

## IMPACT OF HUMAN RESOURCE MANAGEMENT PRACTICES ON SUSTAINABLE COMPETITIVE ADVANTAGES FOR THE UNIVERSITIES OF PAKISTAN KEEPING KNOWLEDGE MANAGEMENT CAPACITY AS MEDIATOR

<sup>1\*</sup>Huma Saeed, <sup>2</sup>Prof. Dr. Naveed Yazdani

<sup>1</sup> Student of MS Strategic Human Resource Management, University of Management and Technology Lahore

\* Corresponding Email: S2020205001@umt.edu.pk

<sup>2</sup> Dean, Dr. Hasan Murad School of Management, University of Management and Technology Lahore.

Email: hsm.dean@umt.edu.pk

ARTICLE INFO	ABSTRACT
<p><i>Article History:</i> Received: 30 Jun 2021 Revised: 09 Sep 2021 Accepted: 11 Sep 2021 Available Online: 8 Oct 2021</p>	<p>Effective and efficient management of human resource was always considered vital for attaining success and sustainable competitive advantages by any organization, but in today's emerging economies of knowledge, the importance of knowledge management capacity has also emerged as an important ingredient. The institutions of higher education (HEIs) are considered to be the knowledge creating organizations, where the most vital resource for success and sustainability is human capital. Since knowledge management capacity is still an emerging concept in Pakistan, the aim of this paper was to conduct an empirical Study about the effect of knowledge management capacity (KMC) on the relationship of human resource management (HRM) practices and sustainable competitive advantages (SCA) acquired by institutions of higher education in Pakistan, with the help of knowledge-based view (KBV) and resource-based view (RBV). The results of this paper indicate that HRM practices can help HEIs to attain SCA directly as well as indirectly through KMC, which can ultimately help the policy makers of academia to concentrate and made substantial efforts to improve the knowledge management capacity of educational institutions. Future researchers and managers of academia can be benefited from this research as it added to the current knowledge about HRM practices and its effect on KMC of faculty along with attaining sustainable competitiveness.</p>
<p><i>Key Words:</i> Human Resource Management Practices (HRMP), Sustainable Competitive Advantages (SCA), Knowledge Management Capacity (KMC), Resource Based View (RBV), Knowledge Based View (KBV)</p>	
<p><i>JEL Classification:</i> L21, L25, M5</p>	

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## 1 INTRODUCTION

*"If information is the currency of the knowledge economy, human expertise is the bank where it is kept, invested and exchanged" - (Omotayo, 2015)*

Acquiring sustainable competitive advantage (SCA), in today's dynamic era of ever evolving technology, is the dream of every organization (Hamadamin & Atan, 2019; Nasifoglu Elidemir, Ozturen, & Bayighomog, 2020). Organizations use all possible resources available within their reach to attain competitive advantages (Lei, Khamkhoutlavong, & Le, 2021) and these resources include not only physical, and financial assets but also human and organizational resources (Barney, 1995; Omotayo, 2015). The tangible and intangible assets of an organization can be seen as strengths and weaknesses of that organization which also include skills of employees, and organizational processes (Khatri, 2000; Rasool, Samma, Wang, Zhao, & Zhang, 2019). Continuous enhancement of intellectual capital of any organization has become a source of attaining and maintaining competitive advantage (J. Rehman, Hawryszkiewicz, Sohaib, & Namisango, 2020).

According to resource based view (RBV), organizations can attain competitive position in the market if they possess resources, which meet the criteria of "valuable, rare, inimitable and organized (VRIO)" (Akram, Goraya, Malik, & Aljarallah, 2018; Barney, 1995). Organizations must cultivate the tacit knowledge of available human capital to enhance the qualities of heterogeneity and immobility in order to gain SCA (Nasifoglu Elidemir et al., 2020). Organizations use certain human resource management practices (HRMP) to attract skilled workers, motivate them with the help of training and incentives, develop their skills and capabilities, and retain them as a valuable resource having certain firm specific competencies, to attain and sustain the competitive advantage in the industry (Gope, Elia, & Passiante, 2018; Lei et al., 2021). The advancement of technology has turned this world in a global village where information travels faster than ever and resulted in emergence of knowledge based economy,

which requires effective management of human capital (Omotayo, 2015). Every employee possesses certain skills, experience, and tacit knowledge which can make him unique, inimitable, and a source of advantage (Özbağ, Esen, & Esen, 2013), in view of this fact such human resource management practices should be deployed that can motivate the employees and make them committed to acquire new knowledge, share it among peers, and apply for the development of organization, i.e. to enhance knowledge management capacity (KMC) (Akram et al., 2018). The knowledge based view (KBV) emphasize on acquiring, creating, and applying of knowledge and how it is transferred to others (Cabrera-Suárez, De Saá-Pérez, & García-Almeida, 2001)

Like all other organizations the institutions of higher educations also strive to grow, achieve their strategic goals, and sustain the competitive advantages over one another (Mahdi, Nassar, & Almsafir, 2019). In the era of globalization and innovation, acquiring and retaining the best human capital, has become the goal of every organization (Allui & Sahni, 2016) especially the institutions of higher education since they are considered to be the major knowledge producing organizations (Brewer & Brewer, 2010). Omotayo (2015) called knowledge equivalent to power and defined that “management of knowledge is the key to power” (p-2). The institutions of higher education in developing countries like Pakistan are important for national economy (K. Rehman, Khan, & Javed, 2019) and measures to maximize the performance are of vital importance in today’s emerging economy of knowledge, for attaining and maintaining the competitive advantages (Pasha, 2012). The institutions of higher education create, maintain, and share knowledge and information, with the help of knowledge management capacity (KMC). This enables them to perform innovative activities while imparting knowledge among future generations with the help of advanced courses and better services (K. Rehman et al., 2019). According to Rasheed and Guo (2020) “Pakistan is still in early phase of understanding the knowledge management implications” (p-1).

The objective of this paper is to use the “resource based view” (Wernerfelt, 1984) and “knowledge based view” (Grant, 1996) to study the impact of human resource management (HRM) practices on sustainable competitive advantages (SCA) of institutions of higher education in Pakistan taking knowledge management capacity (KMC) as mediator. The research questions discussed in this paper are;

- Do human resource management practices contribute towards sustainable competitive advantages for Pakistani Universities?
- Does knowledge management capacity of HEIs contribute towards the relationship of human resource management practices and sustainable competitive advantages?

The finding of this paper will encourage the senior administration of institutions of higher education in Pakistan to adopt strategic policies and position which emphasizes on the importance of human resource development and to enhance the knowledge management capacity of individuals as well as organization, in order to sustain their competitive advantages.

## 2 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

### 2.1 Attaining Sustainable Competitive Advantages through Human Resource Management

It was explained by Barney (1991) that “firms obtain sustainable competitive advantages by implementing strategies that exploit their internal strengths, through responding to environmental opportunities, while neutralizing external treats and avoiding internal weaknesses” (p-99). The heterogeneity and immobility of resources, as defined under resource based view (RBV), can be used as a source of competitiveness for any organization (Widyanty, Daito, Riyanto, & Nusraningrum, 2020; Wright & McMahan, 1992). According to Barney and Wright (1998) certain resources can be used to attain competitive advantages, namely, “physical capital resources, organizational capital resources, and human capital resources” (p-32). The resources and capabilities of any organization should meet the criteria of “valuable, rare, inimitable and organized (VRIO)” to create sustainable competitive advantage (Barney, 1995). The framework of VRIO is to be used by HR managers to identify, train, and sustain the firm specific human resources for sustainable competitive advantages (Barney & Wright, 1998; Rasool et al., 2019). The HRM practices could have positive impact on the human capital pool which in result effects the behaviour and performance of the employees and help sustaining the competitive advantages (Delery & Roumpi, 2017; Wright, Dunford, & Snell, 2001).

Barney (1995) elaborated that “human resource include all the experience, knowledge, judgment, risk taking propensity, and wisdom of individuals associated with a firm” (p-50). Different practices used to manage people in any organization are defined as human resource management (HRM) practices and are divided into four main categories, i.e. induction, training, review, and rewards. Whereas according to Wright and McMahan (1992)

strategic human resource management (SHRM) practices are defined as “the pattern of planned human resource deployments and activities intended to enable an organization to achieve its goals” (p-298). Seven SHRM practices including “internal career opportunity, formal training systems, appraisal measures, profit sharing, employment security, voice mechanisms, and job definition” were defined by (Delery & Doty, 1996).

Organizations use certain human resource management (HRM) practices to attract skilled workers, motivate them with the help of training and incentives, develop their skills and capabilities, and retain them as a valuable resource having certain firm specific competencies, to attain and sustain the competitive advantage (Gope et al., 2018; Lei et al., 2021). These skilled and motivated employees work more efficiently to attain the organization’s strategic goals (Chen & Huang, 2009) and to acquire sustainable competitive advantages (Wright et al., 2001). The HRM practices adopted by any organization are very much dependent on the strategic position of the organization (Delery & Doty, 1996). Porter (1980) identified three categories of firm strategies to attain competitive advantage, i.e. cost leadership, differentiation, and focused. He also defined five elements, i.e. barriers to entry, threat of substitutes, bargaining power of customer, bargaining power of supplier, and competitive rivalry, that effect the competitive position of any organization. It has been established that investment in growth of human capital can be considered as a sign of successful organization (Lado & Wilson, 1994), as certain HRM practices like careful staffing, training, performance incentives, and socialization (Wright, McMahan, & McWilliams, 1994) became source of motivation, and development of knowledge and skills of employees (Ybema, van Vuuren, & van Dam, 2020). The unique quality of human capital is that one cannot separate the knowledge and skills from the beholder like any other financial or physical resource (Hamadamin & Atan, 2019; Wright et al., 1994).

The hypothesis developed after studying the connection between human resource management practices and sustainable competitive advantages is as follows.

H<sub>1</sub>: Human Resource Management Practices help HEIs to gain Sustainable Competitive Advantages.

## **2.2 Knowledge Management Capacity as Mediator**

The rapidly evolving environment requires organizations to indulge in innovative activities and to develop capabilities of available human resource so that they may be able to maintain the competitive advantage, gained in their respective industry (Chen & Huang, 2009). Having firm specific Knowledge and capabilities can make the human resource, a valuable asset for any organization (Wright et al., 2001). The advancement in technology, new requirements of job market, financial constraints, national and international competitors, social and political pressures of society etc. poses different challenges to the institutions of higher education. These challenges can be catered with the help of knowledge management, i.e. what is known to the institution, how this knowledge is utilized and speed of acquiring new knowledge (Prusak, 1996). Knowledge acquisition, and its timely utilization has been identified as an important source of gaining sustainable competitive advantage among institutions of higher education (Mahdi et al., 2019) due to its ability of innovation and significant impact on human performance (Ishak, Eze, & Ling, 2010; Omotayo, 2015). Organizations having knowledge management capacity can collect tacit knowledge from workers, organize it and transform it into explicit knowledge in order to enhance the competence and competitiveness, resulting in sustained competitive advantage in the industry (Hsiao, Chen, & Chang, 2011).

According to the Prusak (1996) “knowledge exist in the mind of knowers” (p-7) so there remains the need to nurture the minds of human resource available in any organization (Özbağ et al., 2013) and especially for knowledge dependent organizations, like institutions of higher education (Gope et al., 2018). It is said that an organization can acquire knowledge by two means, first by the ability of learning of its existing members and second by hiring innovative members having new knowledge (Grant, 1996; Papa, Dezi, Gregori, Mueller, & Miglietta, 2018). (Drucker, 1999) identified that “The most valuable asset of a 21st-century institution (whether business or nonbusiness) will be its knowledge workers and their productivity” (p-79). He stressed that the knowledge workers should not be considered as the cost, rather they should be treated as assets. Blackler (1995) identified five types of knowledge “i.e. embrained knowledge which is dependent on conceptual skills and cognitive ability, embodied knowledge which is task oriented and is partly explicit, encultured knowledge which is achieved through shared understandings of people working in an organization, embedded knowledge which resides in organizational routines, and encoded knowledge is when information is conveyed through signs and symbols” (p-1023).

Knowledge management (KM) was defined by Nonaka and Takeuchi (1995) as the transformation of tacit knowledge into such explicit knowledge which can be used for the betterment and effectiveness of organization. Whereas, Omotayo (2015) defined KM “as a framework for designing an organization’s strategy, structure and processes so that the organization can use what it knows to learn and to create economic and social values for its customers and community” (p-2). Knowledge creation and distribution is a continuous process (McCampbell, Clare, & Gitters, 1999), and Nonaka and Takeuchi (1995) distributed this process of knowledge creation and internalization of new knowledge in organizational routines with the help of four interconnected steps, i.e. socialization, externalization, combination, and internalization. Only those organizations, can create a difference in this evolving era of technology, who can manage to quickly internalize the newly created knowledge and use it for the production of goods and services (McCampbell et al., 1999; Omotayo, 2015) resultantly such organizations will be able to sustain competitive advantages (Ishak et al., 2010; Papa et al., 2018).

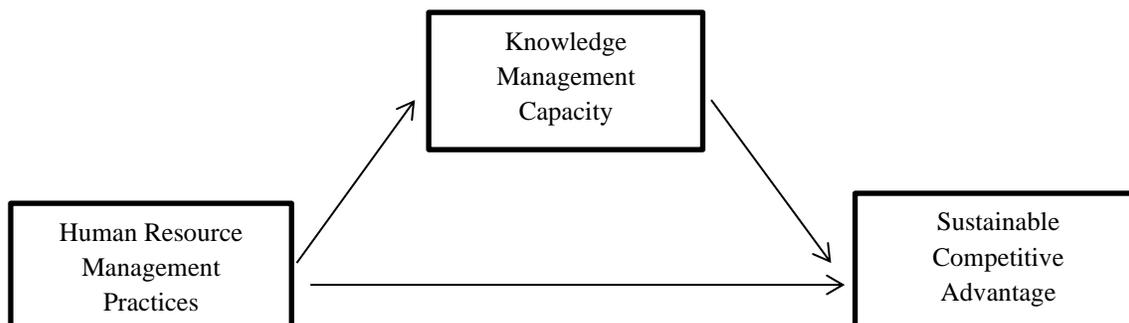
Team, relationships and networking are the key factors in knowledge creation and distribution (McCampbell et al., 1999). In order to develop a culture of knowledge management the workers of organization should be given confidence about their abilities and skills with the help of training and dissemination of knowledge about vision, mission and objectives of the organization (Pasha, 2012). Selection of experienced and competent human resource, train it according to the needs of organization and sustain it, is of utmost importance for keeping an edge over competitors (Ishak et al., 2010; Omotayo, 2015). Different HRM practices like recruitment, training, performance evaluation and compensation can be used for accumulation of the knowledge from different sources, develop of new ideas and professional development of knowledge workers (Chen & Huang, 2009). HRM practices can be used to create such opportunities and environment that motivate workers to acquire new knowledge and share their experiences with the fellow colleagues (Lei et al., 2021).

HEIs are mainly responsible for the creation of new knowledge with the help of research in emerging eras of knowledge (Pinto, 2014). Motivated and competent work force is required for the development of new ideas and innovation (Chen & Huang, 2009). Therefore it is of great importance to choose the best human capital with the help of human resource practices (Ishak et al., 2010; Papa et al., 2018). Keeping in view the literature available with regard to knowledge management capacity and its link with HRM practices and SCA, the following hypotheses were developed.

- H<sub>2</sub>: Human Resource Management Practices positively affect the Knowledge Management Capacity of HEIs.  
 H<sub>3</sub>: Knowledge Management Capacity helps HEIs to gain Sustainable Competitive Advantages.  
 H<sub>4</sub>: Human Resource Management Practices have indirect effect on Sustainable Competitive Advantages through Knowledge Management Capacity.

### 2.3 Theoretical Framework

The model developed for this research is given below:



### 2.4 Hypotheses

- H<sub>1</sub>: Human Resource Management Practices help HEIs to gain Sustainable Competitive Advantages.  
 H<sub>2</sub>: Human Resource Management Practices positively affect the Knowledge Management Capacity of HEIs.

- H<sub>3</sub>: Knowledge Management Capacity help HEIs to gain Sustainable Competitive Advantages.
- H<sub>4</sub>: Human Resource Management Practices have indirect effect on Sustainable Competitive Advantages through Knowledge Management Capacity.

### **3. RESEARCH METHODOLOGY**

#### **3.1 Research Approach**

This research was developed on the Deductive- Quantitative approach. According to Sekaran and Bougie (2016), deductive research moves from general theory towards specific concepts with the help of hypothesis testing, data collection, data analysis techniques, and ultimately accepting or rejecting the original theory.

This paper emphasises on the indirect impact of HRM practices on SCA attained by HEIs through KMC and the results can be applied on the general population.

#### **3.2 Research Method and Design:**

Quantitative research method was used to conduct this research, with the aim of objectivity, under empiricist epistemology.

Cross-sectional research design was used to conduct this research, “A research study for which data are gathered just once (stretched though it may be over a period of days, weeks, or months) to answer the research question” (Sekaran & Bougie, 2016) (p-390). Self-completion structured questionnaire was used to collect data from teaching staff of private and public HEIs of Lahore.

#### **3.3 Population and Sampling**

According to HEC Pakistan, there are 228 Institutions of Higher Education in Pakistan out of which 38 are located in Lahore. As the time available to complete this research was one semester, the data was collected from the institutions located only in Lahore, making faculty members of public and private institutions of Lahore the unit of analysis for this research.

The sample size was determined according to the rule of thumb described by (Hair, Black, Babin, Anderson, & Tatham, 1998), i.e. minimum five responses for each item included in questionnaire. There were 24 items in the questionnaire developed for this research so the desired sample size was 120 responses from faculty members of HEIs of Lahore.

#### **3.4 Data Collection and analysis**

Since the educational institutions were closed due to COVID-19 pandemic and it was not possible to approach the faculty members personally and use the probability sampling techniques. Therefore a non-probability sampling technique, i.e. snowball sampling method, was used to collect data for this research.

The data was collected with the help of Google forms, from where self-completion structured questionnaire was sent to the faculty members of HEIs of Lahore through email and text messages. They were then requested to send it to other faculty members in their contacts and after repeated emails and text messages a sample of 103 responses was collected.

SPSS Software along with PROCESS by (Hayes, 2017), was used for data analysis.

#### **3.5 Research Instruments**

The questionnaire used for this study included demographic questions related to gender, education, designation, total experience in the university, and type of university along with self-completion measures for HRM practices, KMC and SCA, adapted from different prior researches on the same topic. All the items were measured on five point Likert scale of 1 (strongly disagree) to 5 (strongly agree).

- **Human Resource Management (HRM) Practices:** This scale was adapted from (Lei et al., 2021), having six items. Sample item is “Our University often emphasizes promotion from within.”
- **Knowledge Management Capacity (KMC):** This scale was also adapted from (Lei et al., 2021), having seven items and sample item is “University can generate new knowledge from existing knowledge.”

- **Sustainable Competitive Advantages (SCA):** The scale for SCA was adapted from two sources, (Khan, Yang, & Waheed, 2019) and (Hamadamin & Atan, 2019), having eight and three items respectively. Therefore our scale for SCA has total eleven items. Sample item is “As compared with our competitors, our graduates have superior benefits in the job market.”

### 3.6 Common Method Variance

According to Podsakoff, MacKenzie, Lee, and Podsakoff (2003) common method variance is defined as, “variance that is attributable to the measurement method rather than to the constructs the measures represent” (p – 879), and it can affect the validity of results.

As data for this study was collected using cross-sectional method and information for all the items was submitted by the same source, Hermon’s one-factor analysis was performed to check for CMV. Principal component analysis was executed for items of three scales i.e. HRMP, KMC, and SCA. Five factors emerged with eigenvalue greater than one with 33.459% of the variance explained by the first factor. Since this percentage is less than 50%, CMV is not a significant problem for this study (Chen & Huang, 2009; Khan et al., 2019; Lei et al., 2021).

## 4 ANALYSIS AND RESULTS

The descriptive statistics about demographic factors are given in Table 1. A total of 103 faculty members from public and private universities of Lahore participated in the study, out of which 51.5% were male and 48.5% were female faculty members. Majority of the participants i.e. 76.7% belonged to public sector universities and 52.4% of the participants were having PhD degrees. A large percentage of participants i.e. 58.3% were working in a university above the rank of lecturer and 68% of the faculty members have experience more than five years.

**Table I**  
*Descriptive Statistics about Demographic Variables*

<b>Variable</b>	<b>Category</b>	<b>Percentage</b>	<b>Cumulative Percentage</b>
<i>Gender</i>	Male	51.5	51.5
	Female	48.5	100
<i>University Type</i>	Public	76.7	76.7
	Private	23.3	100
<i>Education</i>	Doctorate	52.4	52.4
	MS/ MPhil	42.7	95.1
	Masters	4.9	100
<i>Designation</i>	Professor	10.7	10.7
	Associate Professor	7.8	18.5
	Assistant Professor	39.8	58.3
	Lecturer	41.7	100
<i>Experience</i>	More than 15 years	26.2	26.2
	10 – 15 years	17.5	43.7
	5 – 10 years	24.3	68.0
	Less than 5 years	32	100

The reliability of the scale was determined with the help of Cronbach’s Alpha, given in table 2, and it has been established that all the three scales used in this study were reliable measures of the variables.

**Table II**  
*Reliability Statistics for Study Scales*

Scale	Items	Cronbach's Alpha
Human Resource Management Practices	6	0.833
Knowledge Management Capacity	7	0.798
Sustainable Competitive Advantages	11	0.809

The Pearson correlations indicate that HRM Practices are positively and significantly related to KMC (0.598,  $p < 0.01$ ) as well as for SCA (0.567,  $p < 0.01$ ). It is also visible from the table below that the KMC is positively and significantly related to SCA (0.646,  $p < 0.01$ ). If we look at the demographic variables it can be noted that the designation has positively significant relationship with education (0.488,  $p < 0.01$ ) and experience of faculty members is also positively and significantly related with both education (0.438,  $p < 0.01$ ) and designation (0.585,  $p < 0.01$ ).

**Table III**  
*Mean, Standard Deviation & Correlations of Study Variables*

	Mean	SD	1	2	3	4	5	6	7	8
1. Gender	1.49	0.502	1							
2. Education	1.52	0.592	-.073	1						
3. Designation	3.13	0.957	.157	.488**	1					
4. Total Experience in this University	2.62	1.189	-.067	.438**	.585**	1				
5. Type of University	1.23	0.425	.016	.055	.048	.157	1			
6. HRMP	3.32	0.746	-.171	.197*	.117	.205*	.084	1		
7. KMC	3.54	0.572	.034	.096	.156	.280**	.189	.598**	1	
8. SCA	3.35	0.530	.150	.163	.106	.152	.052	.567**	.646**	1

$N = 103$

\* $p < .05$

\*\* $p < .01$

The initial hypotheses were tested with the help of regression analysis and the results are given in Table IV. The first hypothesis, i.e.  $H_1$ , was that HRMP can help HEIs to gain SCA. Analysis supports this hypothesis as  $p=0.00$ . The second hypothesis, i.e.  $H_2$ , was that HRMP can positively affect the KMC of HEIs. This hypothesis is also supported by the analysis with  $p=0.00$ . Third hypothesis, i.e.  $H_3$ , was that KMC can help HEIs to gain SCA. Analysis also support this hypothesis with  $p=0.00$ .

**Table IV**  
*Hypothesis Testing*

	R <sup>2</sup>	p	Status
HRMP → SCA	0.322	0.00	Supported
HRMP → KMC	0.357	0.00	Supported
KMC → SCA	0.417	0.00	Supported

Significant at  $\alpha < .01$

The mediation analysis was performed with the help of Hayes Process (Model-4) for the study variables, i.e. outcome variable was SCA, predictor variable was HRMP and KMC was the mediator variable. The results are presented in Table V, which revealed a significant direct effect of HRMP on SCA ( $E = 0.200$ , 95% C.I., (0.072 – 0.329)) and similarly a significant indirect effect of HRMP on SCA ( $E = 0.202$ , 95% C.I., (0.112 – 0.311)). This indicates that KMC partially mediates between HRMP and SCA for the institutions of higher education in Lahore.

**Table V**  
*Mediation effect of KMC on HRMP - SCA*

	Effect	SE	LICI	ULCI
Direct effect of HRMP on SCA	0.200	0.065	0.072	0.329
Indirect effect of HRMP on SCA through KMC	0.202	0.051	0.112	0.311

The scale for sustainable competitive advantages was adapted from two sources (Khan et al., 2019) and (Hamadamin & Atan, 2019), factor analysis was performed in order to check the factorization of the items included in the scale. Three factors emerged from the items are presented in the table VI.

**Table VI**  
Factors of SCA

Component	No. of Items
Innovation and Creativity	05
Differentiation	04
Cost Leadership	02

The direct relations of all the three factors of SCA were checked with HRMP as well as with KMC through regression analysis and the results are given in Table VII. The results indicate that HRM Practices have significant direct relationship with two factors of SCA, i.e. Innovation and Creativity, and Differentiation at  $\alpha = 0.01$ . The factor of Cost Leadership is also showing relationship with HRMP but it is weak and at  $\alpha = 0.10$ . The KMC has strong relationship with two of the factors of SCA, i.e. Innovation and Creativity, and Differentiation at  $\alpha = 0.01$ . The factor of Cost Leadership is not affected due to KMC.

**Table VII**  
Hypothesis Testing

	R <sup>2</sup>	p	Status
HRMP → Innovation and Creativity	0.211	0.00**	Supported
HRMP → Differentiation	0.244	0.00**	Supported
HRMP → Cost Leadership	0.035	0.058*	Supported
KMC → Innovation and Creativity	0.404	0.00**	Supported
KMC → Differentiation	0.222	0.00**	Supported
KMC → Cost Leadership	0.018	0.175	Not Supported

\*\* $\alpha = 0.01$

\* $\alpha = 0.10$

The mediation analysis was performed on the three factors separately to identify the mediation effect of KMC on the direct relationship of HRMP and three factors of SCA. The results are presented in table VIII, which indicates that the KMC is doing full mediation between the relationship of HRMP and Innovation and Creativity, as direct effect is insignificant ( $E = 0.114$ , 95% C.I., (-0.061 – 0.290)) but indirect effect is significant ( $E = 0.311$ , 95% C.I., (0.182 – 0.478)). Partial mediation can be seen for the relationship of HRMP and Differentiation through KMC, as both direct and indirect effect are significant ( $E = 0.313$ , 95% C.I., (0.116 – 0.510)) and ( $E = 0.156$ , 95% C.I., (0.024 – 0.302)). Whereas no mediation effect is established between relationship of HRMP and Cost Leadership through KMC, as both direct as well as indirect effect are insignificant ( $E = 0.190$ , 95% C.I., (-0.088 – 0.467)) and ( $E = 0.024$ , 95% C.I., (-0.138 – 0.195)).

**Table VIII**  
Mediation Analysis for the Three Factors of SCA

		Effect	SE	LICI	ULCI
HRMP – KMC – Innovation and Creativity	Direct effect	0.114	0.089	-0.061	0.290
	Indirect effect	0.311	0.075	0.182	0.478
HRMP – KMC – Differentiation	Direct effect	0.313	0.100	0.116	0.510
	Indirect effect	0.156	0.071	0.024	0.302
HRMP – KMC – Cost Leadership	Direct effect	0.190	0.140	-0.088	0.467
	Indirect effect	0.024	0.083	-0.138	0.195

## 5 DISCUSSION

This paper was aimed to study the mediating effect of KMC on the relationship of HRM practices and SCA of HEIs in Pakistan. It helped in establishing the relationship between HRM practices and SCA for the HEIs in Pakistan and also highlighted the importance of knowledge management capacity in this process of gaining SCA. The direct relationship of HRM practices with KMC and SCA are found to be significant as well as the mediating effect of KMC on the relationship of HRMP and SCA. The results of this study are supported by the finding of

previous studies, where HRM practices have been identified as one of the important factor for achieving sustainable competitive advantage (SCA) (Hamadamin & Atan, 2019; Khandekar & Sharma, 2005) and HRM practices like “recruitment and selection, training and development, compensation and rewards, employee retention and career development” (Gope et al., 2018; Rasool et al., 2019) were identified as motivational factor for the employees to acquire better knowledge, share it among peers, and work to enhance the learning abilities (Jyoti & Rani, 2017; Lei et al., 2021). Commitment level of employees can be enhanced with the help of HRM practices (Wright, Gardner, & Moynihan, 2003) which improves the rate of employee retention and promotes knowledge acquisition resulting more innovation and better performance (Papa et al., 2018). Organizations (Al-Tal & Emeagwali, 2019) can use knowledge management capacity of their employees for acquiring SCA (Mahdi et al., 2019).

According to (Chen & Huang, 2009) the effective HRM practices can help organizations to cater the abilities of employees and gain sustainable competitive advantages. However employees sometimes hesitate to share their experiences and knowledge with the fellow colleagues, in such situations the effective use of HRM practices can be source of enhancing confidence and trust of employees, resulting in enhanced KMC which ultimately gain SCA.

According to RBV an organization can claim to have sustainable competitive advantages only when competitors cannot duplicate the competitive advantage and this can only happen with the help of heterogeneous resources that can add value due to their uniqueness and quality of inimitability (Wright et al., 2001). This paper highlights the importance of HRM practices for enhancing the KMC in faculty members of HEIs, making them valuable and unique resource for attaining sustainable competitive advantage. Implementation of specific HRM practices along with KMC of faculty members is important for maintain innovative environment and sustainable competitive advantage for knowledge producing organizations (Özbağ et al., 2013).

After the factorization for the scale of SCA into three components i.e. innovation and creativity, differentiation, and cost leadership, the results show that Cost Leadership was weakly related with HRMP and was not related with KMC for the HEIs of Pakistan. Similarly KMC was not putting any effect on the relationship between HRMP and factor of Cost Leadership. The possible reason for such results can be the fact that majority of the participants for this research were faculty members of public sector universities, i.e. 76.7%, and the fee structure of public sector institutions is almost same in Pakistan, therefore the cost leadership may not be the possible competitive advantage for public sector institutions.

On the other hand perfect mediation was noted for HRM practices and Innovation & Creativity through KMC. These results are in line with the previous finding of K. Rehman et al. (2019) stating that the knowledge resources of educational institutions can develop innovative courses, promote knowledge sharing, and help in gaining competitive advantage.

## **5.1 Research Implications**

This study extends the current knowledge about human resource management practices and sustainable competitive advantages by identifying the mediating effect of knowledge management capacity. KMC helps in innovative activities and increase competitiveness of the organization. HRM practices can be used by the managers of academia for organizational development and employee well-being.

This study will help future researchers as well as practitioners in academia as it highlighted the importance of KMC for attaining SCA, which is still an underdeveloped concept in Pakistan. As far as academic practitioners are concerned, this study can motivate human resource managers to engage in such HRM practices with enhance learning activities, and promote knowledge acquisition and sharing, necessary for organizational development through innovation. The importance of HRM practices for increasing KMC is highlighted in this study. The positive relationship between KMC and innovation & creativity can be used for the development of academic institutions, which will ultimately help in uplifting the educational standards.

## **5.2 Limitations and Future Research**

Significant contribution has been made to the literature related to relationship between human resource management practices and sustainable competitive advantages of institutions of higher education in Pakistan, along with the contribution of knowledge management capacity of HEIs on this relationship, yet there are certain limitations. First, the data was collected with the help of non-probability sampling due to closure of institutions on account of pandemic of COVID-19; this may have sampling bias effect on the results. Second, a cross sectional study was conducted due to time constraint, the effect of time on results cannot be studied in this format therefore longitudinal study should be conducted to study the effect of HRMP on KMC. During the data collection for this

research some participants highlighted the importance of leadership for enhancement of KMC of any organization, therefore more elaborated longitudinal model should be developed in future research to check the effect of change in leadership of HEIs towards KMC and SCA. Third, there can be other mediating as well as moderating factors effecting the relationship of HRMP and SCA, like type of organization (public/ private), historical back ground of institution, etc. these factors needed to be studied in future researches.

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