

Information technology moderation in HR functions of public sector organisations in Pakistan

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Abstract: The current study has been conducted to identify key roles played by information technology in all human resource departments of public sector organisations operating in Pakistan. It finds that information

technology has changed the operations and functions of the HR department. Overall 290 questionnaires returned back with 76.86% response rate. Various data tests and controlled moderation model has been applied to achieve the objectives. The results suggest that information technology significantly moderates the execution of human resource functions in human resource department of Pakistani public sector organisations. The study highlights the increasing importance of IT in the effective functioning of public sector HR departments.

Keywords: information technology; human resource department; public sector; regression analysis; Pakistan.

Reference to this paper should be made as follows: Shah, S.A.A., Gul, A., Ahmad, M.A., Sukmana, R. and Kustiningsih, N. (2021) 'Information technology moderation in HR functions of public sector organisations in Pakistan', *Int. J. Technological Learning, Innovation and Development*, Vol. 13, No. 4, pp.370–387.

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1 Introduction

Technology innovations have brought all segments of the society subject to rapid change and human resource management function is not an exception (Murawski and Bick, 2017). Technological advancements in social interactions affect productivity, efficiency and skills, which continue to evolve making work specialties extremely dynamic in terms of modules and context (Corporaal et al., 2019; Bekhet and Latif, 2019). Fast paced innovations have given rise to 'gig economy', which is always subject to usability, imaging and testing. This means 'menial risks' on one hand and design, user testing and consultancy on the other (Kost et al., 2019).

With the pace of innovation so high it has become extremely important to comprehend the dynamics of technologies. Furthermore, there is also a need to

potentially revise traditional HR theories to answer the questions asked by the technology to manage human resources (Mohtarami, 2017; Connelly et al., 2020).

Taking account of the gravity in developments of information technology it is important to comprehend how expertise, exposure and competencies of traditional employees are affected by the technology interface. A strong argument for such enhanced comprehension also comes from the fact that technological skills of no two persons are alike. This varying degree of skill level even while remaining on job makes opportunities for the employers to change their business models and strategies in the face of varying economic circumstances (Bekhet and Latif, 2019; Kaplan and Haenlein, 2019).

Gig mechanism brings benefits of digitised labour making them ‘accessible’, ‘peer-based’ and ‘participatory’. This makes the relationships although more lithe and liquid but temporary in nature (Meijerink and Keegan, 2019). Gig platforms also have disadvantages. For instance, eroding potential relationships and benefits arising from shared work practices; problems of non-acceptance in society; and misconception in employers about lack of cohesion in workforce. It is therefore important to analyse the factors that cause the growing use of technology important for organisations (Connelly et al., 2020).

Human capital is valuable asset of organisations to face modern challenges, achieve technological advancements, gaining competitive advantage, and introducing innovative business trends in global markets (Purohit and Martineau, 2016; Akour et al., 2020). It helps in achieving organisational goals on one hand that includes survival, expansion and growth, productivity, profitability, excellence and innovation, and individual goals on the other that encompass job security, pay and perquisites, job satisfaction, recognition, appreciation, and challenging work. However in order to expand an organisation, integration of both employees and organisational goals is essential. In this way, human resource management is a fundamental sub-system of organisations playing a central role in developmental process of contemporary economies.

Excellent human resource management activities assist in attracting, selecting, and retaining best employees throughout the journey of organisational survival. This provides attractive and healthy work environment for effective exploitation of competencies and capabilities. The use of technology in human resource department encompasses applications that address recruitment process, employee’s training and developmental activities, data storage and retrieval, compensation procedure, performance appraisal system, benefits administrations, working times, and HR management information system (Panayotopoulou et al., 2010).

The organisation needs to secure and make confidential all business and employee information so that it cannot be misused. Due to this reason HR information system (HRIS) software are intelligent choices to reduce paper work, which will help in streamlining the processes and data organisation (Kathuria, 2014). The investment in human resource information system brings benefits for organisations not only in terms of storage and management but also a pack of solutions for different HR problems (Kathuria, 2014; Akour et al., 2020).

The present research identifies how well informed is public sector organisations in Pakistan about the role of information technology. In doing so it explores the inclination of the staff and their suggestions about the impact of information technology in performance of their duties. This is important because in the present era importance the use of information technology has increased manifold due to rapid spread of the pandemic. This has caused all the activities such as recruitment, selection, training, and

rewarding for the performance of employees in the organisation being conducted online. The feedback from the employees of public sector organisations about the role of information technology in the performance of duties will highlight how pivotal it has become in the modern era.

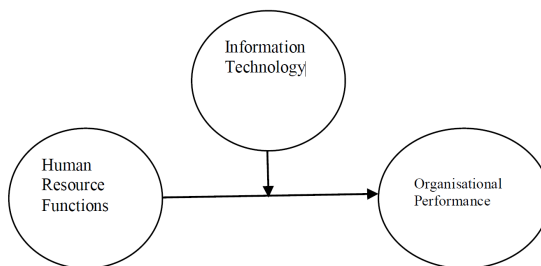
2 Literature review

2.1 Theoretical framework

An organisation has four types of capital viz., human, economic, social and natural (Sobel, 2002). Social capital theory explains how knowledge is spread between masses through social relationships. Social capital is in fact a combination of shared identity, culture and philosophy, inter-personal relationships, and collective understanding (Fu et al., 2006; Martinsons et al., 2017). It actually helps in maintaining a balance between relationships (Cardy and Selvarajan, 2006). Social capital theory works in three dimensions viz., relationships, access to opportunities and resources, in terms of knowledge, funds, assets and technology. Social capital is therefore important because it provides a basis for connection between people, which ultimately helps in improving innovations. This follows that innovation in technology can help improve productivity, efficiency, and individual performance. Therefore, the basic grounds of this theory are stemmed into social exchange theory.

The roots of this study are further expanded into JD-R theory of Demerouti and Bakker (2011), which is a leading theory being used in HRM studies (Bakker and Albrecht, 2018; Bakker and Demerouti, 2014). Shantz et al. (2016) has used this theory in the context of training, opportunities for development, participation in decision making and communication in human resource management and related systems. This leads to the theoretical framework for the purpose of this research (Figure 1).

Figure 1 Theoretical framework of the research



Human resource (HR) management practices and techniques developed in commercial settings are now extensively adopted by various public sector organisations (Berdejo, 2019). This enables them evaluate their HR performance more effectively (Ybema et al., 2020). For effective HR management systems, corporations must have sound HR management practices that are indispensable for managing human capital whilst ensuring that human resources are utilised for the achievement of firm goals. Corporate HR management operations have gained escalating strategic importance as effective HR

management is imperative. This enables organisations to convene the marketplace demands with highly competent and well qualified workers always (Kravariti and Johnston, 2020).

Information technology and HR management have a wide-ranging impact on each other (Fernández-Sastre and Martín-Mayoral, 2017). Therefore human resource professionals must be capable of adopting modern technologies to let them reengineer human resource functions and help them develop an appropriate managerial environment for knowledge-centred and innovative organisations. Such technological advancements are primarily driven by huge demands from HR experts for enhancements in effectiveness, cost efficiency, and speed of operations. Empirical studies conclude that HR management systems can simultaneously meet the challenges of becoming more flexible, strategic, customer-oriented, and cost efficient by leveraging technology (Bondarouk et al., 2017).

Personal computers are a fundamental tool for almost all human resource professionals in both public and private sector organisations (Berdejo, 2019). This makes virtual human resource an emerging field because of rising sophistications of information technology and enlarged outside structural options. The use of information technology enables firms deliver modern HR services that has reduced expenses on sophisticated HR technologies. Moreover it also helps in formation of IT-based work environment (Bondarouk et al., 2017).

The advancements in the field of information technology have led to meet the contemporary challenges of HR management (Isaac et al., 2018). This includes attracting, selecting, retaining and encouraging employees as well as managing the human component of technological revolution in future. HR management may perhaps support the attempts of technological modernisation for achieving high performance work activities by realising the whole potential of IT and firm-wide strategies. One of the prevalent advantages of using information technology in HR management is that it assists HR employees in freeing from intermediary functions, hence permitting them to completely concentrate on strategic HR planning and development (Silva and Lima, 2018). IT has actually smoothen the way to automate day to day work activities such as administration, transactions and payroll processing in order that HR experts fully devote their attention towards other strategic affairs such as enhanced productivity and improved employee performance (Agrawal, 2018).

In the current scenario of extreme globalisation, corporations and their work climate have become progressively more complex. Therefore managers have to face increasing difficulties to control human force that comes from different cultures, countries, and political setups. In such a challenging and complex environment information technology as a mean has a substantial potential that managers might exploit, both in general and in HR functions particularly to enhance the competencies of an organisation. Considerable benefits of information technology and communication can impeccably be transferred to human resource applications allowing the professionals to follow the same in HRIS (Njoku et al., 2019).

A human resource information system is an organised process for gathering, accumulating, upholding, validating, and retrieving data that is needed by a firm for its human capital, employee activities, and organisational strategic planning (Mokhtarzadeh and Faghei, 2019). In addition, HRIS is not merely a database but also provides a decision making tool to the management of an organisation.

Information systems support long-standing planning for workforce, demand and supply forecasts, recruitment on equal employment basis, candidate qualifications, training and development program costs and learner work performance (Shahreki et al., 2020). Such systems also support the salary forecasts, compensation programs, employee and management relationships, pay budgets with data on indenture negotiations, and labour assistance needs. Surveys conducted by prior researchers conclude that approximately more than 90% human resource departments are operating under several forms of computerised human resource management system (Holland and Bardoel, 2016).

2.2 Role of IT in different areas of human resource management

HRIS is an integrated approach of obtaining storing information used to make decisions and perform analysis in human resource management (Shahreki et al., 2020). It moderates various HR activities (Shahreki et al., 2020). Functionally HRIS is an online solution for data entry, data information requirements, data tracking of employees, payroll, accounting and management operations in a business (Mukherjee et al., 2014). Information technology has been applied in various functions of human resource management. An analysis of its role in different functions has been given hereunder to arrive at hypotheses of this research:

2.2.1 Recruitment

HR functions have been impacted by information technology in employee recruitment. Before the inception of internet, human resource recruiters relied on print media like newspapers, to post different job ads for different positions. However, print media does not have the potential to post job ads at once on diverse locations and have thousands of people notice it in a flash (Mukherjee et al., 2014). Information technology actually has made the recruiting process more efficient, economic, timesaving and effective as well.

E-recruitment is an approach that uses internet to magnetise potential candidates to the firm. This is to be achieved utilising the firm's own corporate website along with commercial job-boards (Buil et al., 2020). Such a system manages job vacancies, search for applicants, job descriptions, and interview process. E-recruitment is also known as an applicant tracking system, which electronically handles the corporate employment needs (Mukherjee et al., 2014; Plantinga and Adams, 2021). E-recruitment comprises of activities such as posting job ads on websites to attract and stimulate candidates, allows applicants to apply online and simultaneously stores the applicant's records on electronic database that let HR managers to search, screen, and filter applicant's job applications. The technology shortlists the potential applicants and organises them for interview and other recruitment activities. This presents first hypothesis for the purpose of this research:

H1 Use of information technology improves the human resource recruitment process in an organisation.

2.2.2 Training and development

IT-based training and developmental program tracks worker profiles and schedules training events. Moreover, it manages the classifications of training, authorities,

responsibilities, and certification requirements for every employee in a user friendly environment (Landers and Armstrong, 2017). The organisational learning management systems let HR department track experiences, education, capabilities, and skills of employees along with outlining different sorts of training courses, compact disks, books and web-based learning necessary for up gradation of task related skills (Wingreen and Blanton, 2018). This presents second hypothesis for the purpose of this research:

- H2 Use of information technology improves the human resource training and development process in an organisation.

2.2.3 Benefits and administration

The administration of benefits entails the management and creation of labour benefits by providing strong grounds for understanding that how employees can qualify for these benefits (Papageorgiou, 2018). The purpose of IT-based benefits administration program is to track and administer the participation of employees in different benefits programs (Micu et al., 2017). Typically this program encompasses insurance, profit sharing, compensation and retirement. This presents third hypothesis for the purpose of this research:

- H3 Use of information technology improves the human resource benefits and administration process in an organisation.

2.2.4 Payroll

Organisational payroll sheet comprises of all the monetary records of wages, salaries, perquisites and deductions offered to employees. In other words it is the amount of financial benefits paid to workers against their services. The payroll administrative body has the fundamental assignment to computerise the organisational compensation process so that payroll management system produces pay-slips by taking into consideration all the financial aspects of payroll sheet (Rohilla, 2017). In addition it offers a number of benefits including security management, custom-based payroll processes, employee's work completion reports and managing a vast array of employee compensation records. This presents fourth hypothesis for the purpose of this research:

- H4 Use of information technology improves the human resource payroll process in an organisation.

2.2.5 Self-service approach

Use of IT in HR has enabled human resource departments launch the employee self-service approach that lets them query HR information and execute some human resource transactions (Meijerink et al., 2016). Labour can also locate their attendance records from systems without inquiring the required statistics from human resource personnel. It also allows supervisors to approve over-time requests received from subordinates with no overloading at work. A number of firms have gone away from the conventional functions, hence developed HRIS that support selection, employing, job placement, performance management, benefit analysis, health, security and safety (Mukherjee et al., 2014; Saatci and Ovaci, 2020). This presents fifth hypothesis for the purpose of this research:

- H5 Use of information technology has enabled self-service options for employees of an organisation that improve HR operations.

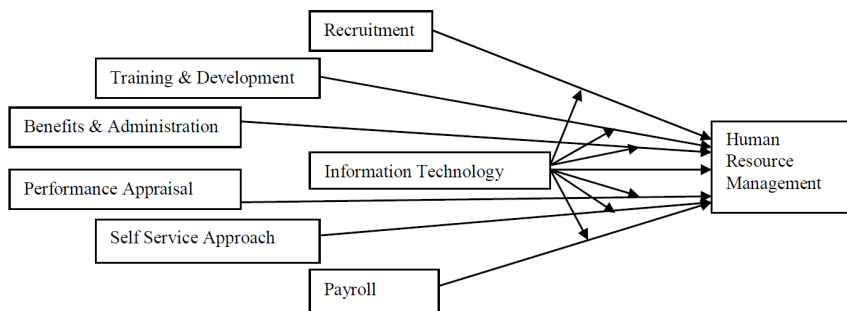
2.2.6 Performance appraisal

IT-based performance management systems help HR managers to evaluate and compare work performance of its employees against predetermined set of objectives (Mukherjee et al., 2014; Wahyuni and Irawan, 2020). Some performance appraisal applications are meant for compensation-based appraisal, performance improvement, termination, promotion and testing validation. There is an agreement of opinion that performance appraisal system leads to positive organisational results. Therefore such IT-based modules have also been incorporated in the contemporary human resource management systems (van der Merwe and Botha, 2019; Sanni, 2021). This presents sixth and final hypothesis for the purpose of this research:

- H6 Information technology plays a significant role in performance appraisal of human resource management activities.

The hypotheses shall be tested using the conceptual framework of our research (Figure 2).

Figure 2 Conceptual framework



3 Methodology

3.1 Data collection

Overall 300 self-reported questionnaires were distributed in the HR department of various public sector organisations out of which 235 received back making response rate of 78.33%. The questionnaire contained a paragraph explaining the purpose of research with a statement that the response is voluntary. Out of 235 questionnaires 37 were incomplete that were rejected and we sent a second round of 102 questionnaires to another set of organisations that were not selected before. In the second round we received back a total of 77 questionnaires with the response rate of 75%. Out the 77 questionnaires 21 were incomplete that were not selected. In the third round we again distributed 56 questionnaires in still another set of organisations out of which 40 received back with response rate of 71.43%. In the third round 4 were incomplete that were

rejected. Doing this activity was meant to ensure that we collect complete questionnaires with the numbers close to our original target of 300. Overall response rate after three rounds of questionnaire distribution arrived at 76.86%.

A total of 290 questionnaires have been taken for analysis and interpretation. Male respondents constitute 57% of the sample whereas female respondents are 43%. Regarding age 51% of the respondents are between 26–34 years of age group, below 25 years are 27% while the 22% were over 34 years of age. A majority of 60% have up to 5 years of working experience in HR. 23% have 5 to 10 years of working experience while the remaining have over ten years of working experience. Regarding qualifications, 71% have a masters degree, 26% have a bachelors degree while the rest have intermediate or less qualification.

3.2 Measures and instrumentation

All the items have been measured on a five-point Likert scale with 1 regarded as ‘strongly disagree’ whereas 5 regarded as ‘strongly agree’.

3.2.1 Recruitment

Recruitment has been measured in terms of recruitment efficiency and employer efficiency. Schnars and Kleiner (2000) argue that factors of recruitment efficiency include amongst others, cost to hire and time to hire. Another aspect of recruitment is employer efficiency climate. It is to be measured in the dimensions of organisational policies and employee emotional attachment to work (Knight et al., 2018). Still another aspect is effect of positive emotion and reward system that also needs to be measured for employer effectiveness (Knight et al., 2018).

3.2.2 Training and development

Measuring training and development has many dimensions. First is motivation that is a desire to do something. Second is self-efficacy that is actually the ability to control one’s emotions and functions in such a way that enhance communication functions and behaviour (Bandura, 2001). Third is cognition, which is enhancement of knowledge. It is reciprocal to self-efficacy but actually enhances cognitive skills (Deci et al., 1991; Bandura, 2001). Fourth is affect, which is representation of emotions arising out of cognition leaving positive impact of learning intentions by enhancing memory and learning intentions. Better training must have good learning applications and output that can satisfy people attending it. Final is behaviour, which means goal oriented actions, which is measured taking into account motivation, knowledge, motivation and attitude (Deci et al., 1991).

3.2.3 Payroll and benefits administration

Chukwuma (2020) finds positive impact of payroll benefits on the performance of employees. They measures the role of payroll and benefits in four dimensions namely, employee performance, employee morale, employee turnover and employee commitment.

3.2.4 Self-service assessment

Self-service assessment is actually a mechanism that involves technology, where the user becomes co-producer of the service (Li et al., 2013). It is measured along various dimensions such as familiarity level (Collier et al., 2015); types of self-service transactions and interaction with employees handling the process, and factors arising out of relevant situations (Collier et al., 2015).

3.2.5 Performance appraisal

Performance appraisal can be subjective and objective both of which can be implemented simultaneously (Kampkotter and Sliwka, 2016). Objective appraisal includes measures such as output produced or units sold (Kampkotter and Sliwka, 2016). Subjective appraisal is based on judgment of the appraiser. The dimensions of subjective performance appraisal consist of collaboration with peers and customer relationship person making evaluation and frequency of appraisal.

3.2.6 Role of information technology

Information technology helps human resource management by curtailing costs and resolving administrative issues (Kariznooe et al., 2012). It has four dimensions to be considered viz., emphasising strategic inquiries, adapting policies and SOP's according to requirement, adequacy of work with relevant costs, and lastly accessibility of managers and workers (Schramm, 2006).

4 Discussion and analysis

Normality, multicollinearity and linearity have been ensured in terms of Hair et al. (2016). To achieve the objectives of the research hierarchical regression has been used according to the recommendations of Wardi et al. (2018). This method explains variance in dependent variable having controlled all other variables. The aim of model measurement is assessment of psychometric properties of the study. It consists of checking reliability and consistency along with analysing discriminant and convergent validity (Hair et al., 2016). Hair et al. (2016) recommendations of outer loadings have been used for individual item reliability where a score of 0.7 or above is considered more reliable (Hair et al., 2016). Internal consistency has been checked using composite reliability functions that should also not be less than 0.7 (Bagozzi and Yi, 1988). The results of all the procedures have been reproduced in Table 1.

The discriminant validity in Table 2 of data has been confirmed using the recommendations of Hair et al. (2016) who suggest square root of AVE should be greater than compared reflective loadings of remaining constructs in cross-loading table. The results have been produced in Table 2.

In order to test the relationship this research examines 49 different models using hierarchical regression however, for the purpose of this research we present here 7 most relevant models that test full moderating relationships in Table 3.

Table 1 Loadings, composite reliability and average variance explained

<i>Construct</i>	<i>Items</i>	<i>Loadings</i>	<i>AVE</i>	<i>CR</i>
Recruitment	R-1	0.826	0.614	0.877
	R-2	0.710		
	R-3	0.756		
	R-4	0.834		
	R-5	0.893		
Training and development	TD-1	0.914	0.827	0.937
	TD-2	0.727		
	TD-3	0.898		
	TD-4	0.775		
	TD-5	0.851		
	TD-6	0.799		
	TD-7	0.936		
Payroll	P-1	0.703	0.691	0.835
	P-2	0.856		
	P-3	0.878		
	P-4	0.812		
Benefits	B-1	0.722	0.737	0.891
	B-2	0.794		
	B-3	0.815		
	B-4	0.701		
Self-service assessment	SSA-1	0.753	0.814	0.928
	SSA-2	0.888		
	SSA-3	0.709		
	SSA-4	0.719		
Performance appraisal	PA-1	0.827	0.834	0.933
	PA-2	0.856		
	PA-3	0.878		
	PA-4	0.727		
Information technology	IT-1	0.729	0.765	0.817
	IT-2	0.813		
	IT-3	0.894		
	IT-4	0.922		

Table 2 Discriminant validity

	<i>R</i>	<i>TD</i>	<i>P</i>	<i>B</i>	<i>SSA</i>	<i>PA</i>	<i>IT</i>
R	0.815						
TD	0.726	0.729					
P	0.525	0.527	0.762				
B	-0.564	0.633	0.614	0.818			
SSA	0.619	-0.527	-0.422	0.522	0.755		
PA	-0.771	0.531	0.616	-0.639	0.744	0.817	
IT	0.624	0.634	0.623	0.531	-0.633	0.591	0.722

Table 3 Model application

<i>Variables</i>	<i>Model1H1</i>	<i>Model2H2</i>	<i>Model3H3</i>	<i>Model4H4</i>	<i>Model5H5</i>	<i>Model6H6</i>	<i>Model7</i>
Intercept	0.625	0.319	0.425	0.669	0.735	0.456	0.519
<i>Control variable</i>							
Information technology	0.091	0.085	0.061	0.049	0.037	0.031	0.006
<i>Model</i>							
Recruitment	0.126	0.135	0.071	0.014*	0.017*	0.027*	0.013*
Training and development	0.137	0.056	0.074	0.059	0.025*	0.039*	0.048*
Payroll	0.196	0.124	0.019*	0.037*	0.049*	0.027*	0.021*
Benefits	0.054	0.117	0.048*	0.029*	0.125	0.028*	0.044*
Self-service assessment	0.028*	0.041*	0.041*	0.042*	0.038*	0.001*	0.037*
Performance appraisal	0.017*	0.048*	0.066	0.034*	0.014*	0.034*	0.013*
<i>Interaction</i>							
IT × R	0.259	0.137	0.212	0.027*	0.028*	0.038*	
IT × TD		0.371	0.148	0.039*	0.016*	0.025*	
IT × P			0.125	0.041*	0.044*	0.039*	
IT × B				0.046*	0.024*	0.026*	
IT × SSA					0.011*	0.016*	
IT × PA						0.049*	
R ²	0.256	0.317	0.396	0.415	0.457	0.482	0.371
R ² (change)	0.219	0.285	0.325	0.386	0.414	0.425	0.325
F-test (sig)	0.067	0.091	0.054	0.068	0.041	0.031	0.023

Note: *Level of significance 5%.

Results of the model in Table 3 suggest that Information technology significantly moderates various factors in overall management of human resources. The results of the model 6 show that IT has significantly moderates the effect of recruitment function in human resource management, which confirms the results of Mukherjee et al. (2014) and Plantinga and Adams (2021); training and development impact on human resource management, which supports the results of Wingreen and Blanton (2018); payroll management and disbursement affect on human resource management, which complies with the results of Rohilla (2017); impact of benefits on human resource management, which conform to Chukwuma (2020); self-service assessment impact on human resource management, which conform to Li et al. (2013) and Collier et al. (2015); performance appraisal impact on human resource management, which are in line with the works of Kampkotter and Sliwka (2016). Accordingly, the model in this study has been executed examining the moderating and controlling effect of information technology. This has been achieved by controlling the effect of information technology simultaneously taking it as moderator. In all the seven models the effect of information technology as control variable is significant only in models 4 to 7. The results depict that the value of control variable is significant only when there are no moderations in the model or the model has 4 or more moderations. The F-test of the model is also significant when there are no moderations or information technology is moderating with four or five variables. The VIF value has remained less than 4 in case of all the variables that negate multicollinearity. Based on results of the model Table 4 for rejection/acceptance of research hypotheses has been produced.

Table 4 Table for acceptance rejection of hypotheses

<i>Hypotheses</i>	<i>Reject/failed to reject</i>
H1 Use of information technology improves the human resource recruitment process in an organisation.	Failed to reject
H2 Use of information technology improves the human resource training and development process in an organisation.	Failed to reject
H3 Use of information technology improves the human resource benefits and administration process in an organisation.	Failed to reject
H4 Use of information technology improves the human resource payroll process in an organisation.	Failed to reject
H5 Use of information technology has enabled self-service options for employees of an organisation that improves HR operations.	Failed to reject
H6 Information technology plays a significant role in performance appraisal of human resource management activities.	Failed to reject

The results about effect of IT on recruitment support the results of Mukherjee et al. (2014), the results of effect of IT on training and development support the results of Landers and Armstrong (2017) and Wingreen and Blanton (2018), the results of effect of IT on benefits support the results of Micu et al. (2017), the results of effect of IT on self-service support the results of Mukherjee et al. (2014), the results of effect of IT on performance appraisal support the Mukherjee et al. (2014), van der Merwe and Botha (2019) and Wahyuni and Irawan (2020).

5 Conclusions, implications, limitations and future research directions

Information technology has played a significant role in the management of human resource management systems. This study examines such roles using controlled moderation by analysing various segments of HRM in public sector organisations operating in Pakistan. This has been achieved using information technology as a variable that has been simultaneously controlled and moderated. It helped in analysing absolute moderation as distinct from conventional moderation models that do not control the effect of moderating variable before controlling its moderation with other variables. Further, the study has examined the ways by which HR departments of public sector organisation are exploiting IT-based human resource system to perform its various operations in an efficient manner.

At present, computer applications and programs are merely considered as a form of management, which when utilised properly; facilitate corporations to upgrade the quality of services and products it offers to the markets. Generally HR departmental functions are administrative in nature and are common to all type of organisations; hence IT is the best solution to cope with all the contemporary challenges of human resource operations. The use of IT in HR operations offer an extensive amount of benefits such as a paperless environment, data security, cost-effectiveness, enhanced storage efficiency, and time saving (Panayotopoulou et al., 2010).

Communication and information technology is an important expression of technologies pooled with social media, internet, computers and mobile communication. This allows corporations to modernise their inside processes, core competencies, structures, and relevant potential markets. Communication and information technologies operate from each part of the country thus have allegations for affecting each enterprise (Rohilla, 2017). Modern industries and businesses are captivating appropriate steps for execution of information technology in major areas of management of HR by facilitating human capital to optimally contribute in gaining organisational competitive advantage.

The results of this study although cannot be generalised, provide an evidence of the existing of moderation of information technology in various functions of human resource management. The research finds that information technology should be tailored to meet the characteristics of each organisation. In public sector organisations of Pakistan the role of information technology appears to be transversal. That is to say it enhances efficiency, quality and effectiveness of human resource functions. Inferring from the analysis it can be implied that adoption of human resource functions need to be achieved in accordance with the short and long-term objectives of an organisations. This further implies that achievement of IT implementation needs to be ensured in such a way that achievement of short run objectives complements long-term objectives

This research offers a ground for future research work in the same area. A detailed and in-depth study can be done with contributions of human resource departmental heads, human resource executives, senior HR executives, vendors, and IT executives. The study has highlighted the role of IT in human resource management as a whole. Future empirical researches should scrutinise in-depth role and impact of information technology in different sectors in order to construct a comprehensive evaluation. Moreover, in Pakistan, the same study can also be performed with more depth and IT tools and human resource management functions.

Future research could also be conducted by choosing a sample from other specific types of public sector organisations such as educational sector. Lastly, the sample for this study was chosen using non-probability sampling. The employees have been selected who were conveniently available; hence for more authentic future research work, random sampling may be applied with increased sample size as well. Also in order to enlarge generalisability of the results, human resource management of public sector service and manufacturing organisations may also be taken care of.

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