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Study Impact of E-HRM On Productivity and Innovation in Pakistan's Service/Manufacturing Sectors with Mediating Role of Knowledge Management and Moderating Role of Organizational Climate.

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ABSTRACT

The purpose of this comparative study was to investigate the impact of knowledge sharing and management (KS&M) as a mediator between electronic human resource management (EHRM), organizational innovation capabilities (OIC), and employee productivity (EP) in Pakistan's manufacturing and service sectors. The study is important since implementing KS&M is critical for increasing employee productivity and innovation. A survey questionnaire was issued to 303 employees, and a multi-group statistical analysis using SMARTPLS was performed to examine the links between the variables in each sector. The findings revealed that all hypotheses were supported in the overall sample, except H4. The impact of EHRM on OIC was found insignificant in the Manufacturing Sector but significant in the Service Sector. While the impact of KS&M on OIC was insignificant in the Service Sector, it was significant in the Manufacturing Sector. OC x KS&M →OIC was discovered to be insignificant in the Manufacturing Sector but substantial in the Service Sector. The overall sample data, however, demonstrated that the hypothesis was insignificant.

1. Introduction

Recent advances in communication and technology have shifted the paradigm of management-based systems. This transition also resulted in a shift in organizational activity. Earlier, Human Resource Management (HRM) started with filing cabinets containing employee records (Hopkins, B., & Markham, J., 2003). Later, a new concept known as electronic-human resource management (e-HRM)

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evolved that uses web-based technology to provide services related to human resource management in an organization - a more extensive range of organizational stakeholders can access these services, from the HRM department through managers to employees (Berber, 2018). Access to such systems in the corporate sector makes HR practices more constructive and imaginative to achieve strategic goals (Iqbal, Ahmad, Raziq, & Borini, 2019). (E-HRM) solutions are becoming increasingly significant for many firms to improve innovation through the usage of knowledge sharing and management. Moreover, the globalization of services, manufacturing operations, and the advanced business environment has resulted in ever-increasing competitive pressure. This motivates organizations to improve and revitalize their processes, systems, approaches, and services. This is commonly referred to as organizational innovation to gain a competitive advantage (Hussinki et al., 2017). When attempting to build an organizational innovation, it is critical to recognize the importance of (E-HRM) practices and knowledge repositories, as well as how they work to improve organizational innovation. Silva et al. (2018) observed in a recent study that the participation of innovation intermediates in collaborative projects would also allow them to create benefits closer to the company.

Surprisingly, organizations have been using e-HRM technology for more than 40 years for tactical and administrative advantages (Kovach, K. A., Hughes, A. A., Fagan, P., & Maggitti, P. G, 2002, 43–48). It offers greater utilization possibilities regarding employee self-service, knowledge sharing, function management, and report preparation. The efficiency of the human resource process can be impacted by reducing cycle time for paperwork, improving data accuracy, and requiring less labor, all of which are effects of e-HRM on both efficiency and effectiveness of the human resource function. Similarly, strengthening managers' and employees' capacity to make wiser judgments would impact the efficacy of human resource processes.

The competitive pressure has intensified as a result of the globalization of services, manufacturing, and Pakistan's sophisticated economic climate. This motivates companies to modify and reinvent their procedures, frameworks, methods, and offerings. To gain a competitive edge, this is sometimes referred to as organizational innovation capabilities. Organizations must concentrate on the skills of their personnel if they want to gain these competitive advantages. Organizations, however, have switched their attention from material resources to intangible ones like information, technologies, core skills, and creative abilities.

Every firm now recognizes the importance of technology in Pakistan and around the globe. As a result, the job of knowledge, which entails creating and sharing knowledge with the workforce within the business, is now regarded as a critical element for business success. Knowledge has grown in value over time and has become a tool for every firm to gain a competitive advantage by sharing information with internal and external partners (Hussinki et al., 2017). Organizational HR practices are critical in implementing Knowledge Management (KM) throughout the organization (Maruf & Zhou, 2015).

Due to a lack of a knowledge-sharing culture, poor infrastructure, insufficient training, and other obstacles, Pakistani companies confront hurdles in knowledge-sharing, digital HRM, and employee productivity (Khan et al., 2019; Akhtar et al., 2020; Irfan Raza et al., 2020). Furthermore, cross-cultural characteristics have significantly influenced information transference, exacerbating knowledge-sharing challenges in Pakistan's diverse workplaces (Irfan Raza et al., 2020.) As a result, properly designed and managed E-HRM programs and a conducive corporate climate for information sharing are in high demand among Pakistani companies.

E-HRM is undeniably a powerful tool, but it must still be utilized in a country like Pakistan. There could be various reasons why our country's firms are hesitant to embrace this technology (Ishrat and colleagues, 2020). One of these factors could be a need for more study to establish its significance on a bigger scale (Park, 2014). According to (Hanif & Imran, 2017), despite embracing e-HRM practices, Pakistan is still in its infancy and is classified as immature in this classification.

The primary goal of this paper is to investigate the impact of electronic HRM practices on organizational innovation capability and employee productivity in the context of Pakistan, as well as to examine the mediating role of knowledge sharing and management and the moderating role of organizational climate on this relationship.

The research paper is structured in a way that the first chapter provides a brief introduction to e-HRM and other variables. The second chapter includes a literature review and a detailed explanation of each variable. The third chapter demonstrates the framework model, the paper's hypothesis, and the sampling design. The fourth chapter contains research results, findings, and a hypothesis summary. Finally, chapter five is all about the conclusion and future research recommendations.

2. Literature Review

Technology growth in business has resulted in various organizational rules and process revolutions. Because of these differences, firms' lifespan and endurance are increasingly depending on a variety of variables, such as innovation and ensuring consumer contentment (Zheng et al., 2010)

Also, Knowledge management (KM) has emerged as vital to guarantee organizational effectiveness. On the other hand, the Resource-Based View (RBV) technique argues that firms that use their valuable resources, such as employees' expertise, are more likely to achieve organizational success (Barney, 1991). HR policies are vital when companies place a premium on their employees' knowledge and competencies. According to Schuler and MacMillan (1984), effective human resource policies in businesses influence, inspire and retain employees by modifying and reforming their behavior.

HR practices are seen as different resources in each organization, according to RBV (Wright et al., 1994). While the Knowledge-Based View (KBV) contends that knowledge is a dynamic resource for an organization, tacit knowledge is unique in achieving corporate goals and inventing. In innovation, personal knowledge develops new products and services (Keith & Koner, 2011). The KBV approach, on the other hand, is a derivation of RBV that focuses on valuable resources, particularly knowledge. Employee knowledge should be seen as a fundamental resource in organizational development (Lockett et al., 2009). KBV and RBV are closely linked, and firms have learned that they may use their employees' expertise as an unrivaled resource to create new benefits.

2.1.Electronic Human Resource Management

Traditionally, electronic-human resource management was not extensively recognized in Pakistan; now, due to globalization and the increasing need for organizations' efficiency and effectiveness in economic activities, HRM is becoming more broadly accepted, yet, it is still in its early phases. Businesses must adopt and apply E-HRM technologies to achieve corporate goals and objectives efficiently and effectively in today's fast-changing technology world. Hence Human resource digitization is a global phenomenon that will continue to expand. Large organizations and institutions are increasingly adopting the e-HRM phenomenon because they believe that producing value for internal customers is a more effective strategy for achieving strategic goals (Khan and colleagues, 2020). Technology has previously boosted the benefits and opportunities available to consumers and businesses. The adoption and implementation of E-HRM are becoming increasingly popular. The author used this study to support firms in recognizing and appreciating the benefits of electronic-human resource management adoption and implementation in Pakistan. They also identified and recognize the variables influencing individuals to use E-HRM, and contributes to the E-HRM literature (Zareef and colleagues, 2020). To comprehend how E-HRM affects the job of human resource professionals, one must first analyze various methods through which human resource management is carried out within enterprises (Mahfod and colleagues, 2017, 54).

2.2.EHRM & Knowledge Sharing & Management

In 2002, Yahya & Goh studied the linkage between HRM and knowledge management. Yahya & Goh investigated the connection between four aspects of human resource management: training, decision-making, remuneration and reward, and performance appraisal. The authors linked the five dimensions of knowledge management to the HRM areas: knowledge acquisition, documentation, knowledge transfer, creation, and application. Yahya & Goh used a questionnaire to study the connection with 300 mid-level employees in Malaysian organizations. According to the report, the knowledge management method assists the company in retaining knowledge even if knowledge workers leave the organization. Also, organizations that use the KM strategy compete better than non-knowledge management companies. According to the study, two HR aspects influence employees' mindsets and behavior. These dimensions are performance evaluation as well as pay and reward. Compensation and rewards aid the organization in encouraging employee knowledge exchange. The researcher of this report also proposes examining whether employees go through distinct stages of transformation as they become more KM-oriented.

Also, what kind of incentive system should businesses use to promote these stages?

(Wiklund & Shepherd, 2003) reveals that a company's value development depends on intangible and knowledge-based resources, which personnel and R&D departments can obtain externally or internally.

In 2018 Papa and his team conducted a survey to look into the moderating impacts of human resource management (HRM) on the relationship between staff retention and HRM practices and the effects of knowledge acquisition on innovation performance. The researchers analyzed a sample of 129 businesses and companies from different industries. They were used to gather information using a standardized questionnaire to test hypotheses with ordinary least squares (OLS) regression models. When companies' propensity for open innovation increases, there will likely be conflicts and opportunities, which will cause a change in how human resource management is done. This is built on the company's employees' knowledge base, and some HRM aspects can affect corporate innovation. The relationship between knowledge acquisition, HRM, and innovation performance through the lens of open innovation deserves further study despite this.

The findings also show that HRM moderates the link between knowledge acquisition and innovation performance and that knowledge acquisition positively affects innovation performance. This study investigates whether knowledge acquisition enhances innovation performance and whether HRM mediates this relationship to close this research gap and encourage further study.

2.3.EHRM & Employee Productivity

Employee productivity is defined as "the degree to which a firm's labor workforce produces output efficiently to achieve the organization's goal" (Iqbal, Ahmed, & Borini, 2019). Using TAM (Davis & Bagozzi, 1985), it can be determined that technology such as eHRM allows employees to expand their capabilities and improve their work in less time and a more friendly manner. In this study, the technology is defined as e-HRM, which is further subdivided into operational e-HRM, e-recruitment, e-compensation, and transformational e-HRM. On the other hand, it is also revealed that adopting such practices may improve employee productivity and be less labor-intensive and more user-friendly (Huang et al., 2004).

2.4.EHRM and Organizational Innovation Capabilities

Organizations in advanced business environments are focusing on understanding HR practices and their benefits for organizational innovation performance (Andries and Czarnitzki, 2014). According to the RBV, HR practices are a vital aspect of all resources in a business to maintain a competitive approach and thrive (Farooq et al., 2016). According to Jiménez-Jiménez & Sanz-Valle (2008), organizations with greater organizational capacity for innovation may be better prepared to respond to environmental challenges than their competitors. Uzkurt et al. (2013) define innovation as a process of acquiring, sharing, and creating novel information to develop and improve products and services. The spectrum of innovation, which includes rules, structures, managerial procedures, current products, and services, is one of the two parts of innovation. The other element is the depth of innovation and creativity, which is vital and the focus of this research, and which determine employee inspiration and product and service outcomes (Chuang, 2005).

Human resource practices are a set of activities used by organizations to manage organizational capacities, such as developing public relationships and collecting and managing knowledge to gain a competitive advantage (Tan and Nasurdin, 2011). However, because our research is focused on the service sector rather than the manufacturing sector, we concentrated on process and system innovation. "Chang and Lee (2008) define process innovation as "a process by which a firm can deliver a better service process that helps to attain a higher performance." It can be claimed that successfully coping with organizational innovation has become a survival strategy (Ortt and Van der Duin, 2008). Organizations achieve organizational innovation management by coordinating their innovative and productive resources.

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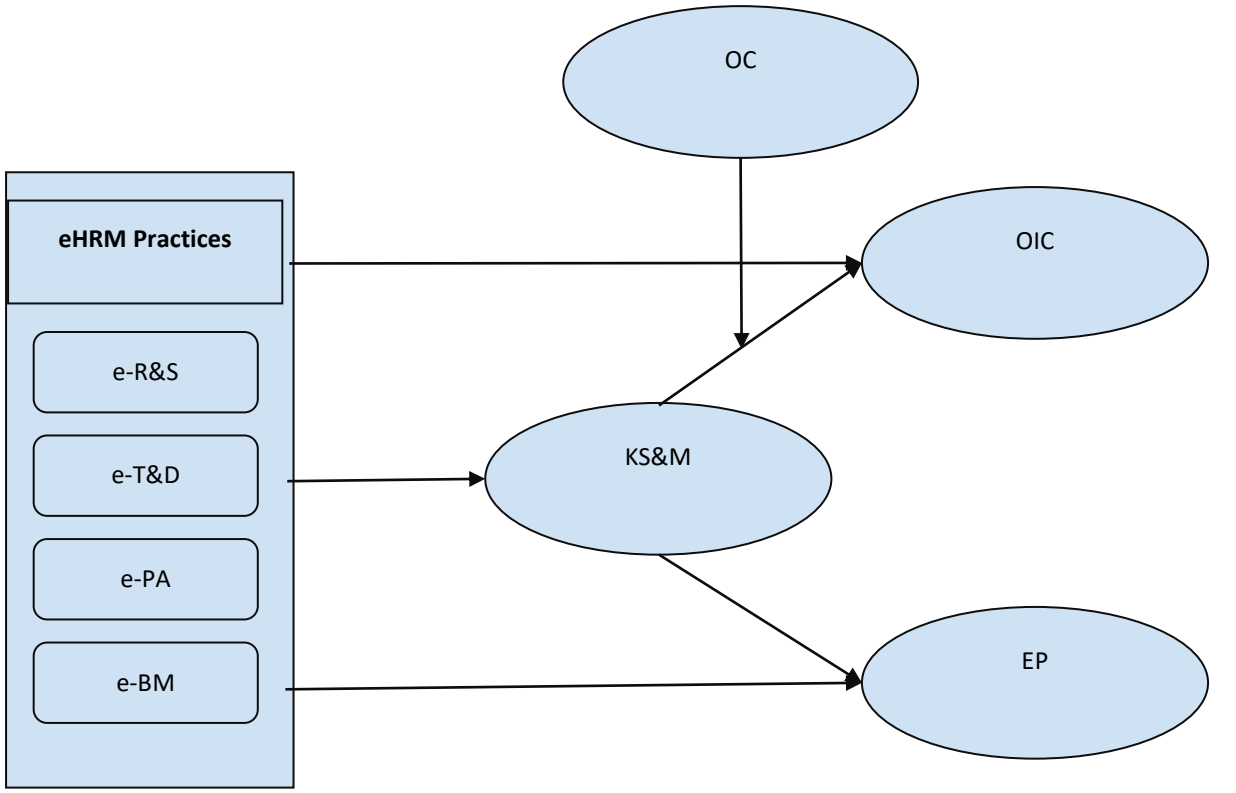
Conceptual Framework

The conceptual framework provides an idea on the groundwork of five keywords that includes eHRM practices, knowledge sharing and management, organizational innovation capabilities, organizational climate, and employee productivity. The conceptual framework is mentioned in Figure 1.



eHRM: electronic Human Resource Management, **e-R&S**: recruitment & selection, **e-T&D**: training & development, **PA**: performance appraisal, **BM**: benefit management, **OC**: organization climate, **KS&M**: Knowledge sharing & management, **OIC**: organizational innovation capability, **EP**: employee productivity.

Figure 1 Conceptual Framework

3. Hypothesis Formulation & Methodology

3.1 Hypothesis Development

H1a: There is a significant direct relationship between the impact of EHRM and EP.

H1b: There is a significant direct relationship between the impact of EHRM and KS&M.

H1c: There is a significant direct relationship between the impact of EHRM and OIC.

H2a: There is a significant direct relationship between KS&M and EP.

H2b: There is a significant direct relationship between KS&M and OIC.
H3: There is a significant direct relationship between OC and OIC.

H4: A significant interactive relationship exists between OC and KS&M in predicting OIC.

H5a: There is a significant relation between EHRM and EP with a mediating role of KS&M

H5b: There is only a significant impact of EHRM on OIC with a mediating role of KS&M in the Service Sector.

3.2 Methodology

The quantitative research approach used in this thesis included a structured instrument and a questionnaire to gather and analyze numerical data. Statistical approaches were employed to analyze the questionnaire's data to uncover patterns, trends, and correlations between the variables of interest. The research methodology for this study was a cross-sectional survey strategy, which required data collection at a specified point in time. The data was collected in Pakistan between November 2022 and February 2023. This study design was chosen because it was appropriate for investigating a phenomenon that could be evaluated at a certain time and was not expected to change over time. The researcher employed a cross-sectional survey approach to collect and assess data. The data was analyzed using the SMART PLS and SPSS tools to test hypotheses and evaluate the study model. Convenience sampling is a type of non-probability sampling that is commonly employed in research investigations. Rather than being drawn at random from the population, participants in this sampling approach are picked based on their accessibility and willingness to participate.

In Pakistan, this study focused on workers from two primary industries: service and manufacturing. The researcher chose participants from diverse businesses within these categories depending on their availability and willingness to participate in the study. As a result, the sample population may differ from the overall workforce in these industries.

The study's sample size was 303 participants, including 192 (63.4%) males and 111 (36.6%) females. Participants came from two sectors in Pakistan: service and manufacturing. Prospective participants were given 303 questionnaires, with 500 sent to each industry. 303 valid studies were received with a response rate of 60%. There were 152 people in the manufacturing industry and 151 in the service industry in the sample population. Most participants were men, accounting for 60% of the sample population.

3.4 The Questionnaire

The study tool was a questionnaire distributed via Google Forms and questionnaire. The key constructs were assessed using existing, well-validated methods. The questionnaire was created in English because the intended respondents were well-educated and had a strong grasp of the language. Using a 5-point Likert scale, the questionnaire collected numerical data on participants' perceptions of EHRM, OIC, and EP.

Table 1:

Variables adapted from

Section	Variable	Items	Reference
1st	E-HRM Practice	7	Iqbal et al (2019a)
2nd	KS&M	8	Young-Chan Lee & Sun-Kyu Lee (2007)
3rd	OIC	6	Waheed et al (2019)
4th	EP	4	Iqbal et al (2019a)
5th	OC	6	Prajogo and Ahmed (2006)

4. Data Analysis & Results

4.1 Measurement Model

The examination of measurement models includes determining construct reliability and validity. Cronbach's Alpha and Composite Reliability (CR) were used to determine construct reliability. Table 1 shows the construct reliability and convergent validity for the sector-specific sample and the overall sample. The reliability and validity of the measurement model were evaluated following Hair's (2012) recommendations, and the results confirmed high internal consistency. Cronbach alpha and CR values for all constructs were greater than the recommended value of 0.700 for the entire sample. Initially, it was determined that the factor loadings of each indicator were above the advised level of 0.70. (Vinzi, Chin, Henselet, & Wang H., 2010). The average variance extracted (AVE) for each concept, higher than the suggested threshold of 0.50, was used to determine convergence validity (Hair, Babin, Anderson, & Thatham, 2016). The retrieved values were provided in Table 1 after discriminant validity was evaluated according to the standards suggested by (Fornell & Larcker, 1981). Also, the measurement model is provided in Figure 1.

Table 1 *Reliability and Convergent Validity*

Items	Manufacturing	Service	Total sample size

	Alpha	CR	AVE	Alpha	CR	AVE	Alpha	CR	AVE
EHRM	0.797	0.875	0.535	0.859	0.863	0.899	0.829	0.838	0.593
EP	0.923	0.924	0.929	0.688	0.818	0.857	0.836	0.856	0.858
KS&M	0.891	0.915	0.601	0.873	0.883	0.902	0.887	0.903	0.596
OC	0.888	0.908	0.648	0.871	0.887	0.902	0.887	0.906	0.641
OIC	0.907	0.908	0.729	0.793	0.795	0.858	0.869	0.872	0.657

Note: EHRM: Electronic Human Resource Management, EP: Employee Productivity, KS&M: Knowledge Sharing & Management, OC: Organizational Climate, OIC: Organizational Innovation Capabilities, CR: Composite Reliability, AVE: Average Variance Extracted.

4.2 Structural Model

The proposed hypothesis is tested. The results in Table 2 revealed that all hypotheses were supported in the overall sample, except H4. The results for each sector-specific sample are nearly identical to those for the overall sample: H1c: EHRM → OIC (β = -0.012, t = 0.247, p = 0.403) was found insignificant in the Manufacturing Sector but significant in the Service Sector. While, H2b: KS&M → OIC (β = -0.095, t = 1.597, p = 0.055) was insignificant in the Service Sector, it was significant in the Manufacturing Sector. H4: OC x KS&M →OIC (β = -0.041, t = 0.923, p = 0.178) was discovered to be insignificant in the Manufacturing Sector but substantial in the Service Sector. The overall sample data, however, demonstrated that the hypothesis was insignificant.

The model's explanatory power is also evaluated. The R-Sq values for the endogenous variables in the study ranged from 0.215 to 0.723 across the samples (Manufacturing, Service, and Overall Sample). The R-sq values range from weak to significant (Hair et al., 2013).

Table 2 Direct Relationships

	Manufacturing				Service				Overall Sample			
Relationship	B	T	P	*Results*	B	T	P	*Decision*	B	T	P	*Decision*
H1a: EHRM -> EP	0.385	5.937	0	Supported*	0.39	5.221	0	Supported*	0.362	7.528	0	Supported*
H1b: EHRM -> KS&M	0.553	13.28	0	Supported*	0.463	5.536	0	Supported*	0.471	9.061	0	Supported*
H1c: EHRM -> OIC	-0.012	0.247	0.403	Rejected	0.187	3.019	0.001	Supported*	0.066	1.503	0.066	Supported*
H2a: KS&M -> EP	0.246	2.705	0.003	Supported*	0.301	3.86	0	Supported*	0.293	4.814	0	Supported*
H2b: KS&M -> OIC	0.258	2.7	0.003	Supported*	-0.095	1.597	0.055	Rejected	0.121	2.109	0.017	Supported*
H3: OC -> OIC	0.649	6.767	0	Supported*	0.714	10.014	0	Supported*	0.656	11.883	0	Supported*
H4: OC x KS&M -> OIC	-0.041	0.923	0.178	Rejected	-0.1	1.668	0.048	Supported*	0.016	0.465	0.321	Rejected

	R2	R2	R2
EP	0.313	0.352	0.317
KS&M	0.306	0.215	0.222
OIC	0.723	0.468	0.604

Note. *Relationships are significant at P < 0.05, B = Beta Coefficient, T = t – Statistics, P= Probability (P) value

4.3 Mediation Analysis

For the overall sample, both H5a and H5b are supported as shown in Table 3. The hypothesis, H5A: EHRM ->KS&M -> EP (β = 0.138, t = 4.142, p = 0) was supported in the overall sample, manufacturing and service sector. H5b EHRM -> KS&M -> OIC was found significant in manufacturing and overall sample, but insignificant (β = -0.044, t = 1.449, p = 0.074) in the service sector.

Table 3 Mediation Analysis

	Manufacturing Sector				Service Sector				Overall Sample			
	B	T	P	Results	B	T	P	Results	B	T	P	Results
H5a: EHRM -> KS&M -> EP	0.136	2.506	0.006	Supported*	0.14	3.176	0.001	Supported*	0.138	4.142	0	Supported*
H5b: EHRM -> KS&M -> OIC	0.143	2.54	0.006	Supported*	-0.044	1.449	0.074	Not Supported	0.057	2.019	0.022	Supported*

Note: *Relationships are significant at P < 0.05

4.4 Multi-Group Analysis

In the final section of the study, we looked at the notable differences between Pakistan's Manufacturing and Services sectors in terms of the effects of EHRM on employee productivity, organizational innovation capabilities, knowledge sharing, and management, with organizational climate acting as a moderator. According to the research, most of the differences were insignificant. Only H1c: EHRM - OIC and H2b: KS&M - OIC were determined to be statistically significant in both sectors. The differences in path coefficients demonstrated that the influence of EHRM on EP, EHRM on OIC, KS&M on EP, and OC on OIC was stronger in Pakistan's Service Sector than in Pakistan's Manufacturing Sector. Table 4 summarizes the results of the multi-group study.

Table 2 Multi-Group Analysis

Hypothesis	Constructs	Difference (Manufacturing - Service)	p-value
H1a	EHRM -> EP	-0.005	0.476
H1b	EHRM -> KS&M	0.09	0.169
H1c	EHRM -> OIC	-0.199	0.007*
H2a	KS&M -> EP	-0.056	0.32
H2b	KS&M -> OIC	0.353	0.001*
H3	OC -> OIC	-0.065	0.291
H4	OC x KS&M -> OIC	0.06	0.208

Note: *The Differences are significant in the relationships between the two sectors ($P < 0.05$).

5. Discussion & Findings

The study investigates the impact of EHRM on OIC and EP, with KS&M acting as a mediator and OC acting as a moderator. Overall, the multi-group analysis demonstrated that EHRM had a significant impact on OIC and KS&M had a good and significant effect on OC. A positive organizational atmosphere must be built to stimulate innovation readiness, general communication and engagement between leaders and followers, and warmth, as this will allow e-HRM to improve employee productivity.

According to our findings, EHRM has a significant impact on OIC in both sectors of Pakistan, and the hypothesis is statistically accepted. The outcome supports previous research (Galanaki et al, 2019; Nurshabrina and Adrianti, 2020; Nawafleh, et. Al 2022) idea that implementing Electronic HRM practices can improve Employee Productivity.
The findings also indicate that the influence of EHRM on OIC was found to be considerable in the manufacturing sector and the whole sample of firms in Pakistan, implying that the adoption of EHRM is favorably connected with OIC. Furthermore, this relationship was discovered to be partially mediated by KS&M, implying that EHRM can increase OIC by promoting knowledge sharing and management in these sectors.

However, the impact of EHRM on OIC in the service sector in Pakistan was found to be insignificant, implying that the use of EHRM was not significantly associated with OIC in this sector. The -0.044 beta coefficient, 1.449 t-value, and 0.074 p-values indicate that the association between EHRM and OIC in the service sector was not statistically significant. There is limited research available on the relationship between Electronic HRM, Organizational Innovation Capabilities, and Knowledge Sharing & Management in the context of Pakistan. However, some studies have examined related concepts that can shed light on this relationship.

6. Conclusion

Based on the findings of the studies examined it can be concluded that electronic human resource management (EHRM) has a positive impact on employee productivity and knowledge sharing and management in both the manufacturing and service sectors of Pakistan. Also, the mediating role of KS&M impacts positively the relationship between EHRM and EP. However, the impact of EHRM

on organizational innovation capabilities (OIC) with the mediating role of knowledge sharing and management was found to be insignificant in the manufacturing sector of Pakistan. Furthermore, the moderating impact of organizational climate on the relationship between knowledge sharing and management and OIC was only found significant in Pakistan's Service sector.

These findings suggest that EHRM and knowledge sharing and management are important for improving employee productivity in both the manufacturing and service sectors of Pakistan. However, the impact of EHRM on OIC may not be significant in all sectors, and the moderating impact of organizational climate may also not be significant. Therefore, it is important for organizations to carefully consider their sector and organizational context when implementing EHRM and knowledge-sharing and management initiatives to maximize their impact on employee productivity and innovation capabilities.

6.1 Theoretical & Managerial Implementation

The findings of the study can help managers or businesses improve employee productivity and innovation by using e-HRM practices. Organizations can use EHRM systems to boost employee productivity as well as Knowledge sharing and management. EHRM systems can support the automation of HR operations, the improvement of communication between employees and management, and the provision of real-time access to employee information, all of which can boost productivity and knowledge exchange. Organizations can promote a knowledge-sharing culture by encouraging employees to share their expertise and experiences. Training and development programs, regular team meetings, and the usage of collaboration tools and platforms can all help with this. While EHRM and knowledge sharing can boost employee productivity and innovation, they are not the only factors at work. Organizations should also pay attention to other elements that influence OIC, like leadership, organizational structure, and strategic planning.

The Knowledge-Based View (KBV) can help Pakistani firms improve their competitiveness and innovative skills by developing and leveraging their knowledge resources. This can be accomplished through fostering a culture of continuous learning and information sharing, hiring and keeping highly trained and informed individuals and implementing a business-aligned strategic approach to knowledge management. Implementing KBV can provide organizations with a long-term competitive advantage.

6.2 Ethical Considerations

When performing any research project, it is critical to consider ethical considerations. In this study, all participants were given informed consent and maintained their privacy and confidentiality throughout the investigation. Furthermore, any potential biases in participant selection or data processing were thoroughly reviewed and addressed to ensure the study's validity and reliability. Researchers also followed the ethical rules established by their university and professional groups.

6.3 Study Contribution

The study makes several contributions. Firstly, it provides a detailed explanation of how e-HRM impacts organizational innovation and employee productivity in both the manufacturing and service sectors of Pakistan. Secondly, it provides researchers with guidance on factors that can improve the

innovation process within organizations. Thirdly, it highlights the potential of Knowledge Sharing and Management to increase employee productivity and innovation by having a positive organizational climate in both sectors. Finally, the study emphasizes the importance of e-HRM and Knowledge Sharing and Management in Pakistan.

6.4 Limitations

The researchers faced some limitations. First, the time constraint in conducting the research is one potential limitation of this study. The study's sample size, data-gathering procedures, and analysis approaches may have been constrained due to time constraints. For example, the study's sample size may have been smaller than planned, limiting the generalizability of the findings. Furthermore, the ability to conduct in-depth data analysis is constrained by time limitations. This issue could be addressed in the future by doing a total sample size investigation over a more extended period.
Future research directions

The researcher recommends that the future researcher identify the in-depth analysis of why KS&M negatively mediates the relationship between EHRM and OIC. Comparative studies can be undertaken across nations to uncover cultural differences in the effectiveness of EHRM techniques and relations. Future studies should also concentrate on industry-specific EHRM on employee outcomes while focusing on specific parameters of EHRM, such as e-recruitment, e-performance appraisal, and e-training. Longitudinal studies can aid in identifying long-term effects, and research should examine the influence on organizational stakeholders. These suggestions can help future researchers implement more targeted tactics to increase performance and uncover broader benefits on their overall business performance

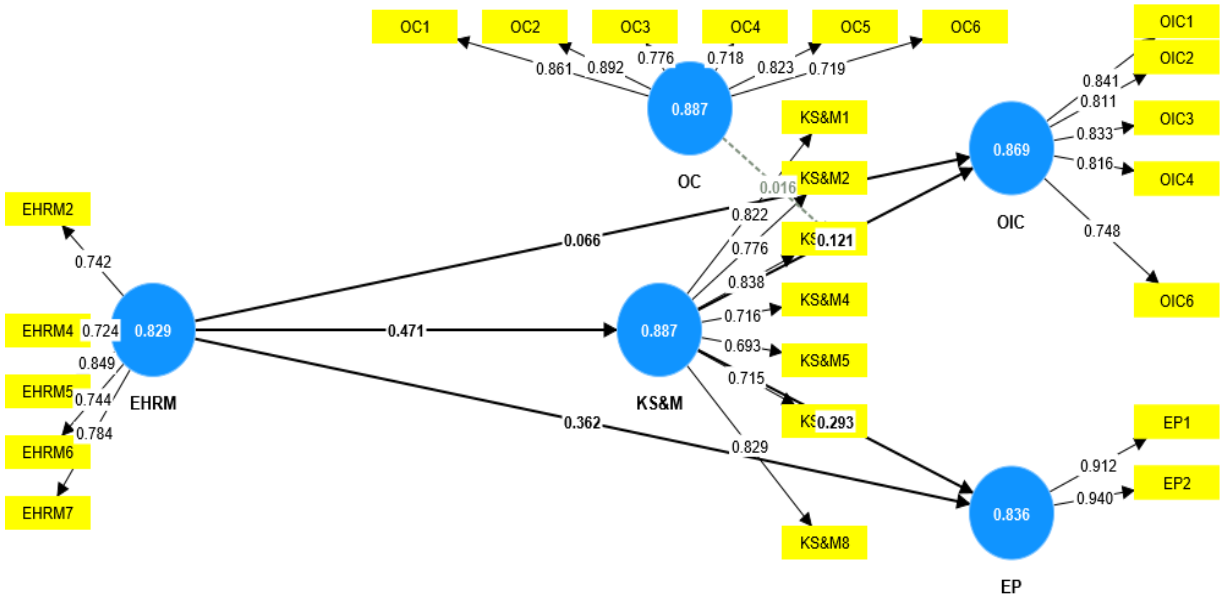


Figure 2 Measurement Model

References

Abbas, M., Raja, U., Darr, W., & Dave. (2018). Combined effects of perceived politics and psychological capital on employee outcomes. *Journal of Managerial Psychology*, 30-44.

Akram, T., Umer, M., Akram, U., & Farooq, M. (2020). Electronic Human Resource Management and Knowledge Management Practices: Evidence from Banking Sector of Pakistan. *Journal of Advances in Management Research,* 17(3), 341-358.

AlNawafleh, E. A. T., al-sharara, F. E. A., Alsheikh, G. A. A., Al-Ghalabi, R. R., Hamdan, K. B. (2022). Enhancing The Sustainability Performance Through E-Hrm and Unveiling of The Labour Productivity and Organizational Agility in The Jordanian Public Universities. International *Journal of eBusiness and eGovernment Studies*, 14 (2), 242-263. doi:10.34111/ijebeg.202214132

Andries, P. and Czarnitzki, D. (2014), "Small firm innovation performance and employee involvement", *Small Business Economics*, Vol. 43 No. 1, pp. 21-38.

Anwar, A., & Al-Ghaith, W. (2019). The impact of electronic human resource management on knowledge management practices: Evidence from healthcare sector of Pakistan. *Management Science Letters*, 9(2), 303-312.

Berber, N. (2018). Electronic Human Resource Management (e-HRM): A New Concept for Digital Age. *Strategic Management*.

Bratnicki, M. K. (1988). Organizational climate and job satisfaction. Human Factors and Ergonomics in *Manufacturing and Service Industries*, 95-105.

Chang, S.C. and Lee, M.S. (2008), "The linkage between knowledge accumulation capability and organizational innovation", *Journal of Knowledge Management*

Chuang, L.M. (2005), "An empirical study of the construction of measuring model for organizational innovation in Taiwanese high-tech enterprises", *The Journal of American Academy of Business*, Vol. 9 No. 2, pp. 299-304.

Davis, F. D. (1985). A technology acceptance model for empirically testing new end-user information systems: Theory and results (*Doctoral dissertation, Massachusetts Institute of Technology*).

Donate, de Pablo, Ramezani. (2017). The impact of knowledge-oriented leadership on innovative performance through considering the mediating role of knowledge management practices. *Industrial Engineering & Management Systems,* (Vols. 495-506).

Farooq, M., Ullah, I. and Hameed, R.M. (2016), "HR practices and organizational innovation: the mediating role of knowledge management effectiveness", *Journal of Social and Development Sciences*, Vol. 7 No. 3, pp. 50-67.

Fornell C, & Cha J. (1994). Partial Least Squares. Advanced Methods of Marketing Research, 52-78.

Fornell, & Larcker. (1981). Evaluating Structural Equation Models with unobservable variables and measurement error. *Journal of Marketing Research*, 39-50.

Galanaki, E., Lazazzara, A., & Parry, E. (2019). A cross-national analysis of e-HRM configurations: integrating the information technology and HRM perspectives. In Organizing for digital innovation (pp. 261-276). *Springer, Cham.*

Hair J, Hult GTM, & Ringle C, Sarstedt M. (2014). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). *Los Angeles: SAGE Publications, Incorporated*.

Hair, Babin, Anderson, & Thatcham. (2016). Multivariate Data Analysis (Book). Pearson Education Limited.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of The Academy of Marketing Science*, 40, 414-433.

Henseler J, Ringle CM, & Sarstedt M. (2015). *J. Academy*. 115-35.

Hopkins, B., & Markham, J. (2003). Gower Pub Co. E-Hr: Using intranets to improve the effectiveness of your people, 1-10.

Hu, Y., Wen, Y., & Shi, J. (2018). The relationship between knowledge management, innovation capability, and firm performance: An empirical study from the perspective of the Chinese manufacturing industry. *Sustainability*, 10(5), 1543.

Huang, J. -H., Jin, B. -H. & Yang, C. (2004). Satisfaction with business-to-employee benefit systems and organizational citizenship behavior: An examination of gender differences. International *Journal of Manpower*, 25(2), 195−210.

Iqbal, N. (2019). Unveiling the relationship between e-HRM, impersonal trust, and employee productivity. *Springer*, 4.

Iqbal, N., Ahmad, M., Raziq, M. M., & Borini, F. M. (2019). Linking e-hrm practices and organizational outcomes: an empirical analysis of line manager's perception. *Revista Brasileira de Gestão de Negócios*, 21(1), 48-69.

Raza, I. and Awang, Z. (2021), "Knowledge-sharing practices in higher educational institutes of Islamabad, Pakistan: an empirical study based on theory of planned behavior", *Journal of Applied Research in Higher Education*, Vol. 13 No. 2, pp. 466-484.

Jabbour, C. J. C., Teixeira, A. A., & Jabbour, A. B. L. S. (2020). Knowledge management and organizational innovation in the Brazilian automotive industry. *Journal of Knowledge Management*, 24(1), 44-68.

Janet. H. Marler, Sandra L. Fisher . (2013). An evidence-based review of e-HRM and strategic human resource management. Academia. From

https://www.academia.edu/3809327/Marler_and_Fisher_2013_Human_Resource_Management_Review

JIANG, K., LEPAK, D., HU, J., & BAER, J. (2012). How Does Human Resource Management Influence Organizational Outcomes? A Meta-Analytic Investigation of Mediating Mechanisms. *Academy of Management Journal*, 1264-1294.

Jiménez-Jiménez, D. and Sanz-Valle, R. (2008), "Could HRM support organizational innovation", *The International Journal of Human Resource Management*, Vol. 19 No. 7, pp. 1208-1221.

Zafar, Junaid (2009) *E-Human Resource Management:* A Case Study of the State Bank in Pakistan. Masters thesis, Universiti Utara Malaysia. https://etd.uum.edu.my/1786/

Khan, M. A., Khan, M. A., & Ali, S. (2019). Impact of knowledge sharing and management on employee performance in the service sector of Pakistan. *International Journal of Research in Business and Social Science*, 8(2), 1-9.

Kovach, K. A., Hughes, A. A., Fagan, P., & Maggitti, P. G. (2002). Administrative and strategic advantages of HRIS. *Employment Relations Today*.

Nunnally JC, Bernstein IH 1. (1994). Psychological theory. New York, NY: MacGraw-Hill.

Nurshabrina, N., &Adrianti, R. (2020). The Effect of E-Human Resource Management (E-HRM) on Cost Efficiency and Productivity of Employees in the Company. *International Research Journal of Advanced Engineering and Science*, 5(1), 212-215.

Obeidat, B.Y., Tarhini, A., Masa'deh, R.E. and Aqqad,. (2017). (2017), "The impact of intellectual capital on innovation via the mediating role of knowledge management: a structural equation modeling approach. *International Journal of Knowledge Management Studies*, 8 (3/4), 273-298

Ortt, J. and van der Duin, P. (2008), "The evolution of innovation management towards contextual innovation", *European Journal of Innovation Management*, Vol. 11 No. 4, pp. 522-538

Rehman, M. A., Riaz, A., & Ali, G. (2018). The impact of knowledge sharing and management on employee performance in the manufacturing sector of Pakistan. *International Journal of Economics, Commerce, and Management*, 6(11), 95-107.

Silva, M. D., Howells, J., & Meyer, M. (2018). Innovation intermediaries and collaboration: Knowledge-based, https://doi.org/10.1016/j.respol.2017.09.011.

Silva, M. D., Howells, J., & Meyer, M. (2018). Innovation intermediaries and collaboration: Knowledge–based practices and internal value creation. *Research Policy*, 47(1), 70–87. doi:10.1016/j.respol.2017.09.011

Tan, C.L. and Nasurdin, A.M. (2011), "Human resource management practices and organizational innovation: assessing the mediating role of knowledge management effectiveness", Electronic *Journal of Knowledge Management*, Vol. 9 No. 2, p. 155

TL, B. (1994). Doing Social Research. New York: McGraw-Hill Inc, 2.

Uzkurt, C., Kumar, R., Kimzan, H. and Eminoglu, G. (2013), "Role of innovation in the relationship between organizational culture and firm performance", *European Journal of Innovation Management*, Vol. 16 No. 1, pp. 92-117.

Esposito Vinzi, Vincenzo & Chin, Wynne & Henseler, Jörg & Wang, H.. (2010). Handbook of Partial Least Squares: Concepts, Methods and Applications. 10.1007/978-3-540-32827-8.

Zour, Z. H., & Al-Moula, S. M. (2021). The Effect of Electronic Human Resource Management Practices In Enhancing The Roles of Knowledge Workers: An Applied Study At The Headquarters Of The Iraqi Ministry Of Health. *Journal Of Archeology Of Egypt*, 460-474.