

Do HR practices facilitate innovative work behaviour? Empirical evidence from higher education institutes

Aneeqa Zreen^a, Muhammad Farrukh^{b,c,*} and Nagina Kanwal^a

^aPost-Graduate Centre, Limkokwing University of Creative Technology, Cyberjaya, Malaysia

^bSchool of Management and Economics, Beijing Institute of Technology, Beijing, China

^cFaculty of Management Sciences, ILMA University, Karachi, Pakistan

Received 26 April 2020

Accepted 10 October 2020

Abstract.

BACKGROUND: *Nothing we do is more important than hiring and developing people. At the end of the day, you bet on people, not on strategies.* Lawrence Bossily.

OBJECTIVE: Drawing on the above quote, this study investigates the role of High-performance work practices (HPWP) in fostering innovative work behaviour (IWB) of service sector employees.

METHODOLOGY: Data collected by structured questionnaires were analysed through the structural equation modelling technique.

RESULTS: Findings showed that selection and training & development play a significant role in fostering innovative work behaviour. Moreover, self-efficacy proved to be a significant mediator in the mechanism of HPWP-IWB.

CONCLUSION: The finding of the study underpins the reciprocity perspective of the social exchange theory (SET). Additionally, the study also endorses that human resources are not a thing companies do. It is the thing that runs businesses.

Keywords: Innovative work behaviour, high-performance work system, structural equation modelling



Aneeqa Zreen is a Ph.D. candidate at the Limkokwing University of Creative Technology, Malaysia. Her research interests include innovative work behaviour, human resource management, Higher Education, Adult Education, and Entrepreneurship.



Muhammad Farrukh holds a Ph.D. in Management. His area of research revolves around entrepreneurship, Intrapreneurship, and Industrial-Organizational Psychology.

*Corresponding author: Muhammad Farrukh, School of Management and Economics, Beijing Institute of Technology, Beijing, China. E-mail: mfarrukhiqbal@hotmail.com.



Nagina Kanwal is currently working at the National Bank of Pakistan and is a Ph.D. candidate at the Limkokwing University of Creative Technology, Malaysia. Her research interests include Intrapreneurship, entrepreneurship, and organizational performance.

1. Introduction

In this dynamic business era, organisations are facing intense competition because of rapid technological changes and globalisation. In this fierce competition, if any organisation is not changing and adopting the innovation, according to Merrifield (1993), it may be making an unintentional strategic choice of being out from the market in the next couple of years.

These changes highlight that organisations need to be more innovative and entrepreneurial in business processes [1] and organisations around the world are trying to cultivate innovation so that they can perceive and use business opportunities [2]. Many organisations have managed to promote the innovative spirit and have developed new ways to innovate and create new businesses and achieve profitable growth. Change and innovation describe how these successful companies compete [3].

Compared to any other field, for example, business firms, there is a need for innovation in the academic arena; this is in order for them to be more competitive and equally have a competitive advantage. Universities are undergoing various challenges; out of this, they are becoming entrepreneurs and are eventually called entrepreneurial universities. As noted in the research, universities should generate a university-wide model of innovative culture to foster the innovative behaviour of students and staff [4]. This highlights the new role of academic staff: academics should develop an innovative mindset to think across university departments' boundaries and redefine the university's capabilities. However, the research on the innovative work behaviour of academic staff has been a neglected area; thus, a larger question looming in the challenge that what are the factors which may help the universities to become more innovative to provide better services to the nation?

The review of the literature shows certain factors that may foster innovation in the organisation. These factors include organisational structure, org-

anisational culture, leadership styles, and work environment, to name a few. Of these factors, human capital or people are the cornerstones of innovation. The reason behind this assertion is that as organisations do not have ideas, individuals who work within organisations do. Ideas that are successfully developed and implemented provide the root of competitive differentiation, problem-solving, opportunity-finding, and ultimately create the intellectual capital that sets organisations apart from each other [5]. Thus, we believe that achieving higher innovation would need organisations to harness the skills knowledge, abilities, and willingness of the employees to be involved in innovative activities.

A recent development in HRM research is the focus on how HR practices affect employees' behaviour and attitude. Social exchange theory [6] explains that investment in human resources by the organisations would be reciprocated positively by employees. Additionally, the underlying mechanisms through which HRM influences IWB requires further investigation. To advance existing research on the HPWP-IWB relationship, we investigate the underlying mechanisms through which HPWP has an impact on IWB. Specifically, we propose and test the mediating role of self-efficacy. Limited research is available on this topic, particularly in an academic setting.

This research endeavoured to fill the above-mentioned literature gap and contributed to the knowledge in two ways. First, this study considered the HR systems are a vital antecedent of IWB. HPWP has been found to impact organisational performance positively; however, very less is known about its effect on IWB. Secondly, this research empirically investigated the mechanism through which HPWP effect IWB and provided further empirical support to SET.

The paper unfolds as follows; the next section introduces the High-performance work practices, innovative work behaviour which is followed by hypothesis development. The research methods section provides detailed information on sampling, measurement, and analysis strategies, and then describes the data analysis and results. Next, it discusses the academic and practical implications of the research results. In the end, a brief conclusion is presented.

2. Literature review

2.1. High-performance work practices (HPWP)

HPWP is conceptualised as a separate set of HR practices that are intended to upgrade organisational

performance by expanding employees' capacities, improving their inspiration, and develop possibilities for employees to take interest and get engaged at work [7–9]. It is evident from the definition that there seems to have a synergistic impact among a bunch of HR practices with the means to improve performance. There has been little understanding of the HR practices that establish high-performance work practices [10, 11].

Currently, a few researchers have laid stress on the connection between HPWP and innovation [12]. This relationship may be clarified by the social exchange theory. Social exchange theory states to a long term work relationship that highlights “open-ended and diffuse obligations “containing emotional joint venture and trust among employers and employees [13]. Employees may observe an organisation's acceptance of HPWP as a source of taking care of them by motivating and giving them chances to take interest and be involved at work [14]. This may motivate employees to understand that their employers are boosting their long-standing relationship. In return, employees are expected to be faithful, and show performance that is fruitful for their organisation in exchange for what the employer offers eventually that may lead to IWB. Past literature has revealed that the implementation of effective HPWP facets can raise employee creativity [15]. In the sequence of this, some HR practices reveal more significant association with performance than others [16].

2.2. Innovative work behaviour (IWB)

Innovative work behaviour is the behavioural tasks initiated by the employees to foster innovation [17, 18]. IWB also encompasses the intentional efforts by the employees introducing new services/products or new ways of performing work through generating, promoting, and implementing ideas successfully [19, 20].

IWB ranges from developing incremental improvement to radically developing novel ideas that affect the processes, product, or services across the organisation. For example, IWB includes, thinking out of the box, looking for novel and new improvements, figuring out new techniques and ways to solve the problems, and securing resources to accomplish the task efficiently and effectively. IWB is taken as an extra role behaviour, that is not specified in the formal job role. It is a discretionary behaviour that is intended to benefit the organisation. IWB is crucial for performance improvement.

2.3. Training and development, and IWB

Organisations can improve their human capital through training and development practices. The connection among training and development practices and IWB can be assumed as an aspect of social exchange in which workers experience training and development practices as an organisation's assertion to their human resources; the employees might reciprocate this assertion in some extra-role behaviour such as, IWB [21].

Training is the procedure of financing in people; as a result, they are equipped to perform. Generally, these practices are part of the human resource management approach that will result in people being encouraged to achieve creativity and innovation in an organisation [22]. Offering training and development will sign that the institution considers the employee well-being and eager to put resources into them [23].

Employees determine if the training opportunities provided to them are satisfactory. Such satisfactory developmental opportunities would be reciprocated with a positive attitude. The outcome of positive attitudes will be in behaviour that is valued for both the institution and employees. Whenever workers recognise training and development supportive and significant, they feel enriched for attaining and increasing new thoughts.

Training, as compared to other HR practices, had the best impact on product innovation and innovation in technical systems [24]. Training and development help to enhance employee knowledge and skills, with the enhanced skills and knowledge, employees become more aware of the opportunities and alternatives, thus feel more confident and secure in trying new things.

Other researches have comparatively demonstrated the strong positive outcome of training and development practices on IWB [25]. We believe that training and development will encourage the employee to be more innovative; thus, we hypothesise,

H1: Training and development are positively related to innovative work behaviour.

2.4. Selection and IWB

Recruitment or selection is the procedure or action that evolved in attracting individuals who are qualified, proficient, talented, experienced, and skilled [26]. For any institution to be effective and to keep up a competitive advantage, they should remain ahead by anticipating the individuals who will be the lead-

ing operators of an institution's future. In current research supports constant training, development, and selection of the able workforce improves organisational performance and innovation. Recruitment and selection are the decisive steps of recruiting staff for grabbing the exact quality of candidates [27]. A merit-based and right selection of employees by the management is also one of the primary sources of selecting employees who are willing to behave innovatively in order to work beyond the assigned targets. This 'fit for job' and transparent selection criteria in return invoke innovative sense in employees while performing their assigned work. This research is the sequence of previous research by [28] who proposed the selection procedures and HR practices have higher links with organisation commitment than others. Employees who experience the right and fair selection are always positively related to productivity, creativity and performance. Proper selection means to select the right people for the right job. This activity is helpful in increasing firm performance [29].

H2: Selection is significant and positively related to innovative work behaviour.

2.5. Self-efficacy and innovative work behaviour

Bandura (1986) defined self-efficacy as an individual's judgment of their capabilities and abilities to perform certain tasks. It does not reflect the level of skills one has, but it reflects the perception of being able to do something with the skills one possesses. It is a conditional state that is proximal to behaviour, which means it directly influences behaviour. According to Gits and Mitchell (1992), self-efficacy can change over the period and gaining more knowledge and experience. Which means providing training and development opportunities to an individual can enhance their self-efficacy. Innovation is a risky and uncertain undertaking, and innovative work behaviour involves a range of challenging and uncertain behaviour which enfold social and cognitive activities.

Employees with high self-efficacy feel more confident and comfortable in performing the risky task as compared to those who are low on self-efficacy. People having high SE believe that they can overcome the challenges by exerting more efforts to apply the strategies to get success. Past literature showed a strong link of SE with a work-related outcome such as performance [30, 31] innovative behaviour [32, 33] and entrepreneurial intentions [34] Drawing on this line of arguments; we postulate that

H3: Self-efficacy has a positive relation to innovative work behaviour.

2.6. Self-efficacy as a mediator in the relationship between training and IWB

According to SET, there exists a mutual relationship between employer and employee. So, if the employees are provided with the required training for performing innovative work, it boosts self-efficacy among employees, organisations can increase its human capital through training practices. Conducting training is a symbol that the institute considers employees to be valuable and organisation is willing to invest in them [23], and the employee will react positively in progressive activities to the institute that purposes the development'. As a result, the positive attitudes will bring behaviour which is valuable for both the organisation and employee. Once workers observe training and development useful and valued, they feel equipped for generating novel ideas. (Shipton et al., 2006) indicated that training had a great impact on innovation as compared to other HR practices.

Other research has equally revealed confirmation about the significant impact of training and development practices on IWB [25, 35, 36]. Based on this discussion, we conclude that training enhances employee self-efficacy, which in turn leads a higher innovative work behaviour (IWB). As per social exchange theory and previous literature review, training and selection may lead to increased self-efficacy and improved, innovative behaviour of employees.

H4: Self-efficacy mediates the relationship between training & development and IWB.

2.7. The mediating role of self-efficacy on the relationship between selection and employee innovative work behaviour

In accordance to SET, there is a common relationship between the organisation and employees. If employees are happy and satisfied with their job, they will be more active in sharing their innovative and creative ideas. Every element of selection has a contribution to make in helping to find the most appropriate candidates for any given position. The organisation can increase its innovative outcome using innovative HR practices like selection, training, job definition, performance appraisal, and teamwork and employee contribution.

Fair and proper selection process helps to increase the overall performance of the organisation; it also improves self-efficacy of the employees to become more innovative and creative for their institution. On the contrary, if there are a lousy selection and hiring process, then the work will be affected and training the incompetent persons will be a significant loss for the organisation. There is a connection between HR practices and organisational innovation. Human capital is the main contributor to organisational success because if the institutes capitalise on increasing the skills, awareness and commitment of the employees, then the employees will return their efforts to develop the innovation in their organisation.

The past literature reveals that HPWP has a positive influence on employees innovative work behaviour [37]. High-performance work systems can improve employees' abilities, capabilities and awareness, increase their job motivation, and provide self-sufficiency at work. High-performance work practices increase beneficial exchanges between the workforce and the organisation. Employees with higher self-efficacy beliefs are more confident to adopt positive moods, new ideas and skills. So in the relevance with the above discussion, this study examined the mediating effect of self-efficacy between selection and employee innovative work behaviour.

H5: Self-efficacy mediates the relationship between selection and IWB.

3. Context and data collection

Performance in higher educational institutes in Pakistan has been an issue since the last couple of decades. Pakistan has been positioned at 50th out of 50 countries, with a general score of 9.2 by Quacquarelli Symonds (QS), a British ranking agency. Despite the government's professes to invest billions in the country's education system, Pakistan ranked at the lowest position among 50 countries included in the list (QS Higher Education System Strength, 2016). The focus of this study is academic and administrative staff in the universities in Pakistan. Higher education system depends upon its universities if the teachers are not well trained in using advanced technology for research and teaching practices. As a result, they are unable to create innovative skills in their students. This long-standing issue of performance needs some entrepreneurial models to cope with this issue. Educational institutions need to

build a proper system for training their employees in achieving innovative work behaviour. Thus, this study endeavour to provide a model to foster IWB.

Data for this study were collected from seventeen public sector universities after getting permission from university heads to approach participants between August 2019 (pilot study) and September 2019. We limited the geographical scope by purposefully selecting public sector universities of five big cities of Pakistan like Lahore, Islamabad, Rawalpindi, Faisalabad and Multan. Public sector universities do not generally struggle openly for innovative outputs; on the other hand, still wanted innovative behaviour and ideas from employees. To make simpler the process of defining the sample size for a limited population [38], using sample size formula for the finite population. The target population of this study is the universities of Pakistan. The sample of this research is employees of different universities in Pakistan. Three hundred sixty-four sample employees of seventeen public sector universities were selected through a two-stage cluster sampling technique. The sample contained 66% males and 44% females. Most of them belong to the age group of 31–40 years and have 6–10 years of experience. By selecting university teachers, we planned to evade any effects due to dedicated innovation-related tasks. The deductive approach was used, and the nature of the study was cross-sectional. The data were collected through a self-administered questionnaire. The respondents were approached in their worksites and assured to keep their responses confidential. Five hundred questionnaires were distributed in Pakistani public sector universities, and 400 were received back. Out of which 367 were found to be completed in all aspects.

3.1. Measures

The existing measures from prior studies were used for the survey questionnaire. All variables were measured using a five-point Likert-scale ranging from 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree. Training and development were measured by three items adapted from [39]. A four-item scale adopted from [39] was used to measure selection. Likewise, innovative work behaviour was measured by nine items adopted from [40, 41] and [17]. A nine-item scale adopted from [34] was used to measure self-efficacy.

4. Data analysis

To test the model of this study, we used the partial least square (PLS) path modelling technique; for this purpose, the SmartPLS software 3.2 version was hired. PLS-SEM technique has been used in a vast range of subjects such as marketing, management, and entrepreneurship [42–54].

Data analysis in PLS-SEM is a two-stage process; in the first stage, the measurement model is analyzed for validity and reliability while in the second stage, the structural model is tested for the significance and magnitude of path coefficients.

4.1. Measurement model evaluation

First, we assessed the measuring model. Table 1 shows the results of this assessment. We can see that outer loading values are well above the threshold value of 0.70. Similarly, composite reliability was also archived as the CR values were well above the 0.70 value. The average variance extracted (AVE) values are above 0.50, which shows that convergent validity is achieved. Next, we analysed the measurement model for discriminant validity and for this, we used HTMT criteria. Table 2 indicates that HTMT ratios were below the threshold value of 0.85. Hence discriminant validity is also achieved.

Another essential step of measurement model evaluation is the analysis of discriminant validity (DV). In this study, we used the HTMT ratio to analyze DV, as suggested by [55]. DV is the extent to which one variable is different from others. The threshold value for DV is 0.85. The results of HTMT ratios are presented in Table 2, which shows no issue of DV.

4.2. Structural model evaluation

The second stage of PLS-SEM is the analysis of the structural model for the significance and magnitude of the path coefficients. In this study, we used bootstrapping function of SmartPLS with 5000 replicates and 300 cases [56]. Results presented in Table 3 show that HPWP and SE has a positive and significant impact on IWB.

To check the predictive accuracy of the model, we also reported R^2 value, which is the percentage change in the dependent variable caused by the independent variables. We found that HPWP and SE cause 34% of the variance in IWB.

Table 1
Measurement Model Evaluation Results

Ist order	Items	Loadings	CR	AVE
Training and Development	T&D1	0.768	0.803	0.576
	T&D2	0.756		
	T&D3	0.752		
Selection	Selections1	0.722	0.856	0.598
	Selections2	0.819		
	Selections3	0.785		
	Selections4	0.765		
Self-Efficacy	SE 1	0.832	0.942	0.646
	SE 2	0.824		
	SE 3	0.729		
	SE 4	0.854		
	SE 5	0.776		
	SE 6	0.856		
	SE 7	0.666		
	SE 8	0.780		
	SE 9	0.892		
Innovative work behaviour	IWB1	0.712	0.920	0.562
	IWB2	0.723		
	IWB3	0.752		
	IWB4	0.772		
	IWB5	0.789		
	IWB6	0.715		
	IWB7	0.722		
	IWB8	0.762		
	IWB9	0.792		

Table 2
Discriminant validity by HTMT Ratio

Factors	HTMT Ratio
T&D	0.360
Selection	0.425
IWB	0.353
SE	0.311

Table 3
Significance of Path Coefficients

Path	Coefficients	T Statistics	P Values
T&D ->IWB	0.254	4.840	0.000
Selection ->IWB	0.282	3.943	0.000
SE ->IWB	0.291	4.121	0.000

4.3. Mediation effect of SE

To test the mediating effect of SE on HPWP-IWB, we tested the significance of the indirect effect. The

Table 4
Mediation Results

	Specific Indirect effect	T value of the direct effect	Type of Mediation
T&D->SE->IWB	0.313	3.684	Complementary mediation
Selection->SE->IWB	0.215	2.931	Complementary mediation

results of the specific indirect effect are presented in Table 4. The indirect effect of HPWP on IWB through SE was significant. According to Hair et al. (2017) if the direct and indirect effects both are significant and point in the same direction, the type of mediation would be complementary mediation; hence SE has a complementary mediating effect on HPWP-IWB linkages.

5. Discussion

The purpose of this study is to investigate the effect of HPWP facets on the innovative work behaviour of service sector employees. Additionally, the research conceptualised employee self-efficacy as a mediator in the relationship between HPWP and innovative work behaviour. The outcomes of this study rely on the data collected from 367 employees of the service sector universities of Pakistan. There are several dimensions of HPWP, but in this current study, we discuss two, i.e., training and development and selection because selecting the right talent and training the right attitude is considered the essence of high performance for any organisation. Many scholars endorsed that these two elements are an important part and part of a high-performance work system.

This study found a positive effect of HPW practices like selection and training and development on innovative work behaviour. The findings are the sequel of past literature [57]. Moreover, from an institutional perspective, the sense of self-confidence with one's profession can also develop professional awareness and determination to affirm innovative work behaviour for their institutions [58]. The hypothesised self-efficacy as a mediator in the relationship between HPWP and innovative work behaviour was supported. It is indicated that HPWP is directly as well as indirectly interrelated to innovative work behaviour. Most of the research on innovation is conducted on private, and we have restricted information and understanding of innovation in public organisations. The results of this study show the importance of innovative work behaviour in public organisa-

tions. Public organisations can build an innovative climate to empowering employees, giving them benefits, and educating employees' skills and motivations, in return employees can become more innovative and entrepreneurial [59–61].

According to scholars, social exchange theory impacts employee work-related behaviour [62, 63]. The Social exchange would drive us to create an emotional state of gratitude, responsibility, and trust [64], that provoke employees to repay with positive attitudes and favourable working behaviours [65].

5.1. Implications

This study has theoretical implications as it adds to the literature on self-efficacy, high-performance work practices, and innovative work behaviour. The organisations invest efficiently in employees by implementing HR practices such as training and selection. In return, employees can recognise that their institutes value them, and they feel satisfied with the needs for ability and affiliation. When these needs are fulfilled, most probably, they feel psychologically satisfied and innovatively improved. According to this logic, the employees feel energetic and motivated to investigate novel ideas to come up with for the betterment of their institution. The findings of the study are equally important for both developed as well as developing countries like Pakistan. The findings will be important for managerial as purposes as well as organisations like educational institutions that are emphasising on innovation in several ways.

Firstly in designing a job that enriches employees with autonomy to work innovatively. Secondly, in introducing policies focusing mainly on shaping the work behaviour of employees that broadly adds to the goodwill as well as the performance of the organisations. Further, in the developing countries, the finding will prove to be a flux of revision and change in strict and outdated policies, not much-empowering employees to work innovatively with some delegated authority. In a nutshell, HR practices will be refined by applying the findings of the study

There are some practical implications as it is amongst the pioneer researches in the Pakistani service sector. It may support in emerging a practical understanding needed to create innovative work behaviour. This research can be a guidance for the organisations that need their employees to reveal innovative behaviour adopting different techniques and teaching activities. Current research shows that the organisations required to cultivate a bundle of HR practices according to their environments that can ripen employee self-efficacy and further, can raise innovative work behaviour.

5.2. Limitations and future directions

Although our study contributes to the literature on innovative work behaviour and HPWP, it also suffers some limitations. First, the study is based on a cross-sectional method; thus, the causality cannot be guaranteed. Therefore, a longitudinal study is suggested for the future. Second, the data has been collected through a single source, which may cause a common method bias; therefore, a dyadic method of data collection should be adopted in the future. Third, the study is focused on the service sector (education institutes). Future studies should be conducted in other sectors to enhance generalizability, such as manufacturing and information technology. Also, the model of this study can be replicated in other geographical areas.

Furthermore, a comparative study of public as well as private institutes may also provide a richer understanding of the role of HPWP and IWB. Fourth, since this study is based on a deductive approach, which may not provide an in-depth understanding, thus, a mixed-method approach for future study may prove to be an appropriate approach for more in-depth and better understanding. Lastly, this study utilised only two dimensions of HPWP; future studies should explore multiple dimensions of HPWP. Furthermore, it will also be interesting to see the mediating role of other factors such as organizational climate and culture in the HPWP-IWB link.

Acknowledgments

We want to thank the anonymous reviewers for their insightful comments and suggestions.

Author contributions

CONCEPTION: Aneeqa Zreen

METHODOLOGY: Aneeqa Zreen and Muhammad Farrukh

DATA COLLECTION: Aneeqa Zreen and Nagina Kanwal

INTERPRETATION OR ANALYSIS OF DATA: Muhammad Farrukh and Aneeqa Zreen

PREPARATION OF THE MANUSCRIPT: Aneeqa Zreen and Nagina Kanwal

REVISION FOR IMPORTANT INTELLECTUAL CONTENT: Muhammad Farrukh, Aneeqa Zreen and Nagina Kanwal

SUPERVISION: Muhammad Farrukh

References

- [1] Farrukh M, Ying C, Mansori S. Intrapreneurial behavior: an empirical investigation of personality traits. *Manag Mark Challenges Knowl Soc.* 2016;11(4):597-609.
- [2] Yildiz ML, Namık R, Sokak I. The Effects of Organizational Culture on Corporate Entrepreneurship. *Int J Bus Soc Sci.* 2004;5(5):35-45.
- [3] Lekmat L, Chelliah J. What Are The Antecedents to Creating Sustainable Corporate Entrepreneurship in Thailand? *Contemp Manag Res [Internet].* 2014;10(3):181-202. Available from: <http://www.cmr-journal.org/article/view/11741>
- [4] Kirby EL. "Helping you make room in your life for your needs": When organizations appropriate family roles. *Commun Monogr.* 2006;73(4):474-80.
- [5] Joanna N. Individual intrapreneurship in organisations: a new measure of intrapreneurial outcomes [Internet]. University of York; 2015. Available from: <https://core.ac.uk/download/pdf/42606125.pdf>
- [6] Balu P. Exchange and power in social life. New York: Wiley; 1964.
- [7] Guthrie JP. High-involvement work practices, turnover, and productivity: Evidence from New Zealand. *Acad Manag J.* 2001;44(1):180-90.
- [8] Habib A, Khalid A. High-Performance Work Practices and Environmental Social Responsibility of Firm: Mediatory role of Individually Perceived Stress. *Int J Bus Psychol.* 2019;1(2):1-21.
- [9] Naeem K, Dapeng L, Durrani DK, Anjum MA. High-performance work practices versus work-role ambiguity. *Hum Syst Manag.* 2019;38(2):141-8.
- [10] Ahmadi A, Abzari M, Nasr Isfahani A, Safari A. High-performance, knowledge sharing and ICT skills. *Hum Syst Manag.* 2018;37(3):271-80.
- [11] Murphy GD, Southey G. High performance work practices. *Pers Rev.* 2003.
- [12] Messersmith JG, Guthrie JP. High performance work systems in emergent organizations: Implications for firm performance. *Hum Resour Manag Publ Coop with Sch Bus Adm Univ Michigan alliance with Soc Hum Resour Manag.* 2010;49(2):241-64.

- [13] Shore LM, Bommer WH, Rao AN, Seo J. Social and economic exchange in the employee-organization relationship: the moderating role of reciprocity awareness. *J Manag Psychol*. 2009.
- [14] Boselie P. High performance work practices in the health care sector: a Dutch case study. *Int J Manpow*. 2010.
- [15] Tang G, Yu B, Cooke FL, Chen Y. High-performance work system and employee creativity. *Pers Rev*. 2017.
- [16] Boselie P, Dietz G, Boon C. Commonalities and contradictions in HRM and performance research. *Hum Resour Manag J*. 2005;15(3):67-94.
- [17] Geležinytė R, Bagdžiūnienė d. Inovatyvus elgesys darbe: kai kurie psichometriniai lietuviškojo klausimyno rodikliai. *Innov Work Behav SOME Psychom Prop Lith Quest*. 2016;53:59-77.
- [18] Mansoor A, Farrukh M, Wu Y, Abdul Wahab S. Does inclusive leadership incite innovative work behavior? *Hum Syst Manag*. 2020;(Preprint):1-10.
- [19] Atitumpong A, Badir YF. Leader-member exchange, learning orientation and innovative work behavior. *J Work Learn*. 2018;30(1):32-47.
- [20] Abbas W, Wu W. The moderating role of intrapreneurial personality in relation between leader humility and innovative behavior. *Hum Syst Manag*. 2019;38(4):329-37.
- [21] Sanders K, Frenkel S. HR-line management relations: Characteristics and effects. *Int J Hum Resour Manag*. 2011;22(8):1611-7.
- [22] Younas W, Farooq M, Khalil-Ur-Rehman F, Zreen A. The Impact of Training and Development on Employee Performance. *IOSR J Bus Manag IOSR-JBM*. 2018;20(7): 20-3.
- [23] Tremblay M, Cloutier J, Simard G, Chênevert D, Vandenberghe C. The role of HRM practices, procedural justice, organizational support and trust in organizational commitment and in-role and extra-role performance. *Int J Hum Resour Manag*. 2010;21(3):405-33.
- [24] Karin S, Matthijs M, Nicole T, Sandra G, Claudia G. How to support innovative behaviour? The role of LMX and satisfaction with HR practices. *Technol Invest*. 2010;2010.
- [25] Knol J, Van Linge R. Innovative behaviour: The effect of structural and psychological empowerment on nurses. *J Adv Nurs*. 2009;65(2):359-70.
- [26] Davies B, Davies BJ. Talent management in academies. *Int J Educ Manag*. 2010.
- [27] Nielsen P, Rasmussen P, Fong C, Ooi K, Tan B, Lee V, et al. HRM practices and knowledge sharing: an empirical study. *Int J Manpow*. 2011.
- [28] Veenendaal A, Bondarouk T. Perceptions of HRM and their effect on dimensions of innovative work behaviour: Evidence from a manufacturing firm. *Manag Rev*. 2015;138-60.
- [29] Huselid MA, Becker BE. The strategic impact of high performance work systems. In: *Academy of management annual meeting, Vancouver*. 1995.
- [30] Chan SCH. Transformational leadership, self-efficacy and performance of volunteers in non-formal voluntary service education. *J Manag Dev*. 2020.
- [31] Mehmood MS, Jian Z, Gilal FG. Entrepreneurial leadership and employee innovative behavior: Intervening role of creative self-efficacy. *Hum Syst Manag*. (Preprint):1-13.
- [32] Newman A, Herman HM, Schwarz G, Nielsen I. The effects of employees' creative self-efficacy on innovative behavior: The role of entrepreneurial leadership. *J Bus Res*. 2018;89:1-9.
- [33] Abbas W, Wu W. Employee innovativeness, fairness and organizational support: An empirical assessment. *Hum Syst Manag*. 2019;38(2):169-77.
- [34] Farrukh M, Khan AA, Shahid Khan M, Ravan Ramzani S, Soladoye BSA. Entrepreneurial intentions: the role of family factors, personality traits and self-efficacy. *World J Entrep Manag Sustain Dev*. 2017;13(4):303-17.
- [35] Pratoon K, Savatsomboon G. Explaining factors affecting individual innovation: The case of producer group members in Thailand. *Asia Pacific J Manag*. 2012;29(4):1063-87.
- [36] Zhang Y, Begley TM. Perceived organisational climate, knowledge transfer and innovation in China-based research and development companies. *Int J Hum Resour Manag*. 2011;22(01):34-56.
- [37] Schuh SC, Zhang X, Morgeson FP, Tian P, van Dick R. Are you really doing good things in your boss's eyes? Interactive effects of employee innovative work behavior and leader-member exchange on supervisory performance ratings. *Hum Resour Manag*. 2018;57(1):397-409.
- [38] Krejcie R V, Morgan DW. Determining sample size for research activities. *Educ Psychol Meas*. 1970;30(3): 607-10.
- [39] Sun L, Aryee S, Law K. High-Performance Human Resource Practices, Citizenship Behavior, and Organizational Performance: a Relational Perspective. *Acad Manag J*. 2007;50(3):558-77.
- [40] Kleysen RF, Street CT. Toward a multi-dimensional measure of individual innovative behavior. *J Intellect Cap*. 2001;2(3):284-96.
- [41] Janssen O. Job demands, perceptions of effort-reward fairness and innovative work behaviour. *J Occup Organ Psychol*. 2000;73(3):287-302.
- [42] Mivehchi L, Rajabion L. A framework for evaluating the impact of mobile games, technological innovation and collaborative learning on students' motivation. *Hum Syst Manag*. 2020;39(1):27-36.
- [43] Novak A, Breznik K, Natek S. How leaders can initiate knowledge management in organizations: Role of leadership style in building knowledge infrastructure. *Hum Syst Manag*. 2020;39(1):37-50.
- [44] ChenXi W, Sara R. The Role of Supply Chain Integration in Supply Chain Performance (An Empirical Study on Chinese Tropical Fruits and Vegetable Industry). *Int J Bus Psychol*. 2019;1(2):61-71.
- [45] Anjum T, Ramzani SR, Nazar N. Antecedents of Entrepreneurial Intentions: A Study of Business Students from Universities of Pakistan. *Int J Bus Psychol*. 2019;1(2):72-88.
- [46] Ullah MN. Impact of Service Quality on Patient Satisfaction and Loyalty in Bangladeshi Hospitals. *Int J Bus Psychol*. 2019;2(1):89-94.
- [47] Shahriari M, Abzari M, Nasr Isfahani A, Kianpour M. Learning, innovation and high performance in knowledge-based firms. *Hum Syst Manag*. 2017;36(4):285-95.
- [48] Farrukh M, Sajid M, Lee JWC, Shahzad IA. The perception of corporate social responsibility and employee engage-

- ment: Examining the underlying mechanism. *Corp Soc Responsib Environ Manag.* 2020;27(2):760-8.
- [49] Muhammad F. Knowledge sharing in higher education institutes [Internet]. Muhammad S, editor. Vol. ahead-of-p. *Journal of Applied Research in Higher Education.* 2019. Available from: <https://doi.org/10.1108/JARHE-11-2018-0228>
- [50] Farrukh M, Lee JWCJWC, Shahzad IAIA. Intrapreneurial behavior in higher education institutes of Pakistan: The role of leadership styles and psychological empowerment. *J Appl Res High Educ.* 2019;11(2):273-94.
- [51] Farrukh M, Lee JWCJWC, Sajid M, Waheed A. Entrepreneurial intentions: The role of individualism and collectivism in perspective of theory of planned behaviour. *Educ Train.* 2019;61(7/8):984-1000.
- [52] Shahzad IA, Farrukh M, Ahmed NO, Lin L, Kanwal N. The role of transformational leadership style, organizational structure and job characteristics in developing psychological empowerment among banking professionals. *J Chinese Hum Resour Manag.* 2018;9(2):107-22.
- [53] Farrukh M, Kalimuthu R, Farrukh S, Khan MS. Role of Job satisfaction and organizational commitment in Employee Loyalty: Empirical Analysis from Saudi Hotel Industry. *Int J Bus Psychol.* 2020;2(1-20).
- [54] Farrukh M, Kalimuthuan R, Farrukh S. Impact of Job Satisfaction and Mutual Trust on Employee Loyalty in Saudi Hospitality Industry: A Mediating Analysis of Leader Support. *Int J Bus Psychol.* 2019;1(2):30-52.
- [55] Henseler J, Sarstedt M. Goodness-of-fit indices for partial least squares path modeling. *Comput Stat.* 2013;28(2):565-80.
- [56] Hair, Jr. MSMRSP, Gudergan et al, Hair JF, Sarstedt M, Ringle CM, Gudergan SP. *Advanced Issues in Partial Least Squares Structural Equation Modeling.* Los Angeles: SAGE Publications; 2017. 1-5 p.
- [57] Bos-Nehles AC, Veenendaal AAR. Perceptions of HR practices and innovative work behavior: the moderating effect of an innovative climate. *Int J Hum Resour Manag.* 2017;30(18):1-23.
- [58] Kim W, Park J. Examining structural relationships between work engagement, organizational procedural justice, knowledge sharing, and innovative work behavior for sustainable organizations. *Sustainability.* 2017;9(2):205.
- [59] Demircioglu MA, Audretsch DB. Conditions for innovation in public sector organizations. *Res Policy.* 2017;46(9):1681-91.
- [60] Thompson JR, Sanders RP. Strategies for reinventing federal agencies: Gardening versus engineering. *Public Product Manag Rev.* 1997;137-55.
- [61] Sahni NR, Wessel M, Christensen CM. Unleashing breakthrough innovation in government. *Stanford Soc Innov Rev.* 2013;11(3):27-31.
- [62] Brown ME, Treviño LK. Ethical leadership: A review and future directions. *Leadersh Q.* 2006;17(6):595-616.
- [63] Garba AS. Promoting entrepreneurship amidst poverty and unemployment: The role of Nigerian educational policies. *Int J Asian Soc Sci.* 2017;7(8):684-95.
- [64] Blau P. *Power and exchange in social life.* NY John Wiley Sons. 1964.
- [65] Kacmar KM, Bachrach DG, Harris KJ, Zivnuska S. Fostering good citizenship through ethical leadership: Exploring the moderating role of gender and organizational politics. *J Appl Psychol.* 2011;96(3):633.