(4), 33-42.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage: http://www.iiste.org

## **CALL FOR JOURNAL PAPERS**

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

**Prospective authors of journals can find the submission instruction on the following page:** <a href="http://www.iiste.org/journals/">http://www.iiste.org/journals/</a> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

## MORE RESOURCES

Book publication information: <a href="http://www.iiste.org/book/">http://www.iiste.org/book/</a>

Academic conference: <a href="http://www.iiste.org/conference/upcoming-conferences-call-for-paper/">http://www.iiste.org/conference/upcoming-conferences-call-for-paper/</a>

## **IISTE Knowledge Sharing Partners**

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library, NewJour, Google Scholar

























