

# **High Performance Work Practices and Organizational Performance in Pakistan**

**This is an Author's Accepted Manuscript of an article published in:**

**Ahmad, M., Allen, M. M. C., Raziq, M. M., Rehman, W. U. (2019), High Performance Work Practices and Organizational Performance in Pakistan. International Journal of Manpower.**

## High Performance Work Practices and Organizational Performance in Pakistan

### **Abstract**

**Purpose:** Research on the relationship between high-performance workplace practices (HPWPs) and organizational performance has largely focused on Western settings, limiting our knowledge of how these systems influence performance in other countries, including Pakistan. Universalistic assumptions underpin the HPWP paradigm; to examine the validity of these assumptions, we study the links between HPWP and performance in Pakistan, a country with different cultural norms and institutional settings to those in which most research has been conducted.

**Design:** We draw on a unique survey of 392 establishment managers in the banking, pharmaceutical and information technology sectors. We include managers of foreign-owned multinational subsidiaries and domestic firms to ensure our sample represents firms in Pakistan.

**Findings:** We find that some individual HPWPs (recruitment and training) are associated in a statistically significant way with lower labour turnover, higher productivity and higher financial performance. Employee involvement is associated with lower labour turnover and higher labour productivity. Compensation is associated with higher financial performance. None is linked to higher labour turnover, lower productivity or lower financial performance in a statistically significant way. Performance appraisal was not statistically significantly associated with any of our three outcome variables.

**Originality:** Our results provide some relatively strong support for universalistic assumptions, but also highlight the need for future research to examine the variable links of some HPWPs and the lack of any association for our performance appraisal measure.

## **Introduction**

The human resource management (HRM) literature has focused on the links between high performance work practices (HPWPs) and organizational performance for almost two decades; however, research has largely focused on firms in Western countries. Previous studies have shown that organizational performance improves considerably with the implementation of HPWPs practices. A number of studies demonstrate improvement in employee level outcomes, such as absenteeism and turnover (Batt, Colvin, & Keefe, 2002; Boselie, 2010; Guest, Michie, Conway, & Sheehan, 2003; Guthrie, Flood, Liu, & MacCurtain, 2009), enhanced labour productivity (Combs et al., 2006; Datta, Guthrie, & Wright, 2005; Huselid, 1995; Wood & de Menezes, 2008) and financial performance (Collings, Demirbag, Mellahi, & Tatoglu, 2010; Delaney & Huselid, 1996; Subramony, 2009).

As most previous research studies were conducted in developed countries, Budwhar and Debra (2014) argue that rapid globalization, technological advancements and developments in HRM necessitate an examination of HRM systems in emerging Asian countries to fill a gap in literature and to develop HRM theory. The universalistic assumptions that underpin HPWP also require an examination of HPWP in non-Western settings to assess the appropriateness of HPWP in different cultural and institutional settings (Al Ariss & Sidani, 2016; Huang, Ma, & Meng, 2017). Whilst some evidence on the efficacy of HPWP has emerged from India (Chand, 2010; Cooke & Saini, 2010; Guchait & Cho, 2010), evidence on HPWP in other South Asian countries, including Pakistan, is scarce. Moreover, many existing studies examine high performance workplace *systems* rather than *practices*, reducing their ability to assess how particular practices influence firm outcomes and potentially limiting the implications of the research for managers because managers will not know which practices to

prioritize to improve organizational performance. In addition, the focus on systems may downplay those aspects of local cultures and institutions that could hinder the links between HPWP and organizational outcomes, limiting the theoretical impact of such work.

We assess the effects of HPWP on employee and establishment-related outcomes in Pakistan. In particular, we focus on the links between individual HPWP (selection and recruitment, employee involvement and participation, performance-related pay, performance review and appraisal, and extensive training, learning and development) and organizational outcomes (employee turnover, labour productivity and financial performance) in establishments in Pakistan to assess whether or not each individual practice is associated with better organizational outcomes. We include multinational company (MNC) subsidiaries and locally owned workplaces in our sample. All establishments operate in one of the three following sectors: banking, pharmaceutical and information technology. These sectors are often important ones in emerging economies, such as Pakistan, and improving establishment outcomes in these sectors could have wider economic benefits (Ahmad & Allen, 2015). We draw on a unique survey of senior managers in these establishments, as these managers have a good understanding of HPWP and establishment outcomes (Boselie, Dietz, & Boon, 2005; Wright et al., 2003).

Two of the key challenges facing Pakistan are its relatively low productivity in business and its lack of good jobs (World Bank Group, 2014). Indeed, Pakistan has the lowest productivity levels in the region (World Bank Group, 2014). China's 'one belt, one road' initiative links the region's economic and infrastructure interests and may help Pakistan's economy to develop (Ritzinger, 2015). However, those developments are likely to depend on businesses improving the skills and productivity of their employees (World Bank Group, 2014). It is,

therefore, timely to examine HPWPs and their potential to unlock human and organizational productivity and competitiveness in Pakistan.

### **Universalistic vs. Context Approaches to HRM Perspective**

The universalistic perspective argues that, over time, all HRM models will converge to the US model of HRM with US multinationals, business schools and consultants playing a major role (Brewster, 2007). Moreover, the adoption of ‘best practice’ HR, which underpins the Universalist perspective, will help to generate greater returns for the firm (Guest et al., 2003; Guthrie et al., 2009; Huselid, 1995; Pfeffer, 1998; Wood & de Menezes, 2008).

However, others emphasize the importance of context in understanding the differences between HRM across the countries and regions as well as the links between HRM and various aspects of organizational performance (Brewster, Mayrhofer, & Smale, 2016; Cooke, 2018; Cooke, Veen, & Wood, 2017), often drawing on Hall and Soskice (2001) and Whitley (1999) to do so. This research largely focuses on advanced economies and highlights how institutional variation between countries leads to fundamental differences across firms as well as firms’ contrasting abilities to successfully pursue strategies that rely on specific models of HR and management practices (Whitley, 1999); in other words, the typical or dominant type of firm in national economies differ, and these types are likely to be able to have contrasting HR practices (Hall & Soskice, 2001; Whitley, 1999). Witt et al. (2017) extended Hall and Soskice (2001) work, classifying Pakistan as an emerging economy, as a result of its weak education and employment system, private skill acquisition, suppressed unions, weak legal and institutional systems, family and state ownership, and firms’ ‘mechanistic’ structures (Witt et al., 2017). Pakistan differs greatly to developed economies and, therefore, offers an appropriate setting to examine the validity of the ‘best practice’ assumptions. Research on

organizational culture and management styles in Pakistan is limited (Ahmad & Allen, 2015). Despite this, there is a consensus that Pakistani organizations have traditional bureaucratic forms, a strong preference for directive and paternalistic management styles, a deference to seniority, strict hierarchical structure and centralized decision making, and low employee autonomy and initiative (Jhatial, Cornelius, & Wallace, 2014). Some of these characteristics reflect four major factors (Islam, its origins within the Indus Valley Civilization, the British legacy and ties to the USA) that influence Pakistan's national culture (Khilji (2002). In addition, other research has highlighted Pakistan's collectivist society with values that reflect high power distance and the avoidance of uncertainty (Hofstede, Hofstede, and Minkov (2010).

### **HR Practices, HR Systems and Performance**

The literature often explores the links between HRM and performance by focusing on systems or bundles of HPWPs. A number of high-performance studies that adopt a systemic approach argue that HR practices are more effective when used in a coherent and consistent manner, incorporating the arguments of contingency and configurational perspectives and emphasizing the internal and external alignment of practices to generate synergistic combinations that affect organizational outcomes (Kepes & Delery, 2007). For instance, some research that examines HR in Asia finds, in general, positive associations between HR and organizational performance; these studies tend to examine high-performance workplace *systems* rather than individual practices (Bae, Chen, David Wan, Lawler, & Walumbwa, 2003; Chand, 2010) and have the advantage of assessing the overall impact of HR.

However, in emerging economies, many institutions are fluid, leading to difficulties in creating complementarities between bundles of HR practices as well as, potentially, fluidity

in any complementarities that do emerge (Khanna & Palepu, 2010). Indeed, whilst the systemic effects of HPWP are often highlighted, the impact of individual practices on organizational outcomes is also important (Huselid, 1995). Thus, in fluid institutional settings, firms may not seek to develop coherent and complementary HR systems, but may, instead, focus on individual practices that fit their environment (Khanna & Palepu, 2010). Focusing on HR systems, therefore, overlooks the possibility that some individual practices may be more likely to be positively associated with higher levels of organizational performance and that some other practices may not be. Consequently, the findings of such studies may be limited for practitioners, whose ability to implement HPWPs as systems may be restricted. Therefore, we investigate the impact of individual HPWP impact on performance outcomes.

### **Hypothesis Development**

Drawing on Marchington and Wilkinson (2008) list, we examine five HPWPs that previous studies have researched extensively (Guest et al., 2003; Guthrie et al., 2009; Macky & Boxall, 2007; Wright et al., 2003). Specifically, we examine selective hiring and sophisticated selection, employee involvement and participation, high compensation contingent on performance, performance review, appraisal, extensive training and development and performance outcomes in context of Pakistan.

*A sophisticated and rigorous recruitment and selection process* is a key HPWP (Batt, Nohara, & Kwon, 2010; Beltrán-Martín, Roca-Puig, Escrig-Tena, & Bou-Llugar, 2008; Lawler, Chen, Wu, Bae, & Bai, 2011). In general, the HPWP literature expects firms to have well-defined recruitment process and to base their hiring decisions on sophisticated selection techniques and tests (Hellriegel, Jackson, & Slocum, 2007). Research confirms a positive

association between recruitment and selection and organizational outcomes, such as retention, labour productivity and financial performance (Armstrong et al., 2010; Lawler et al., 2011).

In Pakistan, the recruitment and selection practices can differ from sector to sector. In Pakistan the general trend is not to advertise or announce vacancies, but rather to hire on the basis of reference or to prefer graduates of renowned national or international universities (Jhatial et al., 2014). Consequently, Pakistani firms may be similar to many India ones where preference is given to 'in-group' candidates (Sinha, 1997). However, recruitment and selection practices are changing in Pakistani firms: almost all big firms have online portals and a link is available for career opportunities, indicating their willingness to generate a wider pool and select the most suitable candidates. Studies have found that recruitment and selection in Pakistan plays a significant role in enhancing firm performance (Masood, 2010; Raziq & Wiesner, 2016). Drawing on these insights, we hypothesize:

*H1: In Pakistan, sophisticated selection and recruitment process will be associated with a) lower employee turnover rate, b) higher labour productivity and c) higher financial performance.*

*Employee involvement and participation* is, arguably, the most important HPWP, differentiating traditional mechanistic jobs from more co-operative work designs (Beltrán-Martín et al., 2008). The purpose of work enrichment is to develop employee skills and competencies in an interactive learning process in an effort to sustain and maintain the firm's competitive advantage (Combs et al., 2006; Lawler III, 1986). Information sharing as a HPWP has positive effects on organizational performance and HR outcomes (Guthrie et al., 2009). Suliman and Al-Junaibi (2010) and Kehoe and Wright (2013) argue that employee



involvement increases organizational commitment that subsequently improves organizational performance, decreases turnover and absenteeism.

Jhatial et al. (2014) point out that organizations in Pakistan, generally, do not delegate authority to lower level employees, have a communication gap and lack employee participation; in short, they tend to have hierarchical structures with high power distance. However, recent cross-cultural studies indicate that information sharing is higher in collectivist societies; however, employee participation is less prevalent in high power distant societies (Nadeem, Raza, Kayani, Aziz, & Nayab, 2018). Greater employee involvement and participation indicate a positive association with firm performance (Ahmad & Allen, 2015; Khan, Safwan, & Ahmad, 2011).

*H2: In Pakistan, employee involvement and participation practices will be associated with a) lower employee turnover b) higher labour productivity and c) higher financial performance.*

*Performance-related pay* is another key HPWP (Shaw, Gupta, & Delery, 2002), which is increasingly popular in the US and Europe, and is gaining prominence in Asia (Chang, 2006). The HPWP literature argues that pay for performance helps to influence employees' turnover intentions. Studies in Western contexts provide overwhelming support for a positive link between pay for performance and organizational performance (Combs et al., 2006; Mitra, Gupta, & Shaw, 2011; Wood & de Menezes, 2008). Some research on firms in Asia has found a statistically significant, positive association between performance-related pay and financial performance (Bae & Lawler, 2000).

Generally, it is assumed that in Pakistan maintaining a good relationship with managers is far more important than actual performance (Ahmad & Allen, 2015). Performance-based rewards are not acceptable in high power distance cultures, as seniority is given preference when deciding compensation (Nadeem et al., 2018). This kind of attitude may prevent an organization from living up to its employees' expectations and meeting the challenges of its business. Khan et al. (2011) conducted research in private-sector and government organizations in Peshawar, Pakistan, and found that performance-based reward systems have a significant impact on employees' productivity. Drawing on the broader HPWP literature and empirical literature, we hypothesize:

*H3: In Pakistan, high compensation contingent on performance will be associated with a) lower employee turnover b) higher labour productivity and c) higher financial performance.*

*Performance appraisal* is a systematic process in which an employee's job performance and productivity are matched with the pre-set standards and organizational goals. Performance appraisal is a key aspect of HPWP and is used as a tool to enhance employees' skills and career development (Jiang, Lepak, Hu, & Baer, 2012; Macky & Boxall, 2007). Major studies have established an association between the use of appraisal practices as part of HPWP and lower turnover, productivity etc. (see, for example, (Guthrie et al., 2009; Subramony, 2009).

Pakistan is, in general, a collectivist and high power distant society; consequently, lower status members of a group do not challenge those in positions of authority, and performance appraisals are mostly evaluative in nature and are not associated with promotions or rewards (Nadeem et al., 2018). However, a small number of studies support a positive association between performance appraisal practices and firm performance in Pakistan (Bowra, Sharif,

Saeed, & Niazi, 2012; Dar, Bashir, Ghazanfar, & Abrar, 2014; Masood, 2010) suggesting that these employees perform practices diligently and meaningfully. We, therefore, hypothesize:

*H4: In Pakistan, performance review and appraisal practice will be associated with a) lower employee turnover b) higher labour productivity and c) higher financial performance.*

*Training opportunities* to improve the workforce's knowledge, skills and problem-solving abilities are an essential element of HPWP (Pfeffer, 1998), and research suggests that there is a positive relationship between training and firm performance (Stirpe, Bonache, & Revilla, 2014), and is linked to lower labour turnover (Heffernan (2012).

HPWP training practices have been associated with advanced industrial societies that are low on power distance, collectivism and uncertainty avoidance though there are no clear-cut linkages of the practice with cultural dimensions (Nadeem et al., 2018). Foreign multinationals operating in Pakistan are more likely to offer training than domestic firms (Ahmad, Allen, Raziq, & ur Rehman, 2019). Other studies indicate, however, that training has a positive association with firm performance in Pakistan (Ahmad & Allen, 2015).

Building on this work, we hypothesize:

*H5: In Pakistan, extensive training, learning and development practice will be associated with a) lower employee turnover b) higher labour productivity and c) higher financial performance.*

## **Research Methods**

We conducted our own survey, which draws on existing studies (see below), as there are no relevant secondary datasets that we could use that would enable us to meet our objectives. Our sample consists of establishments of multinational and local firms operating in three important sectors, banking, pharmaceutical and information technology, in Pakistan. The amount of inward FDI in these sectors and the presence of a sizeable number of MNC subsidiaries and local firms make them ideal for examining the links between HPWP and organizational outcomes. In addition, these sectors are often important in emerging economies (Ahmad & Allen, 2015; cf. Asadullah & Talukder, 2019). Respondents were branch managers, general managers or plant managers. Using a structured questionnaire, one of the paper's authors conducted face-to-face interviews with the managers. Some 392 out of 1081 establishment managers participated in the research. Of the respondents, almost 34 per cent were from MNC subsidiaries and 66 per cent from domestic firms. We focused on senior establishment-level managers rather than HR managers, as they are more reliable, aware and impartial about their organization's people management processes and practices (Boselie, Dietz, & Boon, 2005). Due to their close proximity and first-hand experience and low risk of variance in HR practices within the unit, the responses are likely to be more valid (Wright et al., 2003).

We relied on single respondents for our survey, conducting Harman's single test to check for common method variance. The test indicated no such issues, as the first single factor explained 27.7 per cent variance, which is quite low as compared to the 50 per-cent threshold to indicate bias stemming from common method variance (F. Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014).

### **Operationalization of Variables**

We measured all variables using a five-point Likert scale. *Selective hiring and sophisticated selection (recruitment)* was operationalized using three items: How often does your recruitment process generate as many good/qualified applicants as you need (Guest et al., 2003)? Are one or more employment tests (e.g. skills tests, aptitude tests, mental/ cognitive ability tests) used prior to hiring (Guthrie et al., 2009)? Is there a deliberate attempt to provide a preview of what work in the organization will be like, including more negative aspects as part of recruitment & selection process (Van Wanrooy et al., 2013)? The factor analysis suggests a single factor with eigenvalue of 2.40 that explains 80 per cent of these items' variation. The scale has a Cronbach's alpha of 0.723.

We operationalized *employee involvement and participation (employee involvement)* using four items: are employees involved in programmes designed to elicit participation and employee input (e.g. quality circles, problem solving or similar groups)? Are employees provided with relevant operating performance information (e.g. quality, productivity, etc.)? Are employees provided with relevant strategic information (e.g. strategic mission, goals, tactics, competitor information etc.)? Are employees organized in self-directed teams (Guthrie et al., 2009)? A single factor with eigenvalue of 2.7 explains 68 per cent variation of these items. The scale has a Cronbach's alpha value of 0.760.

We measured *high compensation contingent on performance (compensation)* using three items: employees can participate in profit-sharing or share-ownership schemes based on their job performance or team performance? Are they offered additional pay or have they been offered a pay rise in the past year as a result of job performance or work in team (Wright et al., 2003)? Are employees offered some sort of cash incentive (Van Wanrooy et al., 2013)?

The scale has an eigenvalue of 2.4 that explained 80 per cent of the variation of these items.

The scale has a Cronbach's alpha value of 0.707.

*Performance review, appraisal and career development (performance appraisal)* was operationalized using four items: do employees receive formal performance appraisal or evaluation on routine basis? Do employees receive formal performance feedback from more than one source (i.e. feedback from several individuals such as supervisors, peers etc.)? Is a proportion of non-managerial employees pay determined by performance appraisal (Guest et al., 2003)? Does the performance feedback provide employees with information on how they do their job (Macky & Boxall, 2007)? The factor analysis provides an eigenvalue of 2.5 that explains 64 per cent of the variation in these items. The scale has a Cronbach's alpha value of 0.705.

We operationalized *extensive training, learning and development (training)* using a four-item construct: Have non-managerial employees been trained in variety of jobs or skills (are cross trained) and / or routinely perform more than one job (are cross utilized)? Have non-managerial employees received intensive/extensive training in company-specific skills (e.g. task or firm-specific training)? Have non-managerial employees received intensive/extensive training in generic skills (e.g. problem-solving, communication skills, etc.) (Guthrie et al., 2009)? Does your company place a great deal of importance on training (Ramadani et al., 2013)? Factor analysis reveals that the scale has an eigenvalue of 2.9 that explains 73 per cent of the variation in these items. The scale has a Cronbach's alpha value of 0.848.

### *Dependent Variables*

Past HPWP studies mainly focus firms' financial performance as an outcome. However, a range of proximal and distant performance measures are better suited to measure the impact of HPWP practices on organizational performance (Collings et al., 2010). We used three performance measures: turnover, labour productivity and financial performance. In doing so, we assess both employee-related outcomes and establishment ones. Though much of the HPWP research uses objective performance measures, perceptual measures are equally valid (Forth & McNabb, 2008). Depending upon the availability of data, we captured turnover by objective measures and labour productivity and financial performance by establishment managers' subjective assessments.

We define *employee turnover* as voluntary and involuntary departures from the firm and measure it by using two questions from previous research (Allen, 2007); these questions are: during the last 12 months approximately what percentage of non-managerial employees left the establishment voluntarily? During the last 12 months approximately what percentage of non-managerial employees at this establishment was discharged? The scale has Cronbach alpha value of 0.64. The initial factor analysis gave an eigenvalue of 1.361 which explained 68 per cent of the variation in these items.

*Labour Productivity* indicates the extent to which a firm's labour force is efficiently creating output and is a crucial indicator of workforce performance (Delery & Shaw, 2001).

Following Guest et al. (2003), we asked respondents to rate their establishment's performance on three criteria (labour productivity, labour productivity growth and production quality) as compared to their competitors in the industry on a five point Likert scale (ranging from 'a lot better than average' to 'a lot below average'). The scale has a Cronbach's alpha

value of 0.88 and eigenvalue of 2.467 that explained 82 per cent of the variation in these items.

*Financial performance* is the most common performance outcome in HPWP studies and has been measured by both subjective and objective items. Taking a similar approach to some previous studies (Guest et al., 2003; Wood & de Menezes, 2008), we asked respondents to compare their establishment's financial performance to that of their competitors in terms of profitability and market share. The scale has a Cronbach's value of 0.63 and factor analysis gave an eigenvalue of 1.468 that explained 73 per cent of the variation in the items.

In analysing the links between these outcomes and HPWP, we controlled for establishment age and size; age was measured by number of years an establishment has been in business and size was captured by the logarithm of the establishment's number of employees. Age and size of the firm are associated with the establishment's resources and hence to its capability to implement HPWP.

## **Results**

Table 1 shows the descriptive statistics and correlation coefficients for all variables. Table 2 provides the validity and reliability statistics for the variables. Most correlations are low; thus, multicollinearity is not a problem (highest correlation: .514) (Hair, Black, Babin, Anderson, & Tatham, 2006). The threshold point for minimum factor loading is 0.70 (Hair, Black, Babin, Anderson, & Tatham, 1998). The loadings for all of the items to their relevant constructs is in the acceptable range i.e., above 0.70; therefore, the factor pattern matrix shows the relevance of the items to their relevant constructs. Table 2 also provides the constructs' composite reliabilities.



Insert table 1 about here

Insert table 2 about here

Before running the regression analysis, we checked for heteroscedasticity, using both graphical representation of the scatter plots and statistical estimation. Appendices A, B and C provide the graphical presentation of the scatter plots of the residuals of the three models (employee turnover, labour productivity and financial performance respectively). The graph for employee turnover shows slight violation of the homoscedasticity, as shown in Appendix A. Similarly, the scatter plot of the financial performance regression shows some violation of the homoscedasticity assumption (Appendix B), while the scatter plot of the regression model of labour productivity shows no violation of the homoscedasticity assumption (Appendix C).

The graphical representations of the homoscedasticity analysis do not allow us to draw conclusions about our data's homoscedasticity. Therefore, we conducted some statistical tests (Breusch & Pagan, 1979; Koenker, 1981), drawing on the macros developed by Garcia-Granero (2004) to estimate the presence of heteroscedasticity. We ran the tests for the three models. The results showed that some heteroscedasticity problems exist for our models of financial performance and employee turnover. We also relied on Koenker (1981) test for the estimation of the homoscedasticity statistically, as this is more robust. The results showed that the models of the employee turnover ( $\text{Chi sq} = 19.213$ ,  $p = 0.032$ ) and financial performance ( $\text{Chi-Sq} = 34.012$ ,  $p = 0.045$ ) rejected the null hypothesis of the homoscedasticity and showed that these two models had a problem of heteroscedasticity.

However, we accepted the null hypothesis of the homoscedasticity for the model of labour productivity (Chi-sq = 12.864, p = 0.659).

To avoid any problems of biased estimates, we conducted heteroscedasticity-consistent regression to obtain the robust standard errors for unbiased results (Hayes & Cai, 2007), using macros Hayes developed for estimating the heteroscedasticity-consistent regression coefficient through robust standard errors. These results improved the standard errors further and provided unbiased standard errors and the significance values for the regression coefficient for all three models.

We assessed the models for endogeneity, using the estimation of the correlation matrix of the independent variables with the residuals of each regression model (Appendix D). The correlation coefficients for the independent variables with the residuals of each model are insignificant, indicating that our data do not suffer from endogeneity. Furthermore, we used the robust standard errors than can be interpreted with greater confidence. We ran a series of heteroscedastic-consistent regressions to test our hypothesis for three performance outcomes: turnover, labour productivity and financial performance.

Results are shown in tables 3 to 5. For each dependent variable, we estimated six models.

Model 1 for all three dependent variables contains the control variables only. The size of the firm has a positive and significant association with all of our dependent variables; age has negative and, in most of the cases, significant association with our dependent variables.

Model 2 for all three dependent variables contains the control and the HPWP of selective hiring and sophisticated selection (recruitment) variable. Model 3 covers the control variables and the HPWPs of employee involvement and participation, and recruitment. Similarly,

models 4, 5 and 6 were also built, adding first compensation, then performance appraisal, and, finally, training to the list of HPWPs in the model.

Insert table 3

Insert table 4

Insert table 5

## **Discussion**

We found that two practices (recruitment (H1) and training (H5)) were consistently and statistically significantly associated with lower employee turnover, higher productivity and higher financial performance. This supports hypotheses one and five, shows the universal applicability of these two practices and demonstrates that firms that use wider pools of applicants and processes to select the most appropriate candidates are likely to benefit along many measures of firm performance (Armstrong et al., 2010; Lawler et al., 2011). The evidence was also consistent with studies investigating recruitment and selection practices in firms in Pakistan (Masood, 2010; Raziq and Wiesner, 2016).

The importance of training as a practice that enhances motivation and innovation has been much debated in literature (Nieves and Osorio, 2016; Yan, Luo, Jia and Zhong, 2019).

Training proves to be an essential HPWPs practice in context of Pakistan, thus our results also support the wider evidence in literature as to the effectiveness of the practice (Ahmad and Allen, 2015; Stripe et al. 2014).

Employee involvement (H2), which may appear to go against the prevailing norms of collectivism and the acceptance of differences in status between managers and workers, was associated in a statistically significant way with low employee turnover and higher labour productivity (but not higher financial performance). This, again, provides strong support for universal approaches to HR and suggest that firms can implement policies successfully that appear to be inconsistent with wider cultural values (Yan et al., 2019; Nieves and Osorio, 2016, Ahmad and Allen, 2015). It also suggests that firms in Pakistan will be able to benefit from HPWPs despite some cultural norms that may prevent them from gaining financially from all of those practices.

Other results vindicate our approach of focusing on particular HR practices: performance-based compensation (H3) was not statistically significantly linked to employee turnover or labour productivity; it was, however, associated with financial performance. These results indicate that compensation may play a role in influencing organizational outcomes in a specific way rather than more broadly. In summary the literature however supports the impact of performance-based compensation on employee and firm level outcomes (Cristiani and Peiro, 2016; Nieves and Osorio, 2016).

Moreover, performance appraisal (H4) was not statistically significantly associated with any of our three outcome variables, suggesting that aspects of Pakistan's broader cultural and institutional environment limit any benefits to firms that the adoption of such a policy would have. Thus for the practice of performance appraisal our results were not consistent with the literature (Guthrie et al., 2009; Subramony, 2009; Dar et al., 2014, etc.). The literature

considers the performance appraisal practice as inherent to keeping track of employee contribution towards organizational goal (Cristiani and Peiro, 2016; Gooderham et al., 1999).

## **Conclusion**

### *Theoretical implications*

This study provides some support for universalistic assumptions about application of HPWP practices to firms irrespective of their context, culture or product market. Universalists have argued that a set of HRM practices are applicable either individually or as a system or a bundle in all types of firms and contexts (Paauwe, 2009). Importantly, we have assessed individual practices to assess how they may or may not be suited to Pakistan's context and to aid practitioners in their choice of HRM practices to implement first.

Whilst we find support, overall, for the universalistic approach to HPWP, our research demonstrates the advantages of focusing on individual practices and identifying the theoretical reasons for why the relationship between a particular HPWP and an outcome may not hold in Pakistan. We have, therefore, sought to contextualize our research and have gone beyond highlighting that 'context matters' to identify *how* and *why* particular contextual elements matter. For instance, our finding that performance-related pay is not statistically significantly linked to labour turnover or productivity may indicate that values in Pakistan that privilege collectivism and seniority may impact on how firms implement this policy and/or how individuals respond to financial incentives. Similarly, firms in Pakistan may conduct performance appraisals, which are not significantly associated with any of our outcomes, in ways that differ fundamentally to how they are conducted in other countries, such as the UK and US. Again cultural factors may play a role.

Our results for these two HPWP suggest that both universalistic and contextual approaches may, counter-intuitively, be correct: HPWP may be associated with lower turnover, higher productivity and higher profitability under a relatively broad set of conditions. In other words, such practices may operate in a range of contexts, but not all practices will be associated with intended outcomes in all contexts. This suggests that the framing of the debate around the applicability of HPWP may have led to a stark and binary discussion that focuses between either the *universality* of such practices or the importance of context that is likely to have an impact on the links between *all* HPWP and organizational outcomes. Our research suggests that future research could seek to specify in greater detail the conditions under which specific HPWP will or will not be associated with particular organizational outcomes.

In addition, our research contributes towards the debate of convergence vs. divergence in HRM literature by providing evidence from Pakistan, a country different from developed economies in terms of culture and institutions. A dominant strand of literature has challenged the application and transferability of HRM across different contexts, citing its subjectivity as major reason (Cooke, 2018; Brewster, Mayrhofer & Smale, 2016). However our research supports the arguments of convergence in HRM practices across the globe and in particular in South Asian context and thus responds to the call for exploration of the issue in the Asian region for the development of theory (Budhwar et al., 2016, Budhwar and Varma, 2014).

### *Practical implications*

HR managers in Pakistani firms, in general, are thought to follow the British administrative legacy (Jhatial et al., 2014; Khilji, 2002), suggesting that managers prefer bureaucratic, paternalistic and hierarchical structures etc.; however, our research indicates that there has

been a move towards adopting more progressive HR policies and practices. Thus, workplaces, both subsidiaries of multinationals and domestic, adopt HRM practices that have, in general, a beneficial association with financial performance, productivity and labour turnover. Our research focused on three industrial sectors in Pakistan, so there are implications for other sectors that could adopt HPWPs. In Pakistan, much of the new industry is established through foreign direct investment; thus our research can potentially provide some HRM guidance to other firms in Pakistan. Overall, our results suggest that firms in Pakistan are likely to benefit from the adoption of HPWPs.

#### *Limitations and future research directions*

Our research has some methodological limitations; we relied on single respondents and subjective assessment of performance for survey data. Gerhart et al (2000) raise the issue of low level of reliability in such a case. Future studies could, therefore, use multiple informants and combine subjective and objective measures. In addition the research focused on three important industrial sectors where there is a considerable MNC presence; other sectors in which MNC play a less important role may have different patterns of HPWP and outcomes. As noted above, future research could examine how cultural norms and institutions may modify the implementation of HPWPs, and how this, in turn, influences, if at all, the relationship between these practices and organizational outcomes (Mertzanis & Said, 2019). This is likely to require qualitative work that can detail how managers and other employees enact policies and their reasons for enacting them, and responding to them, in the way they do.

#### **References**

- Ahmad, M., & Allen, M. (2015). High performance HRM and establishment performance in Pakistan: an empirical analysis. *Employee Relations*, 37(5), 506-524.
- Ahmad, M., Allen, M. M., Raziq, M. M., & ur Rehman, W. (2019). Converging HRM practices? A comparison of high performance work system practices in MNC subsidiaries and domestic firms in Pakistan. *Employee Relations*.
- Al Ariss, A., & Sidani, Y. (2016). Comparative international human resource management: Future research directions. *Human Resource Management Review*, 26(4), 352-358.
- Armstrong, C., Flood, P. C., Guthrie, J. P., Liu, W., MacCurtain, S., & Mkamwa, T. (2010). The impact of diversity and equality management on firm performance: Beyond high performance work systems. *Human Resource Management*, 49(6), 977-998.
- Asadullah, M. N., & Talukder, F. 2019. The paradox of the contented female worker: Evidence from Bangladesh's ready-made garments sector. *International Journal of Manpower*, 40(4): 800–814.
- Bae, J., Chen, S.-j., David Wan, T. W., Lawler, J. J., & Walumbwa, F. O. (2003). Human resource strategy and firm performance in Pacific Rim countries. *International Journal of Human Resource Management*, 14(8), 1308-1332.
- Bae, J., & Lawler, J. J. (2000). Organizational and HRM strategies in Korea: Impact on firm performance in an emerging economy. *Academy of Management Journal*, 43(3), 502-517.
- Batt, R., Colvin, A. J., & Keefe, J. (2002). Employee voice, human resource practices, and quit rates: Evidence from the telecommunications industry. *ILR Review*, 55(4), 573-594.
- Batt, R., Nohara, H., & Kwon, H. (2010). Employer Strategies and Wages in New Service Activities: A Comparison of Co-ordinated and Liberal Market Economies. *British Journal of Industrial Relations*, 48(2), 400-435.



- Bello-Pintado, A. (2015). Bundles of HRM practices and performance: empirical evidence from a Latin American context. *Human Resource Management Journal*, 25(3), 311-330.
- Beltrán-Martín, I., Roca-Puig, V., Escrig-Tena, A., & Bou-Llusar, J. C. (2008). Human resource flexibility as a mediating variable between high performance work systems and performance. *Journal of Management*, 34(5), 1009-1044.
- Boselie, P. (2010). High performance work practices in the health care sector: a Dutch case study. *International Journal of Manpower*, 31(1), 42-58.
- Boselie, P., Dietz, G., & Boon, C. (2005). Commonalities and contradictions in HRM and performance research. *Human Resource Management Journal*, 15(3), 67-94.
- Bowra, Z. A., Sharif, B., Saeed, A., & Niazi, M. K. (2012). Impact of human resource practices on employee perceived performance in banking sector of Pakistan. *African Journal of Business Management*, 6(1), 323-332.
- Boxall, P. (2012). High-performance work systems: what, why, how and for whom? *Asia Pacific Journal of Human Resources*, 50(2), 169-186.
- Breusch, T. S., & Pagan, A. R. (1979). A simple test for heteroscedasticity and random coefficient variation. *Econometrica: Journal of the Econometric Society*, 1287-1294.
- Brewster, C. (2007). Comparative HRM: European views and perspectives. *The International Journal of Human Resource Management*, 18(5), 769-787.
- Brewster, C., Mayrhofer, W., & Smale, A. (2016). Crossing the streams: HRM in multinational enterprises and comparative HRM. *Human Resource Management Review*, 26(4), 285-297.
- Chand, M. (2010). The impact of HRM practices on service quality, customer satisfaction and performance in the Indian hotel industry. *International Journal of Human Resource Management*, 21(4), 551-566.

- Chang, E. (2006). Individual pay for performance and commitment HR practices in South Korea. *Journal of World Business, 41*(4), 368-381.
- Collings, D. G., Demirbag, M., Mellahi, K., & Tatoglu, E. (2010). Strategic orientation, human resource management practices and organizational outcomes: evidence from Turkey. *International Journal of Human Resource Management, 21*(14), 2589-2613.
- Combs, J., Liu, Y., Hall, A., & Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel Psychology, 59*(3), 501-528.
- Cooke, F. L. (2018). Concepts, contexts, and mindsets: Putting human resource management research in perspectives. *Human Resource Management Journal, 28*(1), 1-13.
- Cooke, F. L., & Saini, D. S. (2010). (How) does the HR strategy support an innovation oriented business strategy? An investigation of institutional context and organizational practices in Indian firms. *Human Resource Management, 49*(3), 377-400.
- Cooke, F. L., Veen, A., & Wood, G. (2017). What do we know about cross-country comparative studies in HRM? A critical review of literature in the period of 2000-2014. *International Journal of Human Resource Management, 28*(1), 196-233.
- Dar, A. T., Bashir, M., Ghazanfar, F., & Abrar, M. (2014). Mediating role of employee motivation in relationship to post-selection HRM practices and organizational performance. *International Review of Management and Marketing, 4*(3), 224-238.
- Datta, D. K., Guthrie, J. P., & Wright, P. M. (2005). Human resource management and labor productivity: does industry matter? *Academy of Management Journal, 48*(1), 135-145.
- Delaney, J. T., & Huselid, M. A. (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Management Journal, 39*(4), 949-969.

- Delery, J. E., & Shaw, J. D. (2001). The strategic management of people in work organizations: Review, synthesis, and extension *Research in Personnel and Human Resources Management* (pp. 165-197): Emerald Group Publishing Limited.
- Forth, J., & McNabb, R. (2008). Workplace performance: a comparison of subjective and objective measures in the 2004 Workplace Employment Relations Survey. *Industrial Relations Journal*, 39(2), 104-123.
- Garcia-Granero, M. (2004). White's Test with SPSS.
- Guchait, P., & Cho, S. (2010). The impact of human resource management practices on intention to leave of employees in the service industry in India: the mediating role of organizational commitment. *International Journal of Human Resource Management*, 21(8), 1228-1247.
- Guest, D. E., Michie, J., Conway, N., & Sheehan, M. (2003). Human resource management and corporate performance in the UK. *British Journal of Industrial Relations*, 41(2), 291-314.
- Guthrie, J. P., Flood, P. C., Liu, W., & MacCurtain, S. (2009). High performance work systems in Ireland: human resource and organizational outcomes. *International Journal of Human Resource Management*, 20(1), 112-125.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate data analysis* (Vol. 5): Prentice hall Upper Saddle River, NJ.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* 6th ed. *Uppersaddle River: Pearson Prentice Hall*.
- Hair J, F., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research. *European Business Review*, 26(2), 106-121.
- Hall, P. A., & Soskice, D. (2001). An introduction to varieties of capitalism., 21-27.

- Heffernan, M. (2012). *Employee Reactions to High Performance Work Systems in the Service Sector: Assessing the Role of Organisational Justice Theory*.
- Hellriegel, D., Jackson, S., & Slocum, J. (2007). *Managing: A Competency-Based Approach*: Cengage Learning.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind*. Revised and expanded. *McGraw-Hill, New York*.
- Huang, Y., Ma, Z., & Meng, Y. (2017). High-performance work systems and employee engagement: empirical evidence from China. *Asia Pacific Journal of Human Resources*.
- 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.
- Jhatial, A. A., Cornelius, N., & Wallace, J. (2014). Rhetorics and realities of management practices in Pakistan: Colonial, post-colonial and post-9/11 influences. *Business History*, 56(3), 456-484.
- Jiang, K., Lepak, D. P., Hu, J., & Baer, J. C. (2012). How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms. *Academy of management Journal*, 55(6), 1264-1294.
- Kehoe, R. R., & Wright, P. M. (2013). The impact of high-performance human resource practices on employees' attitudes and behaviors. *Journal of Management*, 39(2), 366-391.
- Kepes, S., & Delery, J. E. (2007). HRM systems and the problem of internal fit. *The Oxford Handbook of Human Resource Management*, 385.

- Khan, M. A., Safwan, N., & Ahmad, A. (2011). Modeling link between internal service quality in human resources management and employees retention: A case of Pakistani privatized and public sector banks. *African Journal of Business Management*, 5(3), 949-959.
- Khanna, T., & Palepu, K. G. (2010). *Winning in Emerging Markets: A Road map for strategy and execution*: Harvard Business Press.
- Khilji, E. (2002). Modes of convergence and divergence: An integrative view of multinational practices in Pakistan. *International Journal of Human Resource Management*, 13(2), 232-253.
- Koenker, R. (1981). A note on studentizing a test for heteroscedasticity. *Journal of Econometrics*, 17(1), 107-112.
- Lawler III, E. E. (1986). *High-Involvement Management. Participative Strategies for Improving Organizational Performance*: ERIC.
- Lawler, J. J., Chen, S.-j., Wu, P.-C., Bae, J., & Bai, B. (2011). High-performance work systems in foreign subsidiaries of American multinationals: An institutional model. *Journal of International Business Studies*, 42(2), 202-220.
- Macky, K., & Boxall, P. (2007). The relationship between 'high-performance work practices' and employee attitudes: an investigation of additive and interaction effects. *The International Journal of Human Resource Management*, 18(4), 537-567.
- Marchington, M., & Wilkinson, A. (2008). *Human resource management at work: People management and development*: CIPD Publishing.
- Masood, T. (2010). *Impact of Human Resource Management (HRM) on Organizational Performance: A Mediating Role of Employee Performance*. Mohammad Ali Jinnah University Islamabad.
- Asadullah, M. N., & Talukder, F. 2019. The paradox of the contented female worker:

- Evidence from Bangladesh's ready-made garments sector. *International Journal of Manpower*, 40(4): 800–814.
- Mertzanis, C., & Said, M. 2019. Access to skilled labor, institutions and firm performance in developing countries. *International Journal of Manpower*, 40(2): 328–355.
- Mitra, A., Gupta, N., & Shaw, J. D. (2011). A comparative examination of traditional and skill-based pay plans. *Journal of Managerial Psychology*, 26(4), 278-296.
- Nadeem, S., Raza, M., Kayani, N., Aziz, A., & Nayab, D. (2018). Examining cross-cultural compatibility of high performance work practices. *International Business Review*, 27(3), 563-583.
- Paauwe, J. (2009). HRM and performance: Achievements, methodological issues and prospects. *Journal of Management Studies*, 46(1), 129-142.
- Pfeffer, J. (1998). *The human equation: Building profits by putting people first*: Harvard Business Press.
- Ramadani, V., Gërguri, S., Dana, L.-P., & Tašaminova, T. (2013). Women entrepreneurs in the Republic of Macedonia: waiting for directions. *International Journal of Entrepreneurship and Small Business*, 19(1), 95-121.
- Raziq, A., & Wiesner, R. (2016). High performance management practices and sustainability of SMEs. Evidence from manufacturing and services-based industries in Pakistan. *Journal of Management Sciences*, 3(2), 83-107.
- Ritzinger, L. (2015). The China-Pakistan Economic Corridor. *Regional Dynamics and China's Geopolitical Ambitions. The National Bureau of Asian Research*.
- Shaw, J. D., Gupta, N., & Delery, J. E. (2002). Pay dispersion and workforce performance: Moderating effects of incentives and interdependence. *Strategic Management Journal*, 23(6), 491-512.
- Sinha, J. B. (1997). A cultural perspective on organizational behavior in India.

- Stirpe, L., Bonache, J., & Revilla, A. (2014). Differentiating the workforce: The performance effects of using contingent labor in a context of high-performance work systems. *Journal of Business Research*, 67(7), 1334-1341.
- Subramony, M. (2009). A meta-analytic investigation of the relationship between HRM bundles and firm performance. *Human Resource Management*, 48(5), 745-768.
- Suliman, A. A., & Al-Junaibi, Y. (2010). Commitment and turnover intention in the UAE oil industry. *International Journal of Human Resource Management*, 21(9), 1472-1489.
- Van Wanrooy, B., Bewley, H., Bryson, A., Forth, J., Freeth, S., Stokes, L., & Wood, S. (2013). *Employment relations in the shadow of recession: Findings from the 2011 Workplace Employment Relations Study*: Macmillan International Higher Education.
- Wang, X., Bruning, N. S., & Peng, S. (2007). Western high-performance HR practices in China: A comparison among public-owned, private and foreign-invested enterprises. *International Journal of Human Resource Management*, 18(4), 684-701.
- Whitley, R. (1999). *Divergent Capitalisms: The Social Structuring and Change of Business Systems*: OUP Oxford.
- Witt, M. A., Kabbach de Castro, L. R., Amaeshi, K., Mahroum, S., Bohle, D., & Saez, L. (2017). Mapping the business systems of 61 major economies: a taxonomy and implications for varieties of capitalism and business systems research. *Socio-Economic Review*, 16(1), 5-38.
- Wood, S., & de Menezes, L. M. (2008). Comparing perspectives on high involvement management and organizational performance across the British economy. *International Journal of Human Resource Management*, 19(4), 639-683.

Table 1. Descriptive Statistics and Correlation Coefficients of Independent Variables.

	Mean	SD	1	2	3	4	5	6	7	8	9	10
(1) AGE	3.4158	1.123										
(2) SIZE	93.148	121.56	.294***									
(3) Recruitment	3.7985	1.202	.476***	.146***	<b>0.852</b>							
(4) Employee Involvement	4.087	.796	.111**	.212***	.074	<b>0.784</b>						
(5) Compensation	2.756	1.238	.195***	.249***	.217***	.349***	<b>0.853</b>					
(6) Performance Appraisal	3.66	0.836	.067	-.089*	.179***	.349***	.229***	<b>0.757</b>				
(7) Training	2.609	0.903	.078	.257***	.158***	.133***	.261***	.059	<b>0.814</b>			
(8) Financial Performance	3.673	1.113	.128**	.191***	.220***	.109**	.318***	.052	.285***	<b>0.737</b>		
(9) Labour Productivity	2.142	0.708	.514***	.105**	.421***	.266***	.191***	.313***	.008	.150***	<b>0.858</b>	
(10) Voluntary Turnover	3.690	0.856	-.077	.112**	-.135***	-.116**	-.082	-.094*	.195***	-.166***	.194***	<b>0.750</b>

Note: N = 392. \*\*\*p < 0.01; \*\*p < 0.05, \*p < 0.10.

Diagonal values indicate the Squared Root of the AVEs, and for discriminant validity, these values should be greater than the inter-correlation of that variable with other variables. All the diagonal values are greater than the inter-correlations with other variables which are provided in the non-diagonals, hence discriminant validity of the variables is established.



Table 2. Reliability and Validity:

Construct (Items)	Loading	Cronbach Alpha (CR: Composite Reliability)	AVE	Eigen Values	Variation Explained
<i>Recruitment: 3 Items</i>					
REC1	0.876	0.863	0.7264	2.403	80.11
REC2	0.843	(0.888)			
REC3	0.837				
<i>Employee Involvement: 4 Items</i>					
EMPINV1	0.899				
EMPINV2	0.855	0.842	0.616	2.726	68.158
EMPINV3	0.725	(0.863)			
EMPINV4	0.632				
<i>Compensation: 3 Items</i>					
COMP1	0.829	0.861			
COMP2	0.846	(0.890)	0.729	2.405	80.17
COMP3	0.886				
<i>Performance Appraisal: 4 Items</i>					
PERAPP1	0.859				
PERAPP2	0.622	0.765	0.574	2.564	64.090
PERAPP3	0.783	(0.842)			
PERAPP4	0.748				
<i>Training: 4 Items</i>					
TRAIN1	0.785				
TRAIN2	0.804	0.852	0.6635	2.921	73.034
TRAIN3	0.783	(0.887)			

---

TRAIN4	0.882				
<i>Financial Performance: 2 Items</i>		0.632			
FINPER1	0.771	(0.704)	0.543	1.468	73.409
FINPER2	0.702				
<i>Labour Productivity: 3 Items</i>					
LABPROD1	0.885	0.889	0.737	2.467	82.223
LABPROD2	0.90	(0.894)			
LABPROD3	0.788				
<i>Voluntary Turnover: 2-Items</i>					
VOLTURN1	0.698	0.465			
VOLTURN2	0.799	(0.719)	0.562	1.361	68.047

---

Note: In the above table REC1-3, EMPINV1-4, COMP1-3,PERAPP1-4,TRAIN1-4,FINPER1-2, LABPROD1-3, VOLTURN1-2 are the items of Recruitment, Employee Involvement, Compensation, Performance Appraisal, Training, Financial Performance, Labour Productivity and Voluntary Turnover. AVEs = Average Variance Extracted. CR = Composite Reliability are provided in the brackets.

Table 3. Regression Results (Employee Turnover)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Independent Variables						
Recruitment		-0.144**	-0.117**	-0.117**	-0.124**	-0.128**
Employee Involvement			-0.127**	-0.123**	-0.123**	-0.138**
Compensation				-0.092*	-0.049	-0.049
Performance Appraisal					-0.002	0.001
Training						-0.227**
Control Variables						
AGE	-0.033	-0.052	-0.052	-0.054	-0.060	-0.121**
LOGSIZE	0.135**	0.183**	0.183**	0.176**	0.149**	0.148**
Intercept	9.644	12.198	12.206	12.220	8.557	7.342
F-statistic	5.175	5.180	5.805	4.803	3.992	6.352
R <sup>2</sup>	0.026	0.039	0.057	0.059	0.059	0.104
Adjusted R <sup>2</sup>	0.021	0.031	0.047	0.046	0.044	0.087

Note: N = 392. \*\* p < 0.05, \* p < 0.10.

Table 4. Regression Results (Labour Productivity)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Independent Variables						
Recruitment		0.201***	0.190***	0.221***	0.223***	0.229***
Employee Involvement			0.156***	0.155***	0.221***	0.224***
Compensation				-0.003	0.015	0.010
Performance Appraisal					-0.197	0.196
Training						0.095**
Control Variables						
AGE	-0.405***	-0.413***	-0.411***	-0.411***	-0.420***	-0.529***
LOGSIZE	0.035	0.055	0.097**	0.095**	0.052	0.050
Intercept	4.433***	4.570***	4.288***	4.289***	3.531***	3.254***
<i>F</i> -statistic	70.961	57.284	53.164	42.438	40.262	35.599
<i>R</i> <sup>2</sup>	0.267	0.307	0.355	0.355	0.386	0.394
Adjusted <i>R</i> <sup>2</sup>	0.263	0.302	0.348	0.346	0.376	0.382

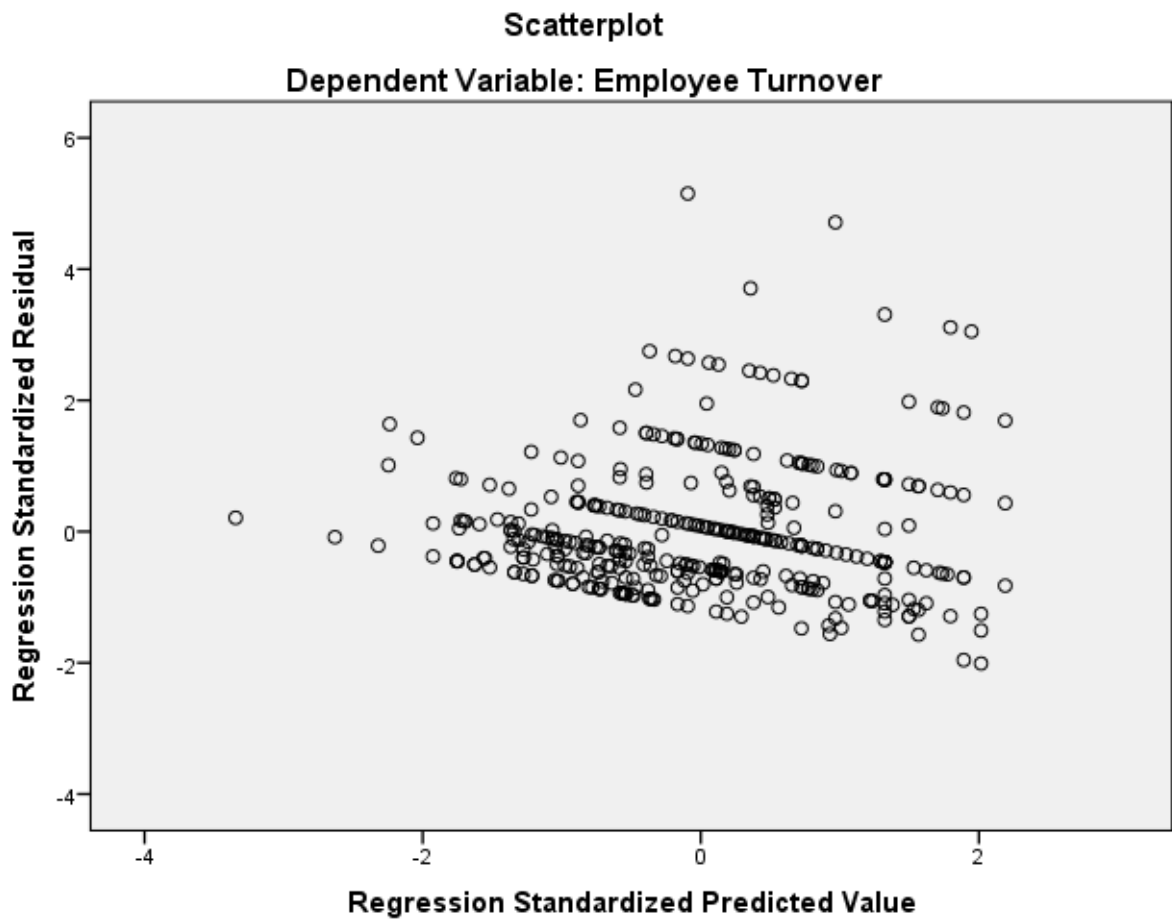
Note: *N* = 392. \*\*\**p* < 0.01; \*\**p* < 0.05, \**p* < 0.10.

Table 5. Regression Results (Financial Performance)

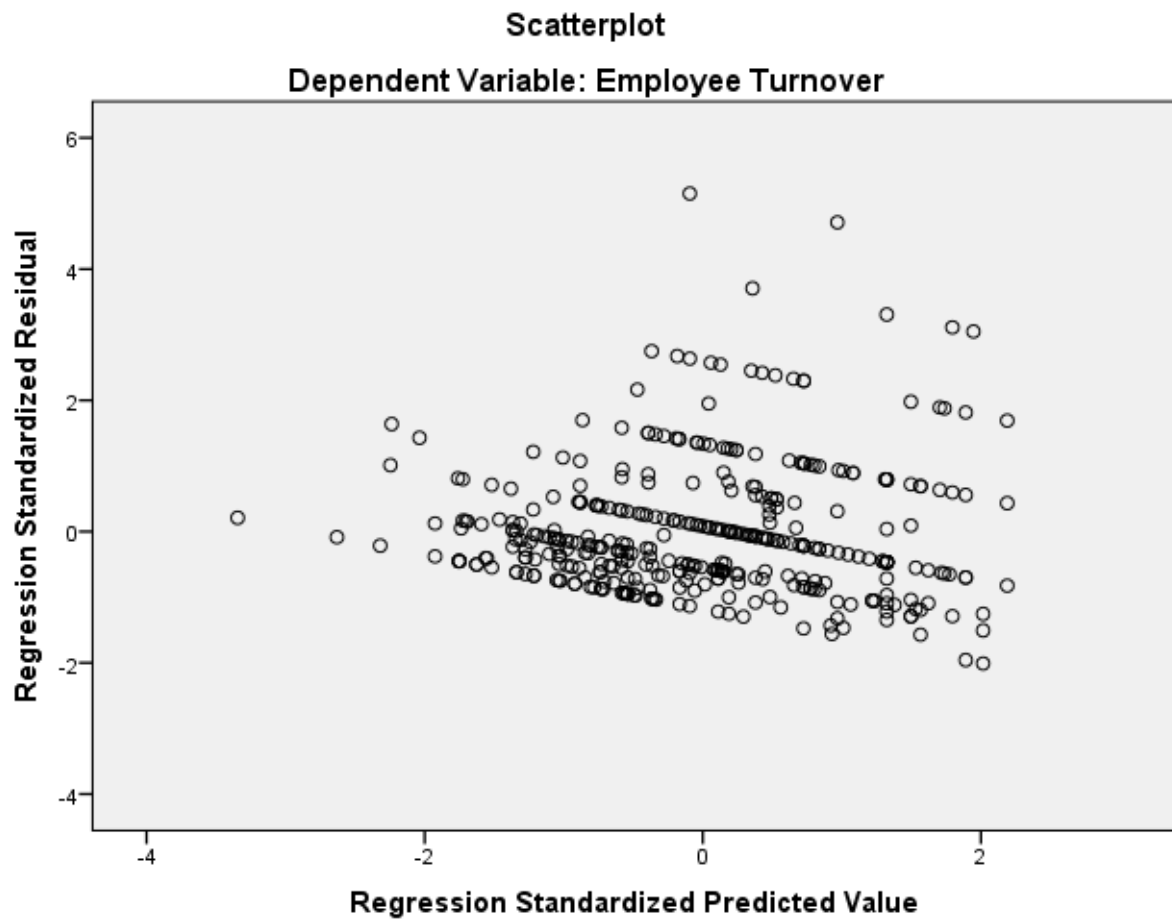
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Independent Variables						
Recruitment		0.144**	0.167**	0.163**	0.203**	0.205**
Employee Involvement			-0.011	-0.008	-0.016	0.064
Compensation				0.234**	0.269**	0.266*
Performance Appraisal					-0.027	-0.024
Training						0.188**
Control Variables						
AGE	-0.018	-0.033	-0.033	-0.021	-0.018	0.079**
LOGSIZE	0.069	0.109**	0.115**	0.154***	0.167**	0.168**
Intercept	2.179*	2.603**	2.548*	2.534***	2.873**	3.263*
F-statistic	8.595	10.444	8.251	12.182	10.166	11.063
R <sup>2</sup>	0.042	0.075	0.079	0.136	0.137	0.168
Adjusted R <sup>2</sup>	0.037	0.068	0.069	0.125	0.123	0.153

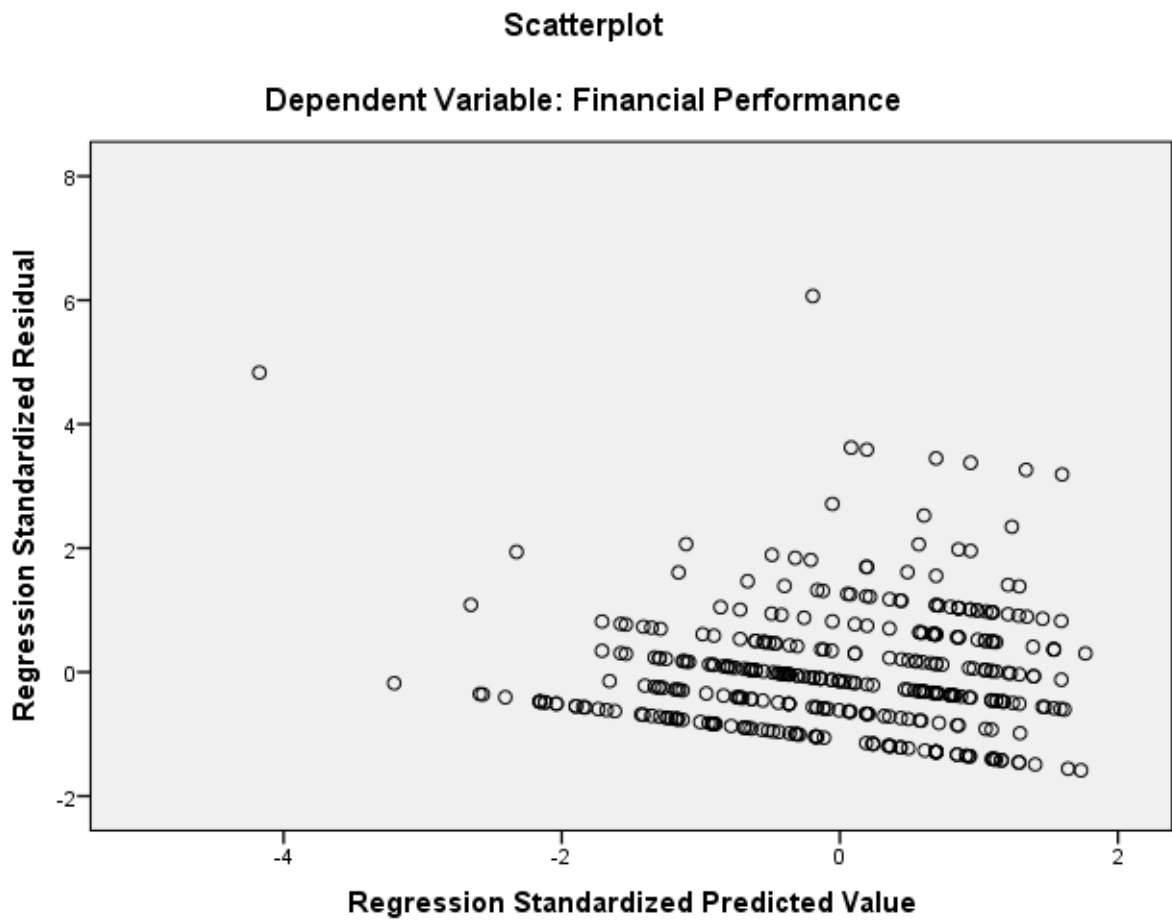
Note: N = 392. \*\*\*p < 0.01; \*\*p < 0.05, \*p < 0.10.

Appendix A



Appendix B







## Appendix D

Endogeneity Assessment: Correlations of Residuals of each model with their relevant predictors

	1	2	3	4	5	6	7	8	9	10
(1) AGE										
(2) SIZE	.294***									
(3) Recruitment	.476***	.146***								
(4) Employee Involvement	.111**	.212***	.074							
(5) Compensation	.195***	.249***	.217***	.349***						
(6) Performance Appraisal	.067	-.089*	.179***	.349***	.229***					
(7) Training	.078	.257***	.158***	.133***	.261***	.059				
(8) Financial Performance	.128**	.191***	.220***	.109**	.318***	.052	.285***			
(9) Labour Productivity	.514***	.105**	.421***	.266***	.191***	.313***	.008	.150***		
(10) Voluntary Turnover	-.077	.112**	-.135***	-.116**	-.082	-.094*	.195***	-.166***	.194***	
Residuals (FP)	-.310	.432	.098	-.011	.012	-.322	.223			
Residual (LP)	.074	.712	.342	.911	.591	.412	.208			
Residual (VT)	-.154	.034	-.076	-.143	.091	.082	.008			

\*\*\* Significant @ 1 % level of significance \*\* Significant @ 5% level of significance

\* Significant @ 10% level of significance

The last three rows show the correlation of the variables with the residuals of each model, such as Residuals (FP), Residual (LP), and Residual (VT) are the residuals of the regression models of the Financial Performance, Labour Productivity, and Voluntary Turnover, respectively. The insignificant coefficients show that there is no apparent problem of endogeneity, therefore, the regression coefficients estimated for the three models are free from any biasness.