



Impact of Sustainable Human Resource Management Practices on Higher Education Institutional Performance: Examining the Mediating Role of Knowledge Management

Asad Ali¹, Abou Bakar², Kalsoom Akhtar³

¹ Assistant Professor, Department of Management Sciences, The Islamia University of Bahawalpur, Pakistan.

Email: asadali@iub.edu.pk

² Professor, Institute of Business, Management and Administrative Sciences, The Islamia University of Bahawalpur, Pakistan. Email: abou.bakar@iub.edu.pk

³ Lecturer, Institute of Business, Management and Administrative Sciences, The Islamia University of Bahawalpur, Pakistan. Email: kalsoom.akhtar@iub.edu.pk

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ABSTRACT

Higher education institutions (HEIs) increasingly operate in dynamic, competitive environments shaped by globalization, technological change, and greater accountability. In this context, Sustainable Human Resource Management (SHRM) has emerged as a strategic approach that aligns long-term human, organizational, and economic goals within HR practices. Grounded in the Ability–Motivation–Opportunity (AMO) theory, this study examines how HRM practices shape employee behavior regarding knowledge management and institutional outcomes. Using a quantitative, cross-sectional design, data were collected via structured questionnaires from 600 teaching and non-teaching staff in selected public universities across several districts. Partial Least Squares Structural Equation Modeling (PLS-SEM) was applied to test direct and indirect relationships among variables. Findings show that sustainable HRM practices significantly and positively affect HEI performance. The study extends AMO theory to the higher education sector in a developing-country context by empirically validating how sustainable HRM practices and knowledge management collectively improve institutional performance. It highlights the need for Pakistani HEIs to move beyond traditional administrative models and adopt sustainable HRM to strengthen long-term effectiveness, competitiveness, and performance.

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Corresponding Author's Email: asadali@iub.edu.pk

1. Introduction

The effective administration of an organization has made organizational performance increasingly crucial (Singh, Kumar, & Singh, 2018). Many businesses rely on their staff to provide them an edge in the industry. As a result, they have a close relationship with how effectively they manage their human resources (Collins, 2021). The goal of sustainable human resource management is to manage an organization's workforce with an eye toward the long-term goals and objectives of the organization. Among other people-oriented tasks, the human resource departments manage the hiring process, conduct training sessions, assess employees' work performance, and set up incentives, benefits, compensation management, and promotions. Since the mid-1900s, the HRM profession has evolved from its transaction-based, legacy roles to a more entrepreneurial focus, strategic roles in international business, mergers and acquisitions, talent development, diversity, and inclusion (Collins, 2021). To achieve long-term sustainability in the utilization of human resources, sustainable human resource management (SHRM) integrates the joint pursuit of economic, financial, and social factors in the design of HRM practices (Buller & McEvoy, 2016). Sustainable HRM places equal weight on social and human outcomes and financial and economic resources to protect and enhance human resources. The effects on various stakeholders and processes related to putting HRM policies into practice and

balancing competing organizational needs are carefully considered. When it comes to sustainable labor relations, employee well-being (especially satisfaction and engagement), and quality of life, SHRM can take a clear moral stand on the intended organizational outcomes, especially in the long run (Diaz-Carrion, López-Fernández, & Romero-Fernandez, 2018; Malik et al., 2010). Employee behavior is influenced by HRM techniques to accomplish company goals. Consequently, HRM practices can improve the performance of a business (Collins, 2021; Diaz-Carrion, López-Fernández, & Romero-Fernandez, 2018). Old HRM techniques are no longer sufficient because many of what we believe to be true today will become obsolete in a few years. As a result, individuals and organizations must act like tenacious and flexible learners ready to take new paths as circumstances demand. This strengthens the organization's potential to improve its sustainability over the long run. With sustainable HRM practices, these firms view their workforce as an investment over the long term rather than just a cost (Ehnert, 2009).

In this regards, knowledge-based resources are becoming more widely acknowledged as useful instruments for competitive advantage and improving organizational performance. For any organization, the most crucial thing is to improve organizational performance. Since people create and maintain the systems that make up an organization, it mostly relies on its valuable human resource management (Gupta, 2021). Given the information-based economy's explosive growth, success and prosperity are seen to be largely dependent on knowledge (Abubakar et al., 2019). Knowledge is the greatest factor influencing organizational and entrepreneurial performance and success. Abubakar et al. (2019) asserts that an organization's knowledge base is crucial to attaining a competitive edge and optimal results. According to Ngah, Tai and Bontis (2016), knowledge management is the explicit and efficient management of significant knowledge and identifying and utilizing that information in connected processes. With knowledge generation, sharing, absorption, and innovation, effective knowledge resources enable businesses to possess knowledge competence. Thus, combining these resources determines the knowledge management strategies, which in turn determines how these strategies relate to organizational performance (Alaarj, Mohamed, & Bustamam, 2017). Higher education organizations (HEOs) are engaged in creating and exchanging information among diverse administrative departments and institutions to establish a collection of knowledge domains (Shermon, 2002). To overcome obstacles and succeed, HEOs must concentrate on creating knowledge of asset management strategies and processes. They can accomplish this by employing information technology to locate, capture, retrieve, share, and evaluate knowledge through data and information processing (Malhotra, 1998). Such an initiatives impact the performance of the organization in pursuing its objectives. Furthermore, as numerous empirical investigations have demonstrated, academic staff significantly influences this regard. HEOs must now employ knowledge management to its fullest potential to achieve their strategic objectives. Furthermore, knowledge management is an extremely complicated topic that needs to be approached from various organizational, technical, and cultural angles to standardize experiences and practices and use them to improve education (Al-Qarioti, 2015).

However, it is only possible when teachers (who are the core employees of HEIs) in these institutions are sufficiently motivated to achieve their assigned tasks. For maintaining motivated teaching staff, HR departments of HEIs have to attract the right people to the institutions by offering various things like proper compensation, a learning environment scientifically designed performance management system and training and development opportunities, etc (Rasheed et al., 2016). Pakistan boasts a significant population of highly educated, intelligent, and dedicated individuals who are falling behind other developing nations in implementing human resource management practices (Khilji, 2003). Higher education commissions (HEC) of Pakistan also need to restructure themselves using new management techniques, particularly in human resources. Although HRM is still in its infancy in Pakistan, its banking and telecommunications industries have incorporated HRM techniques. However, the sophisticated models created in Western nations cannot be applied in Pakistan's cultural setting. To maintain par with global educational norms, schools of higher learning have also embraced HRM practices. Guidelines for adopting a standard set of procedures to match international education standards have been provided by the Higher Education Commission of Pakistan to higher education institutions. In order to enhance organizational performance, many higher education institutions are reorganizing themselves in accordance with the Higher Education Commission guidelines and implementing new management techniques. Keeping in view prior literature, the present study aimed to analyze the impact of sustainable HRM practices on organizational performance in HEIs. The

study also considers the mediating role of knowledge management which is imperative to improving organizational performance. The remaining sections of this study are structured as follows: Section 2 provides the literature review, examining prior research related to the variables investigated. Section 3 details the research methodology, including the procedures for data collection and analysis. Section 4 presents the analysis of the results and the subsequent discussion. The final section closes the study and sets out the policy implications.

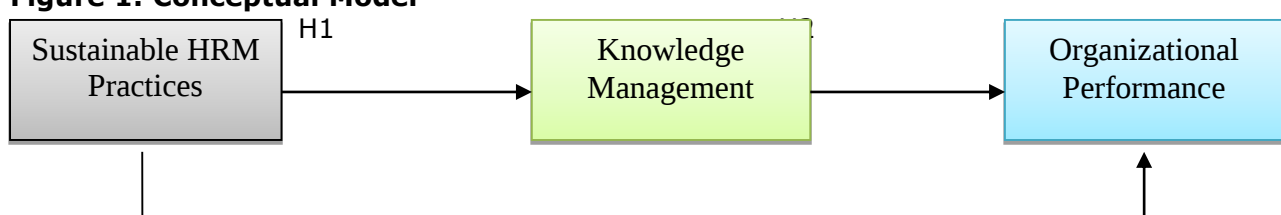
2. Literature Review

2.1. Knowledge Management and Organizational Performance

Organizational knowledge is created and acquired as part of the knowledge management cycle. Creating new knowledge entails adding new content to existing knowledge or creating new knowledge (Nonaka, 1994). Organizations must foster a culture of knowledge production by devising strategies to incentivize employees to share and raise awareness of the benefits and positive values that sharing brings to individuals, groups, and the organization. As opposed to creating new knowledge, acquiring existing knowledge entails looking for, identifying, and assimilating potentially useful information, often from outside the company (Huber, 1991). Different studies examined the role of knowledge management as a mediator between HRM practices and organizational performance. Such as the effects of human resource management on knowledge management and non-financial OP of infrastructure-building companies in Thailand were investigated by Kokkaew et al. (2022). The results showed that Thai infrastructure-building enterprises have a positive and direct association between HRM and knowledge management, knowledge and nonfinancial organizational performance. Furthermore, it was discovered that knowledge management acted as a mediator between organizational performance and HRM. This study offers more factual support for the notion that utilizing people and their insightful expertise is crucial to enhancing non-financial organizational performance.

Another study conducted by Kokkaew et al. (2022) analyzed the mediating roles of knowledge management and organizational learning to understand the established relationship between HRM and the long-term or sustainable performance of Thai construction enterprises. The study discovered a favorable correlation between organizational learning and the organizational performance of the investigated organizations, HRM and knowledge management, and HRM and organizational performance. The mediation function of knowledge worker productivity between knowledge management procedures and organizational performance was also studied by Sahibzada et al. (2022). The data of 536 academic and administrative staff members from Chinese research universities was employed in this investigation. This research found a significant relationship between knowledge-oriented leadership, knowledge management procedures, and academic performance in higher education. Similarly, Rezaei, Khalilzadeh and Soleimani (2021) analyzed the variables influencing knowledge management adoption and empowerment inside businesses and the effect knowledge management has on overall business success in Afghanistan. The results demonstrated the benefits of trust, leadership, culture, and structure on an organization's knowledge management. Knowledge management also has a direct impact on organizational performance, as well as a mediating effect through human capital. Likewise, Jemal and Zewdie (2021) investigated the impact of knowledge management practices on the performance in higher education at Jimma University College of Agriculture and Veterinary medicine in Ethiopia. The use of knowledge positively and significantly impacts performance. The research revealed several obstacles to effective knowledge management, including insufficient funding, documentation, support, and cooperation. Therefore, colleges should invest more in knowledge management practices since they can boost teamwork, encourage faculty to retain and share knowledge, improve innovation used to support research and improve technology. In case of US retail companies, Etori and Alilah (2020) analyzed the impact of knowledge management on organizational performance. The investigation has demonstrated that knowledge management significantly affects an organization's performance.

Figure 1: Conceptual Model



Knowledge management may be defined as a tool that provides managers and employees in educational institutions with hints in the expanding field of knowledge management to help them deal with the challenges of the knowledge era. To improve the teaching and learning process, knowledge management helps educational institutions recognize the value and beauty of creating and sharing knowledge (Alshatnawi & Ghani, 2018). Four knowledge management components have been taken into consideration in a recent study. An organization that creates new knowledge via the interaction and conversion of its explicit and implicit information is said to be engaging in knowledge creation. The path to comprehending the process of developing knowledge would be to grasp the reciprocal importance of those two types of information. Converting explicit and tacit knowledge is a social activity that occurs in groups and is not limited to a single person. According to Gaines (2013), knowledge acquisition which human specialists implicitly hold depicts knowledge-engineering for explicit decision-making procedures. Knowledge sharing is shown as a collection of actions that facilitate the sharing learned information. According to Li, Montazemi and Yuan (2006), an organization is a social group that creates, transfers, and shares both explicit and implicit knowledge. Knowledge transfer is a methodical approach used to identify, collect, and share implicit knowledge to transform it into explicit information that companies or employees can access and use rather than specific individuals or groups (Graham et al., 2006). Therefore, keeping in view the literature review, the following hypothesis has been formulated:

H₁: Knowledge management significantly influence the organizational performance

2.2. Sustainable HRM Practices and Knowledge Management

Numerous research Gope, Elia and Passiante (2018); Theriou and Chatzoglou (2008) showed that HRM methods had a good impact on knowledge management. The idea of "knowledge as participation" replaces the concept of knowledge as substance in relation to sustainable HRM practices. Knowledge is created, disseminated, and applied within dynamic working relationships between community members who practice sustainable HRM (De Prins et al., 2014). Therefore, the sustainability-HRM link can be leveraged by incorporating strategic provisions for the development of human capital in terms of knowledge-oriented competencies and the cultural infrastructure that supports knowledge creation and sharing, learning, networking, communication, and social development. The following hypothesis has been formulated based on the above discussion:

H₂: Sustainable HRM practices significantly influence the knowledge management

2.3. Knowledge Management Mediates Sustainable HRM Practices and OP

In the case of Jordanian university lecturers, Abu-Mahfouz et al. (2023) investigated the mediating function of knowledge management and job engagement and the impact of sustainable HRM practices on organizational performance. The findings demonstrated that work engagement, knowledge management, and sustainable HRM practices were positively correlated with organizational performance; work engagement and knowledge management also served as mediating factors in the relationship between sustainable HRM practices and organizational performance. Similarly, Al-Tit (2015) investigated how organizational culture and knowledge management function as moderators in the relationship between HRM practices and organizational performance. The study's findings demonstrated that HRM procedures strongly predicted organizational success. Knowledge management mediated the association between HRM practices and organizational performance. Therefore, keeping in view the literature review, the following hypothesis has been formulated

H₃: Knowledge management mediates the relationship between HRM practices and the organizational performance

3. Methods and Materials

This study's data was collected through a survey method that considered time, efficiency, and cost constraints. Survey method enabled us to get responses in short time from large sample (Nardi, 2018) and this method had relatively higher reliability and accuracy (Matveev, 2002).

3.1. Population

The Southern Punjab consists of three divisions: Multan, DG Khan, and Bahawalpur. Each division is further classified into four districts. The study population consist of the teaching and non-teaching staff of all public and private universities in Southern Punjab. The selection of public universities in Southern Punjab, Pakistan, for the research on the "Impact of Sustainable Human Resource Management Practices on Higher Education Institutional Performance" is based on several key factors. Southern Punjab is a region with significant socio-economic and educational disparities, which provides a unique context for examining how HRM practices influence institutional performance. Public universities in this region are typically government-funded and serve a large proportion of the student population, and may adopt innovative HR practices more swiftly.

3.2. Sample

The study sample will consist of 600 teaching and non-teaching staff of public and private sector universities in Southern Punjab. The amount of three public and three private universities were selected using balloting sampling. The data of respondents was collected by using a convenient sampling technique. Given the limited time and resources available for data collection, convenient sampling allows for the efficient selection of participants from easily accessible public and private universities in Southern Punjab. This sampling method enables the researcher to quickly gather data from a relevant subset of individuals, such as faculty members, HR managers, and administrative staff, who are directly involved in HRM practices at their respective institutions. Both male and female teachers were utilized as a sampling unit.

Table 1: Measurement of Variables

Variables	Description	Measurement
Dependent Variable		
OP	Organizational Performance	Organizational performance is measured using 5-point lickert scale that consists of fourteen statements about student results, people results, institute results, and society results adopted from Calvo-Mora et al., (2005); (Psomas & Antony, 2017; Sciarelli, Gheith, & Tani, 2020).
Mediating Variables		
KM	Knowledge Management	Knowledge management includes knowledge sharing, knowledge utilization (eight statements adopted from Lee, Lee and Wu (2010), Knowledge creation (consists of seven statements adopted from Lee, Lee and Wu (2010),
Independent Variables		
RS	Recruitment and Selection	A 5-point lickert scale consists of five statements adopted from the study of Teclemichael Tessema and Soeters (2006)
TD	Training and Development	A 5-point lickert scale consists of five statements developed by Ahmad & Schroeder (2003) and modified by Manzoor et al., (2019) utilized in a study.
EP	Employee Participation	A 5-point lickert scale consists of four statements adopted from the study of Zhang et al., (2008)
CR	Compensation and Rewards	A 5-point lickert scale consists of five statements adopted from the study of Teclemichael Tessema and Soeters (2006).
CP	Career Planning	A 5-point lickert scale consists of four statements adopted from the study of King (1999) also used by Otoo (2019)

3.3. Data Analysis Techniques

Different econometric techniques are applied to attain the objectives of the study. The descriptions of these techniques are as follows:

i. Elementary Analysis

This analysis presents data characteristics such as mean, maximum, minimum value of data and standard deviation. The data is also analyzed by using frequency tables, percentages and bar charts.

ii. Structural Equation Modeling-Partial Least Square (SEM-PLS)

The partial least square approach is utilized to analyze the impact of sustainable HRM practices on organizational performance by mediating the role of work management, knowledge management and innovative work behavior. Researchers must go through a multi-stage method

when utilizing PLS-SEM, which involves establishing the inner and outer models, collecting and reviewing data, estimating the model, and assessing the results (Hair, 2014).

4. Results and Discussion

The paper is a mediation analysis that looks into the relationships among Sustainable human resource management practices (Compensation and Rewards (CAR), Career Planning (CP), Employee Participation (EP), Recruitment and Selection (RAS), and Training and Development (TAD)) to Organizational Performance (OP), with mediating variable being Knowledge Management (KM). The nuance of the analysis is to find out the role of this intermediary in the direction of HR practices to organizational results.

Table 2: Mediation Analysis (Indirect Effects)

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
CAR -> KM -> OP	0.117	0.115	0.042	2.813	0.005
CP -> KM -> OP	0.141	0.138	0.054	2.622	0.009
EP -> KM -> OP	0.005	0.005	0.012	0.420	0.674
RAS -> KM -> OP	0.027	0.025	0.016	1.634	0.102
TAD -> KM -> OP	-0.013	-0.011	0.017	0.810	0.418

This is eminent in the Mediation Analysis (Indirect Effects): Sustainable Human Resource Management (HRM) Practices are pathways affecting Organizational Performance (OP) and the mediator including Knowledge Management is important. The first of the two is the positive and significant (0.117) but not significant (P-value = 0.005) impact of Knowledge Management on the Organizational Performance through Compensation and Rewards (CAR), indicating that CAR positively influences knowledge-sharing behaviors, which in turn, positively influence the performance. In the case of Career Planning (CP), the indirect impact on Organizational Performance via Knowledge Management is 0.141 (P-value = 0.009) which indicates that the opportunities of career planning denotes the potential Knowledge Management greatly which in turn improves the performance. The impact of RAS on Knowledge Management is however weak (0.093, P-value = 0.078) and the indirect implication on Work Engagement is also not much (- 0.105, P-value = 0.071), indicating that though the practice of recruitment has a less significant influence on employee engagement and knowledge management. Nonetheless, the predictive relationship between TAD and Knowledge Management is negative (- 0.013, P -value = 0.418), which points out that in this instance, the role of training in knowledge management is not necessarily positive. Finally, the Mediation Analysis (Indirect Effects) shows that the importance of the Knowledge Management as an intermediary factor between the HRM practices and Organizational Performance is essential. Among the drivers of performance are Compensation and Rewards, Career Planning, and Training and Development, and Knowledge Management can play an important role in enabling the relationship. Employee Participation and Recruitment and Selection has mixed effects whereas general results imply the necessity to create the environment that can stimulate innovation, knowledge exchange, and employee involvement to maximize the performance of the organization, especially in the case of the public sector organizations.

Sustainable HRM has a positive impact on Knowledge Management (KM). The indirect impact of CP -> KM -> OP (0.141, P-value = 0.009) denotes that in case the public organizations adopt sustainable HRM practices then it results to improved knowledge management that consequently improves the performance of the organization. According to Albrecht, Connaughton and Leiter (2022), career development and employee well-being are all aspects of sustainable HRM because they promote the culture of knowledge exchange in organizations. Such practices allow employees to have the means and chances of manipulate and share knowledge in order to enhance the overall performance of a specific organization. Moreover, Zahedi (2025) indicate holds that sustainable HRM is vital in the construction of systems that know how to capture and disseminate knowledge, which forms the most important aspects of innovation and being adaptable in a government organization. In the public sector, HRM practices and organizational performance have a strong relationship which is greatly mediated by Knowledge Management (KM). The implication of the indirect relationship between CAR -> KM -> OP (0.117, P-value = 0.005) and CP -> KM -> OP (0.141, P-value = 0.009) is that HRM practices, including Career Planning and Compensation and Rewards increase organizational performance by enhancing the

knowledge sharing and management. As González-Ramos, Donate and Guadamillas (2023) put it, the HRM practices that are grounded in knowledge management yields better decision-making and operational efficiency in the public organizations. Innovation and enhanced organizational effectiveness are increased when the employees are motivated to share their knowledge (through compensation and career advancement). Adding to this González-Ramos, Donate and Guadamillas (2023) says that knowledge management is required of public organizations to be able to adjust to changes and implement better services to the citizens.

5. Conclusion

This paper concludes by finding that knowledge management is the defining instrument that can make the SHRM practices lead to more performance. The presence of the positive correlation between SHRM and KM, the presence of the professional growth programs, official and informal channels of communication, and the knowledge sharing culture enable the institution to retain expertise, lessen the occurrence of the performance, and encourage the increase further. Effective KM has been observed to result in increased production of research, superior standard of teaching and increased performance of administration in respective universities. Based on the empirical facts of the study, KM has ceased being the support role, it is now the strategic intermediary that will add the impacts of the HR interventions to the aggregate performance.

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