

RESEARCH

Open Access



Influence of high-performance work system on employee service performance and OCB: the mediating role of resilience

Kashif Nadeem¹, Amir Riaz^{2*}  and Rizwan Qaiser Danish³

* Correspondence:

amir.riaz@cuilahore.edu.pk

²COMSATS University, Lahore,
Pakistan

Full list of author information is
available at the end of the article

Abstract

Previous studies regarding high-performance work system (HPWS)-performance relationship have been conducted at organizational level of analysis, thus highlighted management perspective of this relationship. Furthermore, the widely acknowledged 'black-box' debate in this area invites researchers to identify and empirically test the mediating mechanism linking HPWS with performance outcomes. Using employee-level HPWS, this study proposed that HPWS is positively linked with employee service performance and their organizational citizenship behavior (OCB) and these direct relationships are mediated by employee resilience. Data were obtained from 371 front line employees working in service sector to test the proposed relationships. Findings of the study revealed that HPWS was positively linked with service performance and OCB. Further, employee resilience partially mediated both the direct relationships between HPWS and employee outcomes. Implications and limitations of the study were also discussed accordingly.

Keywords: High performance work system (HPWS), Resilience, Employee service performance, Pakistan

Introduction

Globalization and intense competition compelled organizations to adopt new ways to enhance their performance internally. From all the internal resources, human competencies are unmatched, inimitable and can be greater source of competitive advantage (Barney and Wright 1998). From the resource based view (RBV) of firms (Barney and Wright 1998) and social exchange theory (Blau 1964), research on strategic human resource management (SHRM) has gained much attention to increase organizational performance through their workforce. For this purpose, one of the latest SHRM approach is High-Performance Management (Appelbaum et al. 2000) which is designed to equip the work force with creativity, ingenuity and problem solving ability by focusing on quality and adapt with rapidly changing conditions.

Recently, employee resilience has gained much attention in the field of organizational behavior and human resource management as well as researchers have attempted to develop its link with performance (e.g. Cooke et al. 2016; Cooper et al. 2014; Robertson et al. 2015). Recently, Bardoel et al. (2014) has attempted to theoretically establish the link of resilience with human resource management and proposed a set of HRM

practices which have potential to affect the employee's resilience. Although, Cooke et al. (2016) has concluded that high-performance work system has positive impact on employee resilience but there are scant studies available investigated the mediating role of resilience in the enhancement of employee service performance and organizational citizenship behavior (OCB) especially in Pakistani context.

Previous studies have investigated that HPWS has positive relationship with employee performance but less literature is available on the role of HPWS in the enhancement of particular service related performance of the employees. As evident from last 5 years' economic indicators, it has been examined that service sector has witness the tremendous growth and has become vital contributor for the economy of Pakistan. It will be of paramount importance to study the role of HPWS in the enhancement of service related performance among the employees of service sector. This study contributes in the literature available on the human resource management.

Since, year 2013–14, service sector has witnessed an outstanding growth to the GDP of Pakistani economy. During the last 5 years, it has shown consistent growth i.e. 4.37% in 2014–15, 4.95% in 2015–16, 6.46% in 2016–17 and 6.43% in 2017–18. The overall contribution of service sector to GDP has reached to 60.2% in the economy of Pakistan. During the year 2016–17, highest growth was observed in banking and insurance sector (i.e. 10.77%), whereas telecommunication grew by 3.94%. Further, in this duration, the transport, storage and communication sector grew at a rate of 3.94%. Hospitality industry contains more than 10,000 hotels comprising 50,000 rooms in Pakistan. The share of hotel industry in GDP is only 3% but now the law and order situation has improved and it is expected to grow. The occupancy rate has been reached to 75% with the inception of China Pak Economic Corridor (CPEC) project. Similarly, airline industry has witnessed the positive growth of 3.8% in year 2016–17 as compared to 3.1% in 2015–16. Despite facing multiple challenges, airline industry has shown positive signs and contribution towards economy.

This study contributes into the literature around HPWS-performance relationship in many ways. First, this study is one of the prime efforts to test employee resilience as mediating mechanism or processes through which HPWS has impact on the service performance of employees and their extra-role behavior (i.e. OCB). Secondly, most of the studies have been conducted in western context, hence, leaving the room for researchers to conduct studies in South Asian context. So, this study contribute towards the theory and practice in local context. In this way, present study contributes to the literature of HPWS-performance relationship by measuring the relationship between HPWS, employee resilience, employee service performance and OCB at the individual level in Pakistani context.

Literature review and hypothesis

HPWS and Employee service performance

The idea behind the latest approach of SHRM called high-performance work system is to promote the decentralized decision, equip the employees with necessary information, skills, incentives and make the employees responsible for on spot decisions particularly for improvement, innovation, and rapid response to changes. Takeuchi et al. (2009) defined high-performance work system (HPWS) as *"a group of separate but interconnected*

HR management practices designed to enhance employee and firm performance outcomes through improving workforce competence, attitude and motivation (p. 1)."Nishii et al. (2008) argued that HRM practices caused for inducement to employees through which they demonstrate the positive or negative behavior depending upon the snapshots they establish about the HR practices. This mechanism not only affects the desired outcomes but also discretionary performance (OCB). Social exchange theory explains the relationship of HPWS and various types of employee behaviors. In context of employee performance, researchers have reported that HPWS has positive relationship with desired employee attitudes and behavior such as affective commitment, OCB Kehoe and Wright 2013, job satisfaction (Dyer & Reeves, 1995), occupational safety (Zacharato et al. 2005) and negatively related to undesired outcomes including employee turnover (Batt 2002; Dyer & Reeves, 1995; Guthrie 2001; Huselid 1995), voluntary turnover (Guthrie et al. 2009) intention to quit, and absenteeism (Guthrie et al. 2009; Kehoe and Wright 2013) and employee burnout (Kroon et al. 2009).

Bowen and Waldman (1999) defined service performance as "an employee's behaviors of serving and helping customers". In the service encounter context, task performance (In-role service performance) refers to the service production and delivery activities directly related to efficiency, and contextual performance (extra-role service performance) refers to the supportive activities to customers and organizations, or social environment. These behaviors include politeness, possessing accurate knowledge of products and policies, greeting, calling customers by name, saying "Thank you" and cross selling of firm's services (Bettencourt and Brown 1997).

Although relationship of HPWS and employees' attitudes and behaviors have been examined in different cultures directly (e.g. Miao et al. 2015; Kehoe and Wright 2013; Tang and Tang 2012) but the relationship with service performance has not been investigated. Further, the exploration of mediating mechanism for HPWS-performance relationship has been one of the most cited debates in the literature. So, this study provides the empirical evidence for the relationship between HPWS and employee service performance in the service sector of Pakistan. Thus, following hypothesis is formulated:

H1: HPWS is positively associated with employee service performance in service sector of Pakistan.

HPWS and organizational citizenship behavior (OCB)

Organizational citizenship behavior (OCB) is related to the individual contributions that is beyond the formal role requirements in the workplace and are contractually rewarded job achievements (Smith et al. 1983). Organ (1988) defined OCB as "*individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization. By discretionary, we mean that the behavior is not an enforceable requirement of the role or the job description, that is, the clearly specifiable terms of the person's employment contract with the organization; the behavior is rather a matter of personal choice, such that its omission is not generally understood as punishable*" (p. 4). Over more than 30 years into the literature, researchers' interest in OCB has intensely increased (Smith et al. 1983). Podsakoff et al. (2014) reported that more than

2200 articles are available on OCBs of the employees and surprisingly more than half were published in the previous 4 years (Institute for Scientific Information, 2013).

Social exchange has been the main factor among all the investigated factors and has been considered as a significant predictor of employees' related OCBs (Podsakoff et al. 2000; Cho and Johanson 2008). Keeping in view the social exchange theory, if the employees are treated with respect, there would be more chances that employee will tend toward OCBs (Cho and Johanson 2008). Singh (2009) argued that high performance work practices (HPWPs) affect the norms and expectations which encourage employees to go beyond the specific behavior.

Gupta and Singh (2010) argued that HPWS might send message to employees that their employers have trust on them, taking cares of their well-being, and that's why flourishing humanistic values. By holding these reciprocity sentiments, employees will tend to enhance their personal efforts and contributions and consequently get involve in exhibiting extra-role behaviors (Tsui et al. 1997). Chuang and Liao (2010) argued that HPWS nurtured the shared perceptions related to supportive organizational environment that foster discretionary behaviors among employees that make positive contributions to organizational performance and effectively cope with customer's needs. Snape and Redman (2010) reported that HRM practices positively influence the organizational citizenship behavior in employees from North- East England.

This present study has noted that only few studies are available in which role of HPWS as an antecedent of OCB behavior has been discussed Sun et al. 2007. The present study provides the empirical evidence to understand the relationship of HPWS and OCB in service sector of Pakistan. Therefore, following hypothesis is drawn.

H2: HPWS is positively associated with OCB in service sector of Pakistan.

HPWS and resilience

In the face of today's turbulent business environment, employee resilience is gaining considerable attention in the management literature. Literature has started to emerge in the management literature and role of resilience has extended in the organizational settings to prepare the employees to face the current and future challenges. Avey et al., (2009) argued that positive emotions of an individual increased the resilience. Resilient employees have a firm acceptance of reality, possess deep belief, supported by strongly held values, that life is meaningful, and an amazing ability to create and adaptability toward change (Avey et al. 2006). Resilience promotes emotional stability (Masten and Reed 2002) and provides positive coping difficult life situation (Fredrickson et al. 2003).

Luthans (2002) defined the concept of resilience as a "*positive psychological capacity to 'bounce back' from adversity, uncertainty, conflict, failure, or even positive change, progress and increased responsibility*" (p. 702).

Luthans et al. (2007) argued that individuals with high resiliency respond to adverse conditions by acknowledging and recognizing the impact, energy, time, and resources required to bring back to equilibrium point. In addition to this, resilience permits the individual to use setbacks as 'springboards' and growing opportunities. Resilience has an important role in stress management and resilience not only provides the capacities to response in adverse events but also in positive events for example, promotion (Luthans et al. 2008).

Luthans et al. (2006) suggested that resilience related practices worked proactively and investment in human resource management practices for psychological capital development (particularly resilience) can help individuals to better cope with global financial crisis and changing workplace dynamics. Jiang et al. (2012) urged that specific set of HRM practices might consider important to accomplish the desired outcomes (e.g. enhanced resilience).

In a recent study, Bardoel et al. (2014) attempted to link the resilience as an important pillar of human resource management (HRM) which can be helpful in the reduction of work related obstacles and better performance. They presented a set of HRM practices that can lead to increase the resilience and called them resilience-enhancing HRM practices which they defined as “HRM practices that are intended, implemented and perceived to offer employees opportunities to ‘spring back’ from adversity and to develop and maintain resources that strengthen the resilience dimension of psychological capital (p. 5).”

After the idea presented by Bardoel et al. (2014), a stream of research has started on the employee resilience especially in relation to HRM practices. A recent study from the banking sector of china by Cooke et al. (2016) reported that HPWS is positively associated with employee resilience and employee resilience play the mediating role between the relationship of HPWS and employee engagement.

In a special issue paper presented by Cooper et al., (2014), they argued that now the time has come to enhance the role of human resource management in the building of employee resilience. Bustinza et al. (2016) has reported that human resource practices build employee resilience capabilities and consequently these capabilities are very helpful for firm in change and resultantly enhance the organizational effectiveness. Only one study from Pakistan, Khan et al. (2017) found that HR practices such as information sharing, job design, employee development opportunities and employee benefits are helpful in the development of resilience of employees working in the telecommunication sector of Pakistan. Thus, current study investigates the influence of HPWS on the employee resilience among the service sector employees of Pakistan and following hypothesis is drawn to test the proposed relationship:

H3: HPWS is positively associated with resilience in service sector of Pakistan

Mediating role of resilience

As the resilience has just emerged as an important topic in management literature, only a few studies are available in which resilience has been studied in relation to the other variables. Bustinza et al. (2016) reported that resilience capabilities acquired through the HR practices mediates the relationship of technological capabilities and organizational effectiveness. Similarly, Cooke et al. (2016) found that resilience mediates the relationship of HPWS and employee engagement. In addition, Meneghel et al. (2016) reported that team resilience mediates the relationship between collective positive emotions and team performance, both in-role and extra-role performance.

Following the above theoretical and empirical evidences, present study assumes that resilience can play mediating role between the HPWS, employee service performance and OCB relationship. To test this assumption, following hypothesis are drawn:

H4: Resilience mediates the relationship between HPWS and employee service performance in service sector of Pakistan.

H5: Resilience mediates the relationship between HPWS and OCB in service sector of Pakistan (Fig. 1).

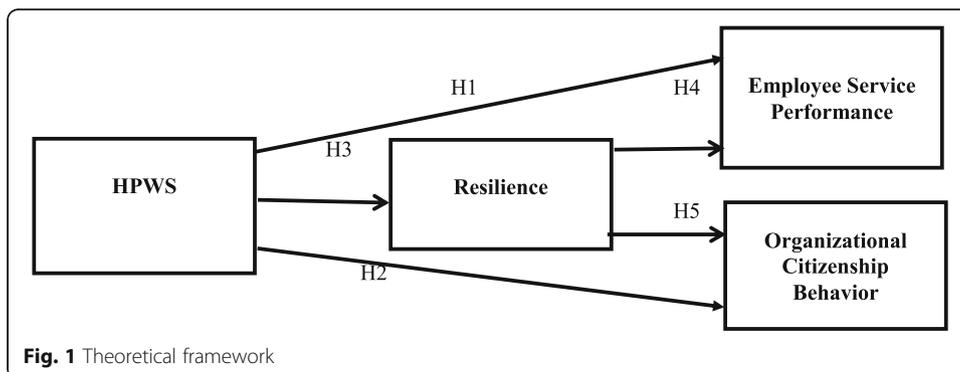
Research methodology

Analysis for this study was performed in four steps through SPSS 21 and AMOS 21. First, means and standard deviation were measured and compared for all the four variables such as HPWS, resilience, employee service performance and OCB. Second, association among the variables were measured though bivariate correlation analysis. Thirdly, hypothesis testing was carried out through the structural equation modeling (SEM) and bootstrapping method was used to check the mediation of resilience and OCB. Finally, Sobel test was performed to confirm the results of mediation analysis performed through bootstrapping method.

Sample and procedure

In the present study, target population was all the frontline employees working in service sector of Pakistan including banking, insurance, telecommunication, airline and hospitality industry. The unit of analysis was individual, the study design was cross sectional and data were collected through self-administered survey. The purpose of the study was explanatory in nature as the researchers were curious about finding causal relationships among study variables. As the population was unknown, sample size was determined with the help of response to item theory which was total 510 (ten times of the items) as suggested by Lord (1980). Questionnaires were distributed among five service industries which are core contributor of GDP in Pakistan.

There are thousands of employees working in service sector in public as well as private organizations. As the population framework was unknown, so the complete randomness cannot be achieved and sampling was done at two-level. At first stage, proportionate stratified sampling technique was used in which five stratas were made and employees were selected according to the size of industry. At second stage, convenience sampling was used to get survey filled from employees. Such technique was also used by Gim, (2018) in their studies for the purpose of sample selection. Data were collected from the service organizations located in Lahore city, second most populated



metropolitan city of Pakistan. Further, data were collected through physical visits and questionnaires were filled at spot during October–December, 2016.

As we also applied response to item theory for obtaining sufficient responses as suggested by Lord (1980), so we had enough data for making inference (510 distributed, 380 returned filled with response rate 74%, 371 that was finally used for analysis). Moreover, reliability of all the measures were well above the threshold values so the results are generalizable specifically in social sciences context. Confirmatory factor analysis (CFA)/Measurement model was fitted for factorial validity. Moreover, these measures were widely used in previous studies such as resilience: Yang and Smith (2016), HPWS; Zhong et al. (2015), Employee service performance (ESP): Tang and Tang (2012), OCB: Haque and Aslam (2011). In addition to this, an ethical approval to use the scales was also granted by the authors who had developed these scales.

Out of 371 total respondents, 267 were males (72%) and 104 were females (28%) who participated in the survey and their median age was between 26 and 35 years. Further, 228 (61%) had acquired 16-year education, and 295 participants (80%) were in non-managerial role while only 76 (20%) were in managerial role. Next, 131 (35%) respondents hold less than 5 years working experience and 151 participants (41%) possessed working experience of 5 to 10 years including 201 participants (54%) with less than 5 years job tenure followed by 123 (33%) with 5–10 years job tenure with current employer. The median income of the respondents was between 20,000 to 50,000 PKR with 241 respondents (65%). Further, 148 participants (40%) were from banking sector followed by 87 respondents (23%) from insurance sector. Finally, 68 respondents (18%) were from telecommunication, 40 (11%) were from airline industry and lastly 28 respondents (8%) participated from hospitality industry.

Measures

The present study used the combination of five HR practices including selective staffing, competency development, performance based compensation, information sharing and empowerment. A multi-dimensional scale was adopted from previously validated measures by Sun et al. (2007), Murphy and Murrmann (2009), and Zacharato et al. (2005). The sample items for this scale includes “Employees perform jobs that empower them to make decision”, “Extensive training programs are provided for individuals in customer contact or front-line jobs” and “Only the best are hired to work in my organization.” Resilience was measured with six dimensions of scale developed by Wagnild and Young (1993). Employee service performance consisted of 10-item instrument developed by the Bettencourt and Brown (1997) and Cronbach’s Alpha ranged from .80 to .87 for all the scales. Finally, an 11-item instrument of OCB developed by Podsakoff Scott and Philip (1990) and Williams and Anderson (1991) was used in this study. All the above scales were measured using 5-point Likert scale anchors ranging from 1 to 5 where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

Results

Table 1 represents the mean, standard deviation and correlation analysis for all the independent and dependent variables. HPWS as an independent variable was found to be

Table 1 Mean, standard deviation and correlation matrix

Sr. No.	Variable	Mean	S.D	1	2	3
1	Resilience	3.44	0.51			
2	HPWS	3.55	0.45	.29 ^a		
3	ESP	3.64	0.54	.38 ^a	.46 ^a	
4	OCB	3.59	0.47	.35 ^a	.46 ^a	.59 ^a

^aCorrelation Significant at the 0.01 level (2-tailed)

positively and statistically significantly associated with employee service performance, resilience and OCB. Results of correlation analysis clearly indicate that there is a positive significant correlation exists between all the variables. It has been viewed that strong correlation exists between HPWS and employee service performance (.46, $p < 0.01$), OCB (.46, $p < 0.01$), resilience (.29, $p < 0.01$) respectively. Resilience was positively correlated with HPWS (.29, $p < 0.01$), employee service performance (.38, $p < 0.01$) and OCB (.35, $p < 0.01$). Strong correlation has been observed between employee service performance and OCB (.59, $p < 0.01$). Thus, correlation results supported the study hypothesis that there is positive association between HPWS, resilience, employee service performance and OCB.

In the third stage, proposed hypotheses were tested through the structural equation modelling (SEM). Initially, the SEM model fitness indices were measured to calculate the model fitness and then related hypotheses were tested. All the SEM goodness of fit indices are presented in Table 2. In the model that was fitted good, CMIN = 2.482, DF = 1, CMIN/DF = 2.482, GFI = .998, NFI = .997, CFI = .998, and RMSEA = .063. The values of GFI, NFI and CFI were also closed to 1.0, which reflect the excellent model fitness. Value of CMIN/DF was less than 5 and RMSEA value was less than .08 which further confirms that model is absolutely fit. The main reason of good model fitness is that all the paths in the model are significant. Hypothesis 1 was related to the positive relationship between HPWS and employee service performance. Results fully supported this hypothesis as HPWS was found positively associated with employee service performance ($\beta = .47$, $p < .01$). Hypothesis 2 proposed that there exist a positive association between HPWS and OCB, which also gained full empirical support as HPWS was reported to be positively related with organizational citizenship behavior ($\beta = .46$, $p < .01$). Similarly, Hypothesis 3 examined the positive relationship between HPWS and resilience which was found to be fully supported as HPWS was found to positively related with resilience ($\beta = .29$, $p < .01$). Hence, all hypotheses related to the direct relationships (i.e. H1, H2 and H3) were empirically accepted.

For the mediation analysis of resilience in the above theoretical model, a latest statistical technique called "bootstrapping method" introduced by Efron (1979) was applied. Bootstrapping has been considered as one of the more powerful methods as compare to Sobel test in the measurement of indirect paths especially in the small samples (Shrout and Bolger 2002). The standardized direct effect of HPWS on employee service performance was positively significant ($\beta = .001$, $p < .05$) and standardized direct effect of HPWS on OCB was also positively significant ($\beta = .001$, $p < .05$). The standardized indirect effect of HPWS on employee service performance was also positively significant ($\beta = .001$, $p < .05$) and effect of HPWS on OCB was also positively significant ($\beta = .001$, $p < .05$). Model also revealed that direct path from HPWS to employee service

Table 2 Fitness indices of model

CMIN	DF	CMIN/DF	GFI	NFI	CFI	RMSEA
2.482	1	2.482	.998	.997	.998	.063

performance reduced (from $\beta = .47$, $p < .05$ to $\beta = .32$, $p < .05$), whereas HPWS to OCB ($\beta = .46$, $p < .05$) to ($\beta = .35$, $p < .05$) when resilience was entered in the model as mediator variable. Moreover, it has found that all the direct and indirect paths were significant at less than .05 and value of total direct paths were also significant ($\beta = .001$, $p < .05$) which indicated that the null hypothesis was rejected. Hence H4 and H5 got empirical support indicated that that resilience partially mediated the relationship between HPWS, employee service performance and OCB with 95% biased corrected and accelerated (BCa) bootstrap confidence interval (CI) as both paths were significant.

Fourthly, Sobel (1982) test further confirmed that resilience partially mediates the relationship of HPWS, employee service performance and organizational citizenship behavior (OCB), supporting H4 and H5. The decision of all study hypotheses are presented in Table 3.

Discussion and conclusion

It has been viewed that HPWS is the major source of competitive advantage for an organization and can improve the performance at individual and organizational-level. The objective of this study was to investigate the impact of HPWS on the service performance, OCB and resilience, while the mediating effect of resilience was also examined among service sector employees of Pakistan. The results confirmed that there was significant positive relationship between HPWS, service performance, OCB and resilience in frontline service sector employees of Pakistan. Thus study results supported all the direct hypotheses (H1, H2, H3) of the study. These finding are consistent with the previous studies from other cultures (e.g. Cooke et al. 2016; Kehoe and Wright 2013; Karatepe 2013; Snape and Redman 2010). Similarly, mediation analysis revealed that employee resilience partially mediated the relationship of HPWS and service performance. Finding also shows that resilience partially mediated the relationship of HPWS and OCB among the service sector employees. Thus, results supports both hypotheses (H4, H5) related with mediation of resilience in HPWS and employee outcome relationships. The findings indicate that HPWS helps in enhancement of service performance and discretionary behavior (OCB) of frontline employees working in banking, telecommunication, insurance, hospitality and airline organizations. The outcomes of

Table 3 Decisions of hypotheses

Hypothesis	Independent variable	Mediating variable	Dependent variable	Regression co-efficient	Decision
1	HPWS	–	ESP	.47 ^a	Accepted
2	HPWS	–	OCB	.46 ^a	Accepted
3	HPWS	–	Resilience	.29 ^a	Accepted
4	HPWS	Resilience	ESP	.32 ^{as} .27 ^a	Accepted
5	HPWS	Resilience	OCB	.35 ^a .23 ^a	Accepted

^aSignificant at the 0.01 level

this study will help top management to implement HPWS to increase their service performance, OCB and resilience.

Conclusion

In today's, tempestuous working environment demands the high level of resilience to cope the service delivery challenges. This study concludes that HPWS is the one of the major contributor towards the service performance, resilience and OCB of service industries in Pakistan. HPWS creates the environment in which employees feel high level of resilience and in turn employee resilience plays a vital role in achievement of service related behaviors of the employees and OCB initiatives.

Recommendations

The study findings recommend that service organization in Pakistan should implement HPWS to increase not only service related performance of their employees but also OCB and employee resilience significantly. Moreover, it is also suggested that development of employee resilience and implementation of HPWS can further increase the service performance and OCB in service organizations. The findings of study emphasis on the implementation of HPWS consisting of HR practice such as selecting staffing, competency development, performance based compensation, empowerment and information sharing to increase the service performance which is desired by every service firms around the globe. The study also recommends that apart from HPWS, if service organizations take steps to develop resilience, it will foster service related performance. It has been also recommended that both HPWS and resilience promote the employee service performance and OCB.

Limitations

Apart from significant findings, current study also highlights some issues and limitations which needs to be addressed in future research. Firstly, this study used cross-sectional research design to examine the relationship between study variables. A longitudinal or experimental research might be helpful to further authenticate the casual relationship among the study variables, particularly related to HPWS and employee service performance which have less evidence in previous literature. Secondly, all the study variable including high-performance work system (HPWS), employee service performance, organizational citizenship behavior (OCB) and employee resilience were measured through self-reported constructs. Future studies should measure these variables through supervisor rated version of each measure. Thirdly, this study has adopted only five high performance work practices, future studies with inclusion of more practices and different combinations of high performance work practices will present better picture of HPWS in service sector of Pakistan.

Results of this study are based upon data from service sector and, therefore, the findings could only be generalized for this sector. Future studies should test the relationships proposed in this study, especially in SME sector, to examine the contextual difference. Last, the present study has treated employee service performance as single construct. Future research should investigate the relationship of HPWS with different dimension of employee service performance separately for more in-depth insights.

Abbreviations

ESP: Employee Service Performance; HPWS: High-Performance Work System; OCB: Organizational Citizenship Behavior

Acknowledgements

We acknowledged the efforts of all reviewers for this article.

Funding

Not Applicable

Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Authors' contributions

We confirmed that all the authors have contributed equally. All authors read and approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Author details

¹National University of Modern Languages, Islamabad, Pakistan. ²COMSATS University, Lahore, Pakistan. ³Hailey College of Commerce, University of the Punjab, Lahore, Pakistan.

Received: 25 July 2018 Accepted: 12 December 2018

Published online: 14 January 2019

References

- Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. L. (2000). *Manufacturing advantage: Why high-performance work systems pay off*. Ithaca: Cornell University Press.
- Avey, J. B., Patera, J. L., & West, B. J. (2006). The implications of positive psychological capital on employee absenteeism. *Journal of Leadership and Organizational Studies*, 13, 42–60.
- Avey, James & Avolio, Bruce & Crossley, Craig & Luthans, Fred. (2009). Psychological Ownership: Theoretical Extensions, Measurement, and Relation to Work Outcomes. *Journal of Organizational Behavior*. 30. 173 - 191.
- Bardoel, A. E., Pettit, T. M., Cieri, H. D., & McMillan, L. (2014). Employee resilience: An emerging challenge for HRM. *Asia Pacific Journal of Human Resources*. <https://doi.org/10.1111/1744-7941.12033>.
- Barney, J. B., & Wright, P. M. (1998). On becoming a strategic partner: The role of human resources in gaining competitive advantage. *Human Resource Management*, 37, 31–46.
- Batt, R. (2002). Managing customer services: Human resource practices, quit rates, and sales growth. *Academy of Management Journal*, 45, 587–597.
- Bettencourt, L. A., & Brown, S. W. (1997). Contact employees: Relationships among workplace fairness, job satisfaction and prosocial service behaviors. *Journal of Retailing*, 73, 39–61.
- Blau, P. (1964). *Exchange and power in social life*. New York: Wiley.
- Bowen, D. E., & Waldman, D. A. (1999). Customer-driven employee performance. In D. A. Ilgen & E. D. Pulakos (Eds.), *The changing nature of performance* (pp. 154–191). San Francisco: Jossey-Bass.
- Bustanza, O. F., Vendrell-Herrero, F., Perez-Arostegui, M., & Parry, G. (2016). Technological capabilities, resilience capabilities and organizational effectiveness. *The International Journal of Human Resource Management*, 1–23.
- Cho, S., & Johanson, M. (2008). Organizational citizenship behavior and employee performance: Moderating effect of work status in restaurant employees. *Journal of Hospitality and Tourism Research*, 32, 307.
- Chuang, C., & Liao, H. (2010). Strategic human resource management in service context: Taking care of business by taking care of employees and customers. *Personnel Psychology*, 63(1), 153–168.
- Cooke, L. F., Cooper, B., Bartram, T., Wang, J., & Mei, H. (2016). Mapping the relationships between high performance work systems, employee resilience and engagement: A study of the banking industry in China. *The International Journal of Human Resource Management*, 1–22.
- Cooper, L. C., Liu, Y., & Tarba, Y. S. (2014). Resilience, HRM practices and impact on organizational performance and employee well-being. *The International Journal of Human Resource Management*, 25(17), 2466–2471.
- Dyer, L. & Reeves, T. (1995). Human resources strategies and firm performance: what do we know and where do we need to go? *International Journal of Human Resource Management* 6(3), 656-670
- Efron, B. (1979). Bootstrap methods: Another look at the jackknife. *Annals of Statistics*, 7, 1–26. <https://doi.org/10.1214/aos/1176344552>.
- Fredrickson, B. L., Tugade, M. M., & Waugh, C. E. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, 84(2), 365–376.
- Gim, T. H. T. (2018). Land use, travel utility and travel behaviour: An analysis from the perspective of the positive utility of travel. *Papers in Regional Science*, 97, S169–S192.
- Gupta, V., & Singh, S. (2010). High performance HRM practices, organizational citizenship behavior and positive psychological capital: A relational perspective. *Indian Institute of Management, WPS*, 2010–11/16.

- 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., Flood, P. C., Liu, W., & MacCurtain, S. (2009). High performance work systems in Ireland: Human resource and organizational outcomes. *The International Journal of Human Resource Management*, 20(1), 112–125.
- Haque, A., & Aslam, M. S. (2011). Influence of distributive justice on organizational citizenship behaviors: Mediating role of emotional exhaustion and organizational attachment. *International Journal of Business and Social Science*, 2(1), 155–165.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38, 635–672.
- 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, 1264–1294.
- Karatepe, M. O. (2013). High-performance work practices and hotel employee performance: The mediation of work engagement. *International Journal of Hospitality Management*, 32, 132–140.
- Kehoe, R. R., & Wright, M. P. (2013). The impact of high-performance human resource practices on employees' attitudes and behaviors. *Journal of Management*, 39(2), 366–391.
- Khan, Z., Rao-Nicholson, R., Akhtar, P., Tarba, S. Y., Ahamad, M. F., & Vorley, T. (2017). The role of HR practices in developing employee resilience: A case study from the Pakistani telecommunications sector. *The International Journal of Human Resource Management*. <https://doi.org/10.1080/09585192.2017.1316759>.
- Kroon, B., Voorde, V. D., & Veldhoven, M. V. (2009). Cross-level effects of high-performance work practices on burnout. *Personnel Review*, 38(5), 509–525.
- Lord, F. M. (1980). *Applications of item response theory to practical testing problems*. Mahwah: Lawrence Erlbaum Associates, Inc.
- Luthans, F. (2002). The need for and meaning of positive organizational behaviour. *Journal of Organizational Behaviour*, 23, 695–706.
- Luthans, F., Avey, J. B., & Patera, J. L. (2008). Experimental analysis of a web-based training intervention to develop psychological capital. *Academy of Management Learning and Education*, 7, 209–221.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60, 541–572.
- Luthans, F., Vogelgesant, G. R., & Lester, P. B. (2006). Developing the psychological capital of resiliency. *Human Resource Development Review*, 5(1), 25–44.
- Masten, A. S., & Reed, M.-G. J. (2002). Resilience in development. In C. R. Snyder & S. Lopez (Eds.), *Handbook of positive psychology* (pp. 74–88). Oxford.
- Meneghel, I., Salanova, M., & Martine, M. I. (2016). Feeling good makes us stronger: How team resilience mediates the effect of positive emotions on team performance. *Journal of Happiness Studies*, 17, 239–255.
- Miao, R., Zhou, W., Bozionelos, N., & Pan, J. (2015). High-Performance Work System, Psychological Capital and Employee Attitude: A Chinese Study. *Academy of Management Journal*. <https://doi.org/10.5465/AMBPP.2014.55>.
- Murphy, K. S., & Murrmann, S. (2009). The research design used to develop a high performance management system: Constructs for US restaurant managers. *International Journal of Hospitality Management*, 28(4), 547–555.
- Nishii, L. H., Lepak, D. P., & Schneider, B. (2008). Employee attributions of the “why” of HR practices: Their effects on employee attitudes and behaviors, and customer satisfaction. *Personnel Psychology*, 61, 503–545.
- Organ, D. W. (1988). *Organizational citizenship behavior: The Good Soldier Syndrome*. Lexington: Lexington Books.
- Podsakoff, N. P., Podsakoff, P. M., Mackenzie, S. B., Maynes, T. D., & Spoelma, T. M. (2014). Consequences of unit-level organizational citizenship behaviors: A review and recommendations for future research. *Journal of Organizational Behavior*, 35, S87–S119. <https://doi.org/10.1002/job.1911>.
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26, 513–563.
- Podsakoff Scott, B., & Philip, M. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *The Leadership Quarterly*, 1(2), 107–142.
- Robertson, I., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003-2014: A systematic review. *Journal of Occupational and Organizational Psychology*, 88, 533–562.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non-experimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422–445.
- Singh, A. K. (2009). HRD practices and organization culture in India. *The Indian Journal of Industrial Relations*, 45(2), 243–254.
- Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology*, 68, 653–663.
- Snape, E., & Redman, T. (2010). HRM practices, organizational citizenship behaviour, and performance: A multi-level analysis. *Journal of Management Studies*, 47(7), 1219–1247.
- Sobel, M. E. (1982). Asymptotic interval for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology 1982* (pp. 290–312). San Francisco: Jossey-Bass.
- Sun, L. Y., Aryee, S., & Law, K. (2007). High-performance human resource practices, citizenship behavior and organizational performance: A relational perspective. *Academy of Management Journal*, 50, 558–577.
- Takeuchi, R., Chen, G., & Lepak, D. P. (2009). Through the looking glass of a social system: Cross-level effects of high performance work systems on employees' attitudes. *Personnel Psychology*, 62, 1–29.
- Tang, T., & Tang, Y. (2012). Promoting service-oriented organizational citizenship behaviors in hotels: The role of high-performance human resource practices and organizational social climates. *International Journal of Hospitality Management*, 31, 885–895.
- Tsui, A. S., Pearce, J. L., Porter, L. W., & Tripoli, A. M. (1997). Alternative approaches to the employee- organization relationship: Does investment in employees pay off? *Academy of Management Journal*, 40(5), 1089–1121.
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the resilience scale. *Journal of Nursing Measurement*, 1(2), 165–178.
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17, 601–617.

- Yang, F., & Smith, G. D. (2016). Stress, resilience and psychological well-being in Chinese undergraduate nursing students. *Nurse Education Today*. <https://doi.org/10.1016/j.nedt.2016.10.00>.
- Zacharato, A., Barling, J., & Iverson, R. D. (2005). High-performance work systems and occupational safety. *Journal of Applied Psychology*, 90(1), 77–93.
- Zhong, L., Wayne, J. S., & andLaiden, R. C. (2015). Job engagement, perceived organizational support, high-performance human resource practices, and cultural value orientations: A cross-level investigation. *Journal of Organizational Behavior*. <https://doi.org/10.1002/job.2076>.

Submit your manuscript to a SpringerOpen[®] journal and benefit from:

- ▶ Convenient online submission
- ▶ Rigorous peer review
- ▶ Open access: articles freely available online
- ▶ High visibility within the field
- ▶ Retaining the copyright to your article

Submit your next manuscript at ▶ [springeropen.com](https://www.springeropen.com)
