

The role of high-performance work system and human capital in enhancing job performance

High-
performance
work system and
job performance

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Abstract

Purpose – The aim of the current research is to examine how job performance is affected by high-performance work system (HPWS) and human capital. Furthermore, the research focuses on exploring the mediating role played by human capital in HPWS and job performance relationship.

Design/methodology/approach – Data was collected from service sector employees. A sample of 400 respondents was selected from the chosen population using purposive sampling.

Findings – The results reveal that HPWS and human capital positively and significantly affect job performance. The impact of HPWS in creating human capital was also supported. The research also hypothesized mediating role played by human capital in HPWS and job performance relationship, and it was partially supported.

Originality/value – Recent literature is evident of the relationship between performance and HPWS; however, the mechanism between these variables is still unclear (Demirbag *et al.*, 2014). There is a need of identifying the factors that strengthen this relationship. The current research is an attempt to fill this gap by examining the effect of HPWS on job performance. Furthermore, it explores the role played by human capital in strengthening the connection of HPWS and job performance.

Keywords Human capital, Job performance, High-performance work system (HPWS)

Paper type Research paper

Introduction

High-performance work system (HPWS) is considered as an essential factor influencing the performance-related outcomes. Organizations invest heavily in developing such systems in order to boost performance (Combs *et al.*, 2006). It is defined as a system that is integrated and bundles different HR practices (Evans and Davis, 2005). These HR practices should be separate but interconnected and should act as a system (Appelbaum *et al.*, 2000; Boxall and Macky, 2009). The system developed by bundling of HR practices has an important effect on performance (Raineri, 2017). A lot of researchers recently are focusing on the performance outcomes and HPWS relationship (Imran *et al.*, 2015; Imran and Shahab, 2018).

Recent literature is evident of the relationship between HPWS and performance; however, the mechanism between these variables is still unclear (Demirbag *et al.*, 2014). There is a need of identifying the factors that strengthen this relationship. The bundle of HR practices cannot do wonders alone. In order to attain performance outcomes, the contributions made by people selected, trained and developed through such practices are very important. Improved performance is of extreme importance for the organizations; thus, they are redesigning their strategies to develop human resources (Harpan and Draghici, 2014). Human capital approach assumes that organizations adopt HPWS, which helps in human capital creation, thus resulting in increased performance (Wright *et al.*, 2001). The research in this area is still scarce, and a lot of exploration needs to be done to identify this relationship (Hsu *et al.*, 2007; Jiang *et al.*, 2012; Raineri, 2017). Majority of research in this area is in Western context ignoring the Middle Eastern context that has a lot of potential for growth. Researchers have started focusing on the gulf area that is composed of six member states including Saudi Arabia, UAE, Oman, Bahrain, Kuwait and Qatar. However, only few empirical research



studies are available in the area of HPWS and human capital, thus creating a gap to be researched (Fadhil, 2019; Imran and Al-Ansi, 2019; Imran and Shahab, 2018; Qureshi, 2019). The current research is an attempt to fill this gap by examining the effect of HPWS on job performance. Furthermore, it explores the role played by human capital in strengthening the connection of HPWS and job performance. The research aims at finding the answers to following research questions;

- (1) To what extent high-performance work system affect job performance in service sector of Oman?
- (2) What is the role played by human capital in the relationship between high-performance work system and job performance?

Literature review

High-performance work systems (HPWS)

The idea of having HPWSs originated form and had its roots in the last century during US industrial revolution (Barnes, 2001 as cited in Al Anzi and Al Abbadi, 2011). During this period, it was realized that the level of global competition was intense and there is need to rethink about reliable processes. On the other hand, it is argued that HPWS has its roots in HR practices with the Japanese systems (Chaudhuri, 2009). Despite these different perspectives, the main idea of HPWS is to have an effective organization that has involved, committed and empowered employees (Tomer, 2001).

The concept of high performance of organizations is a relatively subjective concept that largely depends upon the mission and circumstances of the organization. It is described as a system comprised of different managerial practices combined together to build an environment where employees develop feelings of commitment and responsibility (Brown, 2006). HPWS is also defined as HR practices bundled together to be able to attract employees, retain and motivate them (Messer *et al.*, 2010). The practices may include staffing practices, training and development efforts, performance appraisal, job rotation and employee empowerment (Jiang *et al.*, 2012; Lepak *et al.*, 2006).

HPWS has been conceptualized differently by different researchers. Kirkman and Rosen (1999) conceptualized such system as a bundle of five practices such as self-managing work teams, employee involvement practices, organizational learning procedures, integrated production technologies and total quality management. Another study by Yazid *et al.* (2017) only combined employee involvement practices and organizational learning practices to form high-performance systems. Paracha *et al.* (2014) on the other hand identified practices including selecting employees, training and development, appraising performance, planning their careers and an appropriate compensation for them to be bundled together to conceptualize HPWS. Hsu *et al.* (2007) have measured HPWS in a comprehensive way. They identified the bundle to be composed of selective recruitment, training and development, empowerment, performance-based pay, competitive pay and job rotation. This conceptualization of HPWS would be used in the current research.

Job performance

One of the most researched topics in the area of management is performance. It is the central concept for academicians and practitioners and is interpreted differently (Lee *et al.*, 2019). It is the goal or an underlying objective of any business activity. Market competition is one of the reasons that enhanced the importance of performance. Any activity in the organization makes sense only when it contributes to organizational performance (DuBois *et al.*, 2019; Richard *et al.*, 2009). This is the only factor that is widely believed as a tool of success and comparison among rival firms (Richard *et al.*, 2009). It is described as a combination of tasks

and behaviors deemed important to accomplish a job (Ingold *et al.*, 2015). In order to gain high-performance outcomes, organizations depend on the behaviors exhibited by their employees (Huselid, 1995).

Employees are the source of competitive advantage as they have distinctive behaviors and skills. The resource-based view links company resources including human resources as a determinant of competitive advantage. Nowadays employees are the only resource that can differentiate one company from another. If organizations are able to develop specific capabilities of their employees, which are not easily imitated, then they gain competitive advantage over other organizations (Fenech *et al.*, 2019; Wright *et al.*, 1994). Past literature is evident of a number of factors affecting performance; however, HR practices are claimed to be one of the most powerful factors in this regard (Guest, 2011; Marescaux *et al.*, 2013).

Past literature reveals a positive direction of performance and HPWS relationship. However, the relationship is not that simple. A lot of processes translate the impact of HPWS on performance outcomes, and there is still a need to explore them in detail (Guest, 2011; Jiang *et al.*, 2012; Boxall *et al.*, 2016). There are a number of factors that play their role in translating HPWS in performance, and development of human capital is one of them (Messersmith and Guthrie, 2010; Takeuchi *et al.*, 2007).

Human capital

The current state of competition is forcing organizations to maintain their competitive advantage in order to sustain. Organizations are focusing on human capital development in order to cope with this situation. The resource-based view suggests human capital as a way to maximize performance by utilizing existing resources to develop competitive advantage over other organizations (Grant, 1996; Teece *et al.*, 1997; Welch and Nayak, 1992). It has become as a most important tool in the hand of organizations. The main reason behind that is digitalization and evolving toward knowledge-based economies (Faggian *et al.*, 2019; Fenech *et al.*, 2019; Gennaioli *et al.*, 2013). The importance of developing human capital then becomes inevitable (Faggian *et al.*, 2019). Human capital is described as the capability, proficiency and comprehension possessed by individuals within an organization that can lead to create a competitive edge (Hsu *et al.*, 2007).

The concept of human capital is built on a belief that people's contribution is essential for value addition resulting in organizational performance. Moreover, there is a possibility of managing their contribution for better outcomes (Baron, 2011). The concept of human capital has many conceptualizations, and it is categorized differently in different academic fields. First perspective conceptualizes human capital on individual aspects. It means that human capital is linked with knowledge, education, competencies, behavior and skills (Beach, 2009; Youndt *et al.*, 2004). The second perspective stresses on educational activities such as formal education, professional and vocational certificates and so on to enhance knowledge and skills (De la Fuente and Ciccone, 2002). The third perspective links human capital to production. It can be described as an investment in people to increase their productivity. The investment can be in the form of education and training that enhance skills and competencies to increase productivity (Frank and Bemanke, 2007; Sheffin, 2003). However, a recent measurement of human capital by Hsu *et al.* (2007) is consistent with the first perspective and has competence and commitment aspects of individuals as important ingredients.

Development of human capital requires favorable organizational conditions. A lot of contextual factors play their role in development of required human capital for the organizations. In order to build human capital, organizations need to align their practices with their competitive strategy (Pahuja and Dalal, 2012). Having the right talent in the organization is now becoming very important. The only way to survive in the current world is to build competitive advantage, and it comes through developing the human resources

(Normile, 2018; Saddozai, *et al.*, 2017). Strategic attention is required to bring into line human capabilities with work requirements. Specific HR practices should be adopted to develop relevant human capital that is not easily replicated (Li *et al.*, 2019). Organizations need to develop HR systems that contribute in developing a pool of high-potential and high-performing incumbents.

Organizations need to scan their competitive environment and then customize their system accordingly (Becker *et al.*, 2001). Human resource policies are considered very important in this regard. The right mix of HR policies and procedure can aid human capital development, thus leading to performance. The challenge is to develop a bond between motivated and talented employees and particular policies to achieve organizational objectives (Buller and McEvoy, 2012). A customized bundle of these practices can create a HPWS, and development and implementation of an effective HPWS can lead to human capital development (Hsu *et al.*, 2007; Schiemann, 2006). The HPWS plays an important role in enhancing competitive performance through developing and training organization’s human resources (Messersmith and Guthrie, 2010; Takeuchi *et al.*, 2007).

On the basis of earlier discussion, following framework can be developed (see Figure 1). Following hypotheses are formulated for current research:

- H1. HPWS positively and significantly affects human capital.
- H2. HPWS positively and significantly affects job performance.
- H3. Human capital positively and significantly affects job performance.
- H4. Human capital plays a mediating role in HPWS and job performance relationship.

Methods

The current research selected organizations in service sector of Sultanate of Oman as their population. Purposive sampling was used to select 400 respondents working in these organizations. The service sector is among the fast-growing sectors in Sultanate of Oman. The vision 2040 of Oman focuses on routing the country toward a diversified economy due to the decreasing oil prices. The focus of the government is on nonoil activities, thus development of service sector takes propriety. The majority of country’s workforce is composed of expatriates, and the local human resource is present but still needs development. Many programs and activities are focused on developing the human capital in the service sector. For this purpose, the need to identify an appropriate set of HR practices to develop a HPWS is essential. The sample consisted of respondents from service sector of Oman. The service sector for this research was composed of organizations from six subsectors such as tourism and hospitality, banking, sales, health, education and telecommunication. The data was collected through personally administered questionnaires, and Google drive was used to collect data from different parts of Oman.

The questionnaire was designed adapting items from existing scales. The instrument that was in English language was translated into Arabic language. In order to meet the conditions

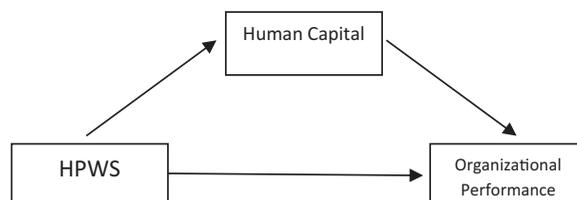


Figure 1.
Conceptual framework

of face and content validity, five academicians and practitioners were consulted. The process of data collection was initiated by distributing 700 questionnaires. To obtain the data the respondents were approached at their workplaces and were briefed about the purpose of the study and ensured confidentiality of provided information. They were asked to participate on voluntary basis. 500 questionnaires out of 700 distributed were received. However, only 400 were found complete in all aspect and useable for analysis.

Measures

A 25-item scale developed by [Hsu et al. \(2007\)](#) was adopted to measure the concept of HPWS. HPWS includes empowerment, recruitment, performance-based pay, job rotation, training and development and competition-based pay. The concept of job performance was measured by two dimensions: in-role behavior and task performance. A five-item scale developed by [Williams and Anderson \(1991\)](#) was adopted to measure in-role behavior and five-item scale by [Bott et al. \(2003\)](#) to measure task performance. A six-item scale developed by [Hsu et al. \(2007\)](#) was adopted to measure the concept of human capital. The response scale was Likert-type having a range from 1 as strongly disagree to 5 as strongly agree.

Results

The analysis was conducted on a sample of 400 respondents from service sector of Oman. The sample consisted of 22% respondents from tourism and hospitality, 20% from banking sector, 16% from education, 15% from telecom, 14% from health and 13% from sales subsector of Omani service sector. Moreover, it consisted of 60% expatriates and 40% Omanis out of which 69% were males and 31% females. 49% of the respondents were between 31 and 40 years of age, 20% less than 30 years and 23% above 40 years. The majority of them had diploma (36%) and bachelor’s degree (31%). 47% of the respondents were from middle level of management, 35% from line and 18% from top management level. 45% of them had experience between six and ten years, 35 % had less than five years and 20% above ten years of experience.

This section is composed of the preliminary analysis including descriptive statistics and correlation matrix along with confirmatory factor analysis (CFA) displayed in [Table 1](#). The table reveals the mean values ranges from 3.62 to 3.29 where standard deviation lies between 0.730 and 0.610. All the variables were positively and significantly correlated to each other. [Figure 2](#) reveals the results of CFA. The figure suggests that the measurement model explained good fit indices as all the values are above the acceptable range ([Hu and Bentler, 1999](#)).

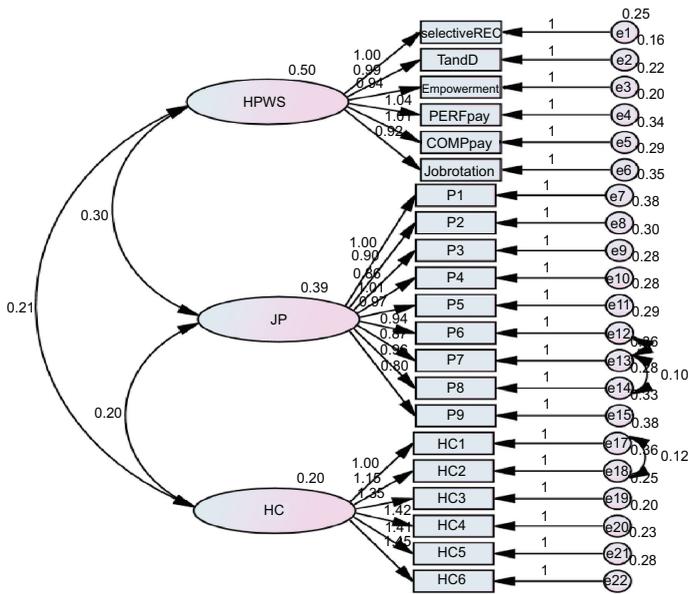
Common method bias

The problem of common method bias is usually with the self-reported data. Harman’s one-factor test is used as a remedial measure to inspect the occurrence of this bias ([Bish et al., 2015](#)). The current research was conducted on the scale having 41 items. When it was limited to a single factor, then it contained total variance of 43.085% as shown in [Table 2](#). This

	Scales	Mean	SD	1	2	3
1	Job performance	3.29	0.610	–		
2	HPWS	3.30	0.730	0.599*	–	
3	Human capital	3.62	0.627	0.672*	0.622*	–

Note(s): * $p < 0.001$

Table 1.
Descriptive statistics and correlation matrix (N = 400)



CMIN/DF = 3.527
RMR = 0.042
NFI = 0.891
TLI = 0.907
CFI = 0.919
RMSEA = 0.078

Figure 2.
CFA
measurement model

Component	Total	Initial eigen values		Extraction sums of squared loadings		
		% of variance	Cumulative %	Total	% of variance	Cumulative %
1	17.665	43.085	43.085	17.665	43.085	43.085
2	3.309	8.071	51.155			
3	1.733	4.228	55.384			
39	0.167	0.407	99.317			
40	0.149	0.364	99.680			
41	0.131	0.320	100.000			

Table 2.
One-factor
model (CMV)

Note(s): Extraction Method: Principal Component Analysis

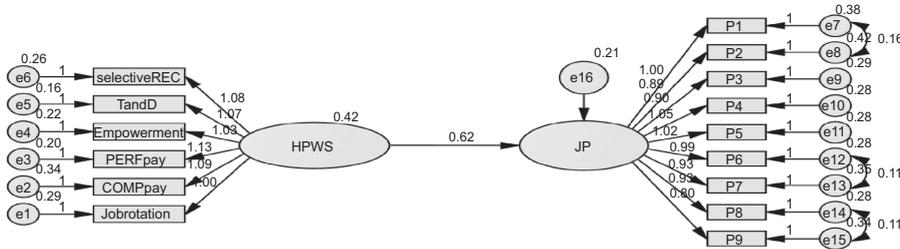
variance is less than the assumed threshold point (<50%). Hence, in the current study, there was no evidence of common method bias.

Evaluation of the model

In order to test structural equation modeling, Preacher and Hayes (2008) suggested to use path analysis. Two models are tested in the present study for examining mediation. Direct link between HPWS and job performance is examined in Model 1 shown in Figure 3, and the indirect effect through human capital is examined in Model 2 shown in Figure 4. Table 3 describes fit indices for both the models. As per the results almost all the indices are above fit threshold level (Hair et al., 2006).

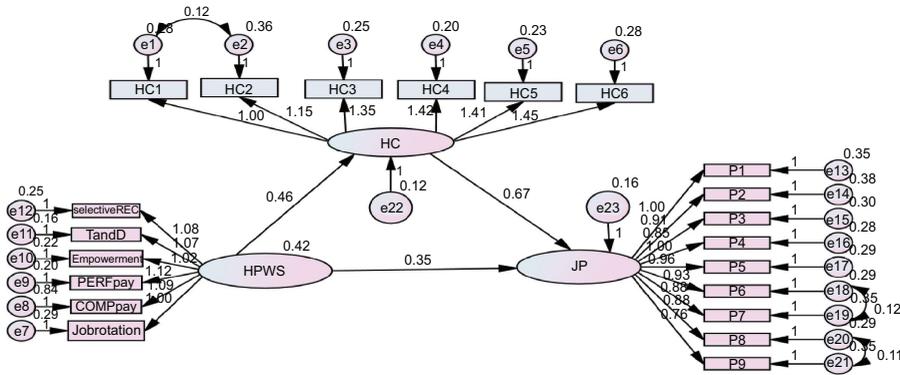
Table 4 shows the summary of direct and indirect effects tested in the study. It summarizes all the analysis done earlier. Analysis of the direct path job performance

was found to be positively affected by HPWS (path coefficient = 0.62, $p < 0.001$) supporting the first hypothesis. Second model examined the effect of human capital as a mediator in HPWS and job performance association. The analysis also showed that HPWS positively



Note(s): JP = Job performance, HPWS = High Performance Work System *** $p < 0.001$

Figure 3.
Model 1



Note(s): HC = Human Capital, JP = Job performance, HPWS = High Performance Work System, *** $p < 0.001$

Figure 4.
Model 2

Model	CMIN/DF	GFI	AGFI	NFI	CFI	RMR	RMSEA
Model 1	3.326	0.917	0.884	0.931	0.950	0.040	0.074
Model 2	3.488	0.868	0.834	0.892	0.920	0.042	0.077

Table 3.
Fit indices of the model

Hypothesis	Direct effects	Indirect effect	Total effect	Ratio of indirect effect to total effect (%)	Results
HPWS → JP	0.62***				Supported
HPWS → HC	0.46***				Supported
HC → JP		0.67***			Supported
HPWS → HC → JP	0.35**	0.27***	0.62**	43.54	Partial mediation

Note(s): HC = Human capital, JP = Job performance, HPWS = High-performance work system, *** $p < 0.001$

Table 4.
Direct and indirect effects

affects human capital (path coefficient = 0.46, $p < 0.001$) and human capital has a positive effect on job performance (path coefficient = 0.67, $p < 0.001$), supporting second and third hypotheses. The effect of HPWS on performance through human capital had path coefficient of 0.35, $p < 0.001$ with a ratio of indirect effect to total effect as 43.54%. The fourth hypothesis was partially supported.

Discussion

The aim of the current research was to identify the impact of HPWS on job performance through human capital. HPWS is considered a bundle of tools that can create a brand value for the organization in the eyes of employees. Findings present considerable evidence to prove that HPWS has a significant effect on job performance. HPWS also helps in development and retention of human capital that in turn has an effect on job performance. The results of this research are aligned with past researches. HPWS is considered as one of the most important factors affecting the performance outcomes. Recently this link is getting considerable attention (Boxall, 2013; Guest, 2011; Marescaux *et al.*, 2013; Monks *et al.*, 2013). Researches exploring HPWS show that such practices mold employee behaviors in a manner that required performance outcomes to be achieved (Lepak *et al.*, 2006; Jiang *et al.*, 2012). Individual dimensions of HPWS also positively affect the job performance (Imran *et al.*, 2015; Imran and Shahab, 2018).

The bundle of HR practices facilitates the development of competitive advantage. The bundle itself is not a direct tool rather the advantages of this tool reveal in the form of satisfied and developed human resource. HPWS creates human capital (Hsu *et al.*, 2007; Becker *et al.*, 2001; Schiemann, 2006). HPWS is considered as a strategy that is helpful in human capital development (Danford *et al.*, 2004; Drummond and Stone, 2007; Jiang *et al.*, 2012). The organizations adopt human capital approach to achieve higher levels of performance (Wright *et al.*, 2001). The organizations focusing on the development of human capital result in higher performance of their employees (Chadwick, 2017). The organizations adopt appropriate HPWS to develop human capital that results in higher level of performance (Subramony *et al.*, 2018; Zeb *et al.*, 2018).

Conclusion

The current research has a special contribution to the existing literature of HPWS by sampling service sector firms in Oman. The research raised a number of interesting issues including the role of HPWS in creating human capital and introducing human capital as a mediator between HPWS and performance relationship. The findings provide evidence that HPWS and human capital have positive and significant effect on job performance. The impact of HPWS in creating human capital was also supported. However, the hypothesized role of human capital as a mediator in HPWS and job performance relationship was partially supported.

Limitations and future research

Despite its novelty the research is subject to certain limitations that need to be highlighted. First, the research had a cross-sectional study design; however, this kind of relationship requires longitudinal study. The research contributes through detecting a mediation path of human capital in HPWS–performance relationship; however, its strength and exact causal direction require more in-depth research. Future studies should conduct this research in a longitudinal design. Second limitation of this research is that the data is collected from single source that might not give the exact picture of the said relationship. Future researches should have a dyadic approach for similar kind of study. Finally, the research did not study the effect of different subsectors in the service sector on HPWS–performance relationship. The organizations need to adapt the HPWS according to the local as well as their industrial context and market environment for development of human capital.

The culture difference, industry norms, legal system and prevailing policies can affect the said relationship. Future research should not only focus on these factors but also do a sector-wise comparison in order to reach on a consensus as to which HR practices can form a bundle that is suitable for creating HPWS in service sector specifically in Omani context.

Practical implications

The findings of this research have certain implications for the researchers and managers working in service sector organizations in Oman. From the theoretical perspective it gives an understanding of HPWS and performance relationship. Moreover, it also highlights the importance of human capital in HPWS and performance relationship. This research is one of the pioneering researches in this area opening new avenues of further exploration.

From practical perspective the organizations are advised to invest in customized set of HR activities appropriate to their organizational setup. Furthermore, the organizations should develop human capital for gaining competitive advantage and higher performance. The organizations should develop relevant bundle of HR practices for better employee development. The HR managers should invest in procedures for human capital development and increased performance.

References

- Al Anzi, S.A. and Al Abbadi, H.F. (2011), "High performance work systems and the performance of public industrial enterprise", *Journal of Economic and Administrative Sciences*, Vol. 15 No. 54, Faculty of Management and Economics–University of Baghdad.
- Appelbaum, E., Bailey, T., Berg, P. and Kalleberg, A. (2000), *Manufacturing Advantage: Why High Performance Work Systems Pay off*, ILR Press, Ithaca, NY.
- Barnes, W.F. (2001), "The challenge of implementing and sustaining high performance work systems in the United States: an evolutionary analysis of I/N Tek and Kote".
- Baron, A. (2011), "Measuring human capital", *Strategic HR Review*, Vol. 10 No. 2, pp. 30-35.
- Beach, J.M. (2009), "A critique of human capital formation in the US and the economic returns to sub-baccalaureate credentials", *Educational Studies*, Vol. 45 No. 1, pp. 24-38.
- Becker, B.E., Huselid, M.A., Huselid, M.A. and Ulrich, D. (2001), *The HR Scorecard: Linking People, Strategy, and Performance*. Harvard Business Press.
- Bish, A., Newton, C. and Johnston, K. (2015), "Leader vision and diffusion of HR policy during change", *Journal of Organizational Change Management*, Vol. 28 No. 4, pp. 529-545.
- Bott, J.P., Svyantek, D.J., Goodman, S.A. and Bernal, D.S. (2003), "Expanding the performance domain: who says nice guys finish last?", *International Journal of Organizational Analysis*, Vol. 11, pp. 137-152. doi:10.1108/eb028967.
- Boxall, P. (2013), "Mutuality in the management of human resources: assessing the quality of alignment in employment relationships", *Human Resource Management Journal*, Vol. 23 No. 1, pp. 3-17.
- Boxall, P. and Macky, K. (2009), "Research and theory on high-performance work systems: progressing the high-involvement stream", *Human Resource Management Journal*, Vol. 19 No. 1, pp. 3-23.
- Boxall, P., Guthrie, J.P. and Paauwe, J. (2016), "Editorial introduction: progressing our understanding of the mediating variables linking HRM, employee well-being and organizational performance", *Human Resource Management Journal*, Vol. 26 No. 2, pp. 103-111.
- Brown, E.D. (2006), "Implementing a high performance work system' Aligning Technology, Strategy", People & Projects, available at: <http://ericbrown.com> Copyright, 2006-2007–Eric.D. Brown.
- Buller, P.F. and McEvoy, G.M. (2012), "Strategy, human resource management and performance: sharpening line of sight", *Human Resource Management Review*, Vol. 22 No. 1, pp. 43-56.

- Chadwick, C. (2017), "Toward a more comprehensive model of firms' human capital rents", *Academy of Management Review*, Vol. 42 No. 3, pp. 499-519.
- Chaudhuri, K. (2009), "A discussion on HPWS perception and employee behavior", *Global Business and Management Research*, Vol. 1 No. 2, pp. 27-42.
- Combs, J., Liu, Y., Hall, A. and Ketchen, D. (2006), "How much do high-performance work systems matter? A meta-analysis of their effects on organizational performance", *Personnel Psychology*, Vol. 59 No. 3, pp. 501-28.
- Danfod, A., Richardson, M., Stewart, P., Tailby, S. and Upchurch, M. (2004), "High performance work systems and workplace partnership: a case study of aerospace workers", *New Technology, Work and Employment*, Vol. 19 No. 1, pp. 14-29.
- De la Fuente, A. and Ciccone, A. (2002), *Le capital humain dans une e conomie mondiale sur la connaissance*, Rapport pour la Commission Europe enne, Brussels.
- Demirbag, M., Collings, D.G., Tatoglu, E., Mellahi, K. and Wood, G. (2014), "High-performance work systems and organizational performance in emerging economies: evidence from MNEs in Turkey", *Management International Review*, Vol. 54 No. 3, pp. 325-359.
- Drummond, I. and Stone, I. (2007), "Exploring the potential of high performance work systems in SMEs", *Employee Relations*, Vol. 29 No. 2, pp. 192-207.
- DuBois, R., Bruce, K., Reeves, M., Vandelandotte, J. and Yakimakho, O. (2019), "The organizational performance index: a new method for measuring international civil society capacity development outcomes", *Performance Improvement Quarterly*, Vol. 31 No. 4, pp. 381-396.
- Evans, W.R. and Davis, W.D. (2005), "High-performance work systems and organizational performance: the mediating role of internal social structure", *Journal of Management*, Vol. 31 No. 5, pp. 758-775.
- Fadhil, A.S.H. (2019), *Strategic Human Resource Management and Organisational Performance: An Empirical Examination of the Relationship between High-Performance Work Systems and Customer Satisfaction in the Sultanate of Oman*, Doctoral dissertation, Brunel University, London.
- Faggian, A., Modrego, F. and McCann, P. (2019), "Human capital and regional development", in *Handbook of Regional Growth and Development Theories*, Edward Elgar Publishing, UK.
- Fenech, R., Baguant, P. and Ivanov, D. (2019), "The changing role of human resource management in an era of digital transformation", *Journal of Management Information and Decision Sciences*, Vol. 22 No. 2, pp. 166-175.
- Frank, R.H. and Bernanke, B.S. (2007), *Principles of Microeconomics*, 3rd ed., McGrawHill/Irwin, New York.
- Gennaioli, N., La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2013), "Human capital and regional development", *Quarterly Journal of Economics*, Vol. 128 No. 1, pp. 105-164.
- Grant, R.M. (1996), "Towards a knowledge-based theory of the firm", *Strategic Management Journal*, Vol. 17, (Winter special issue), pp. 109-122.
- Guest, D.E. (2011), "Human resource management and performance: still searching for some answers", *Human Resource Management Journal*, Vol. 21 No. 1, pp. 3-13.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L. (2006), *Multivariate Data Analysis*, Pearson Prentice Hall, Upper Saddle River, NJ.
- Harpan, I. and Draghici, A. (2014), "Debate on the multilevel model of the human capital measurement", *Procedia-Social and Behavioral Sciences*, Vol. 124, pp. 170-177.
- Hsu, I.C., Yeh-Yun Lin, C., Lawler, J.J. and Wu, S.H. (2007), "Toward a model of organizational human capital development: preliminary evidence from Taiwan", *Asia Pacific Business Review*, Vol. 13 No. 2, pp. 251-275.
- Hu, L.T. and Bentler, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives", *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 6 No. 1, pp. 1-55.

- Huselid, M.A. (1995), "The impact of human resource management practices on turnover, productivity, and corporate financial performance", *Academy of Management Journal*, Vol. 38 No. 3, pp. 635-672.
- Imran, R. and Al-Ansi, K.S.H. (2019), "High performance work system, job engagement and innovative work behavior: an exploration in Omani context", *Proceedings of the 2019 2nd International Conference on Computers in Management and Business*, pp. 24-28.
- Imran, R. and Shahab, H. (2018), "High-performance work systems and performance outcomes: an in-depth analysis in an Omani context", *Journal of International Business Research and Practice*, Vol. 12, pp. 71-79, (ISSN) 2379-3740.
- Imran, R., Majeed, M. and Ayub, A. (2015), "Enhancing performance: examining the role played by high performance work system", *International Journal of Economics and Financial Issues*, Vol. 5 No. S1, pp. 379-384.
- Ingold, P.V., Kleinmann, M., König, C.J., Melchers, K.G. and Van Iddekinge, C.H. (2015), "Why do situational interviews predict job performance? The role of interviewees' ability to identify criteria", *Journal of Business and Psychology*, Vol. 30 No. 2, pp. 387-398.
- Jiang, K., Lepak, D.P., Hu, J. and Baer, J.C. (2012), "How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms", *Academy of Management Journal*, Vol. 55 No. 6, pp. 1264-1294.
- Kirkman, B. and Rosen, B. (1999), "Beyond self-management. Antecedents and consequences of team empowerment", *Academy of Management Journal*, Vol. 42 No. 1, pp. 58-74.
- Lee, G.R., Lee, S., Malatesta, D. and Fernandez, S. (2019), "Outsourcing and organizational performance: the employee perspective", *The American Review of Public Administration*, Vol. 49 No. 8, pp. 973-986.
- Lepak, D.P., Liao, H., Chung, Y. and Harden, E.E. (2006), "A conceptual review of human resource management systems in strategic human resource management research", *Research in Personnel and Human Resources Management*, Vol. 25 No. 1, pp. 217-271.
- Li, L., Xin, K., Picik, V. and Wei, W. (2019), "MNCs' R&D talent management in China: aligning practices with strategies", *Chinese Management Studies*, Vol. 13 No. 4, pp. 1086-1106.
- Marescaux, E., De Winne, S. and Sels, L. (2013), "HR practices and affective organisational commitment:(when) does HR differentiation pay off?", *Human Resource Management Journal*, Vol. 23 No. 4, pp. 329-345.
- Messersmith, J.G. and Guthrie, J.P. (2010), "High performance work systems in emergent organizations: implications for firm performance", *Human Resource Management*, Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human Resources Management, Vol. 49 No. 2, pp. 241-264.
- Monks, K., Kelly, G., Conway, E., Flood, P., Truss, K. and Hannon, E. (2013), "Understanding how HR systems work: the role of HR philosophy and HR processes", *Human Resource Management Journal*, Vol. 23 No. 4, pp. 379-395.
- Normile, D. (2018), "China takes new steps to lure science talent from abroad", *Science*, Vol. 360 No. 6393, pp. 1053-1054.
- Pahuja, S. and Dalal, R.C. (2012), "Achieving competitive advantage through HR practices: a case study", *Journal of Strategic Human Resource Management*, Vol. 1 No. 2, p. 35.
- Paracha, O.S., Wan Ismail, W.K. and Amin, S.M. (2014), "The concept of HPWS-performance relationship: framework for education industry", *Intangible Capital*, Vol. 10 No. 3, doi: [10.3926/ic.369](https://doi.org/10.3926/ic.369).
- Preacher, K.J. and Hayes, A.F. (2008), "Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models", *Behavior Research Methods*, Vol. 40 No. 3, pp. 879-891.
- Qureshi, T.M. (2019), "Talent retention using high performance work systems", *International Journal of Organizational Innovation*, Vol. 12 No. 2, pp. 10-19.

- Raineri, A. (2017), "Linking human resources practices with performance: the simultaneous mediation of collective affective commitment and human capital", *International Journal of Human Resource Management*, Vol. 28 No. 22, pp. 3149-3178.
- Richard, P.J., Devinney, T.M., Yip, G.S. and Johnson, G. (2009), "Measuring organizational performance: towards methodological best practice", *Journal of Management*, Vol. 35 No. 3, pp. 718-804.
- Saddozai, S.K., Hui, P., Akram, U., Khan, M.S. and Memon, S. (2017), "Investigation of talent, talent management, its policies and its impact on working environment", *Chinese Management Studies*, Vol. 11 No. 3, pp. 538-554.
- Schiemann, W.A. (2006), "People equity: a new paradigm for measuring and managing human capital", *People and Strategy*, Vol. 29 No. 1, p. 34.
- Sheffrin, M.S. (2003), *Economics: Principles in Action*, Pearson Prentice Hall, New Jersey.
- Subramony, M., Segers, J., Chadwick, C. and Shyamsunder, A. (2018), "Leadership development practice bundles and organizational performance: the mediating role of human capital and social capital", *Journal of Business Research*, Vol. 83, pp. 120-129.
- Takeuchi, R., Lepak, D.P., Wang, H. and Takeuchi, K. (2007), "An empirical examination of the mechanisms mediating between high-performance work systems and the performance of Japanese organizations", *Journal of Applied Psychology*, Vol. 92 No. 4, p. 1069.
- Teece, D.J., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, Vol. 18, pp. 509-533.
- Tomer, J.F. (2001), "Understanding high-performance work systems: the joint contribution of economics and human resource management", *Journal of Socio-Economics*, Vol. 1 No. 30, pp. 63-73.
- Welch, J.A. and Nayak, P.R. (1992), "Strategic sourcing: a progressive approach to the make-or-buy decision", *The Academy of Management Executive*, Vol. 6 No. 1, pp. 23-31.
- Williams, L.J. and Anderson, S.E. (1991), "Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors", *Journal of Management*, Vol. 17, pp. 601-617. doi:10.1177/014920639101700305.
- Wright, P.M., McMahan, G.C. and McWilliams, A. (1994), "Human resources and sustained competitive advantage: a resource-based perspective", *International Journal of Human Resource Management*, Vol. 5 No. 2, pp. 301-326.
- Wright, P.M., Dunford, B.B. and Snell, S.A. (2001), "Human resources and the resource-based view of the firm", *Journal of Management*, Vol. 27 No. 6, pp. 701-721.
- Yazid, Z.N., Yahya, W.K. and Achim, N.A. (2017), "High performance work system (HPWS) and organizational performance: the mediating role of employee attitude", paper presented at, *Intervarsities Multidisciplinary International Conference 2017, Kuantan*.
- Youndt, M.A., Subramaniam, M. and Snell, S.A. (2004), "Intellectual capital profiles: an examination of investments and returns", *Journal of Management Studies*, Vol. 41 No. 2, pp. 335-361.
- Zeb, A., Abdullah, N.H. and Javaid, M. (2018), "Impact of human capital management practices on employees' job performance", *Journal of Physics: Conference Series*, Vol. 1049 No. 1, p. 012020, IOP Publishing, UK.

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