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Enhancing Labor Productivity through E-HRM - Evidence from Commercial Banks in Pakistan

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Abstract

This study investigates the impact of electronic Human Resource Management (e-HRM) systems on labor productivity within commercial banks in Pakistan, with a specific focus on the mediating role of HR service quality. The reasons for adopting e-HRM practice are to reduce HR processes, enhance efficiency and increase productivity. Empirical analysis is carried through the study using a quantitative research design to evaluate the relationships between e-HRM practices and the labor productivity that is mediated through HR service quality. Results indicate a very positive relationship among e-HRM practices' width and depth with labor productivity, through the quality of HR services. In this study we contribute to the extant literature by understanding the appropriateness of e-HRM in a dynamic developing country setting and provide practical guide to HR and policy makers to change the e-HRM Government system in order to increase e-HRM system performance. This study also emphasizes the importance of tailoring e-HRM practices to local cultural and institutional contexts as this is likely to help in making e-HRM practices more effective and acceptable.

Keywords: Labor Productivity, E-HRM, Commercial Banks, Pakistan

Introduction

Technology advancement and competition have been some of the things that are responsible to a transformation of the global business environment in recent decades. Change evident in adoption of electronic Human Resource Management (e-HRM) systems because revolutionary it is in today's organizations human resource management. The aspect of implementation of e-HRM systems in commercial banking sector in Pakistan is crucial because it allows the bank to facilitate in better upgrading of overall efficiency and productivity. Electronic Human Resource Management (e-HRM) refers to using digital platforms and technologies to perform some of HR functions such as recruitment, training, performance management, compensation and much more. The reason of using the e-HRM is to make HR processes simple and easy, and to reduce the administrative burden in the organizations, as well as increase the accuracy in communication. The possible usage of the e-HRM systems by the banks will optimize HR operations, which in turn will lead to better human capital management, better organizational performance and overall human resource and business performance. Labour is an important factor to maintain competitiveness, and the increase labor productivity is expected to increase labor productivity. In this case, such as labor productivity measures the efficiency and effectiveness of the use of labor

inputs in producing the outputs. There are few ways in which we can measure it — say, the range of transactions processed, customer satisfaction score etc; overall operational efficiency. Banking sector is one of the most crucial and effective sector in the world at present which has been using e HRM practices for some time to increase its labor productivity and service quality in the banking sector (Khan, 2009; KMPG, 2013).

Problem Statement

There is limited knowledge about both primary and secondary effects that e-HRM creates on labor productivity in countries such as Pakistan which fall into the developing category of economies. Research to date mostly explained e-HRM implementation in developed economies of Europe and the United States but provided minimal insight about how e-HRM functions in alternative cultural and institutional settings. This investigation tackles the knowledge gap about e-HRM and labor productivity relationships in commercial banks throughout Pakistan.

Gap Analysis

However, there shall be no extensive analyses as to how e-HRM relates HR service quality influence over labor productivity, a significant organizational outcome. Furthermore, most research has occurred in developed economies to the exclusion of the particular context and problems in developing countries. This research aims to address the gap in the relationship between e-HRM systems and labor productivity performance as well as HR service quality mediation in Pakistan.

Research Objectives

1. To assess the direct impact of e-HRM practices on labor productivity in commercial banks in Pakistan.
2. To evaluate the mediating role of HR service quality in the relationship between e-HRM practices and labor productivity.
3. Research will study cultural elements as well as institutional variables that impact e-HRM outcome effectiveness in Pakistan.

Research Questions

1. How do e-HRM practices directly affect labor productivity in Pakistan's commercial banks?
2. Does the relationship between electronic-HRM practices and labor productivity receives mediation from HR service quality?
3. What cultural and institutional factors influence the impact of e-HRM on labor productivity in Pakistan?

Research Significance

The literature has been enriched by the empirical evidence offered in this study with regards to the impact of e-HRM on labor productivity in developing country context. It provides an understanding of how e-HRM systems can be optimized by HR professionals and policymakers to increase productivity. The study also emphasizes the need for taking cultural and institutional factors into account in the implementation of e–HRM and offers a basis for further research and theory development in this area.

Literature Review

The interrelationship between Labor Productivity, e-HRM Practices and HR Service Quality: has been a focal point of research, particularly in the banking sectors, which often faces unique challenges and constraints.

Dependent Variable

Labor Productivity: One of the key performance metric is Labor Productivity which represents an organization's ability to translate labor inputs into outputs. This is a crucial parameter to determine how well a company's workforce is employed to produce goods or services. Measuring it generally involves calculating a measure of output for every hour worked, allowing you to view the output produced per labor hour and as such quantifying how productive the workforce is. Some factors which influence labor productivity include the skill level of employees, efficiency of work processes, quality of management or quality of technology involved to support the work activities. If a company can produce more with their resources but with similar or fewer resources than our other criteria, then that company is highly productive in terms of labor. On the other hand, low labor productivity can also indicate labour inefficiencies such as insufficient training, bad management practice, lack of updated equipment etc. Specifically in light of this study, labor productivity is a particularly relevant outcome variable because it is what is being measured. This study concentrates on the relationship between e-HRM practices, HR service quality and managers' perception of labor productivity within the commercial bank workplace in Pakistan. The study's aim is to assess whether the use of electronic HRM practices and HR service quality improvements contribute to increased efficiency and output for employees. For this research, accurate measurement of labor productivity is indeed crucial. However, traditions economic measures of productivity may miss the full measure of change with IT (Brynjolfsson 1993; 2000). The organic nature of e-HRM is thus the reason for the use of managers' perceptions of productivity as an added contribution to the wider notion of how e-HRM influences components of employee performance as well as organizational efficiency. This approach recognizes the multi dimensionality of productivity, viz. task performance but also organizational contribution of employees to achievement of organizational success.

Independent Variables

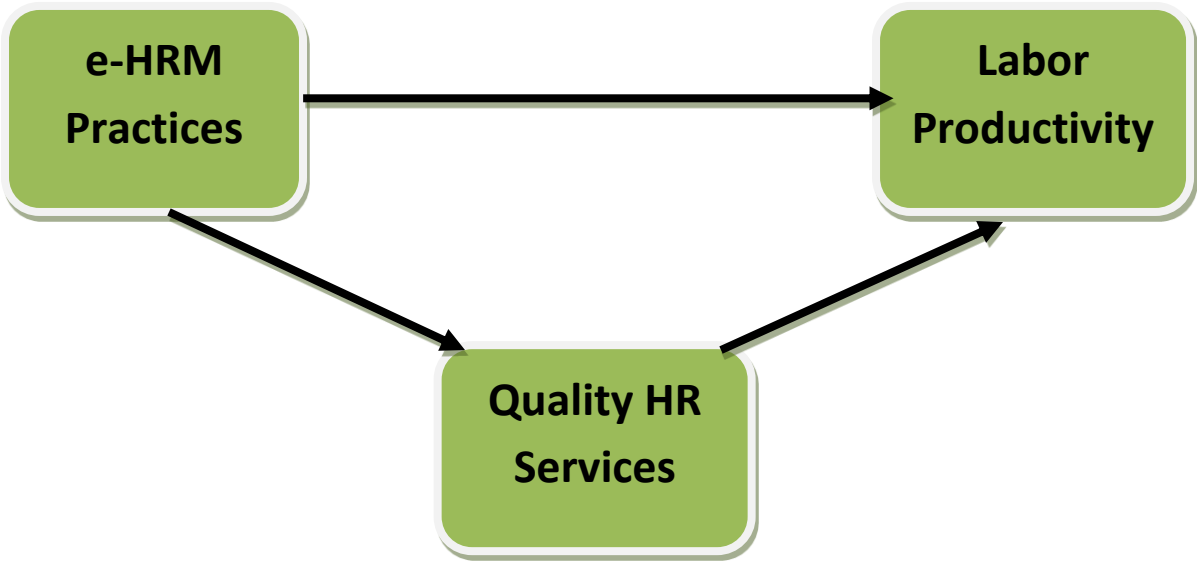
E-HRM Practices: It refers to the use of information technology in conducting HR functions. Technology being integrated into the HRM processes includes a variety of activities starting from recruitment, development, competency management, reward, and payroll processing and employee service. The purpose of the implementation of e-HRM practices is to enhance the efficiency, effectiveness and the strategic value of HR functions of the organization. Using online platforms and software through e-HRM for the recruitment, screening and selection of candidates is part of recruitment. In fact, this process can cut hires time significantly, minimizing the cost for the organization and broadening the talent pool. E-HRM is used of training and development like e learning platforms and virtual training programs, which support the employee to acquire new skills and knowledge at their own convenient time that is more efficient in getting better learning results. The performance management in e-HRM context usually is to use the digital tools to identity own goals, measure/track the progress, provide the feedback and assessment. They add support to the idea that performance management could be more consistent, transparent and in line with organizational objectives. e-HRM systems' payroll processing automates calculation, distribution and reporting of employee salaries, benefits, and deductions and decreases the error and burden of administration. The scope of e-hrm, in the sense that it is the number of eHRM

practices implemented by the organization, and depth, in that the level at which those practices are integrated in the organization's HR processes (Parry 2011, Bissola e Imperatori 2013). Organizations that implement various e-HRM technologies succeed better than organizations which use only few e-HRM practices. Labor productivity receives direct positive effects according to proponents who explain that e-HRM achieves this through automated HR processes that free time for staff and managers to work on core value-added functions. This technological integration leads to superior decision making capabilities based on the delivery of precise and current HR-related data. Research showed that organizations with distinctive e-HRM systems exceed companies with basic e-HRM implementation by achieving superior productivity and organization wide performance success (CedarCrestone, 2009; Panos & Bellou, 2016).

Mediating Variable:

HR Service Quality: The relationship between e-HRM practices and labour productivity is also mediated by this factor. HR services are delivered to the employees in many aspects like responsiveness, reliability, assurance, empathy, and tangibles, it is a performance of perceived quality. Quality, reliable HR process, clear communication, personalized support, and resources and infrastructure. Employee satisfaction and the engagement are closely related to HR services quality. High quality of HR services is associated with felt value, supported and motivated employees. This will also increase productivity as the staff that could not sustain their performance will be happier and they will not contribute negatively to the standards. The most important reasons for use of e-HRM are to enhance HR service quality. With technology, organizations can increase the HR service delivery efficiency and effectiveness. Self service portals allow employees access to HR information as well as perform routine HR tasks thus taking out dependence on the HR staff and increasing speed at which the service is delivered. Most of the HR processes are automated with the help of built in workflows that make the process consistent and accurate, thus no errors and delay. Research evidence shows that e-HRM practice creates positive affects on HR service quality. The results show that e-HRM practice extent determines the level of perceived HR service quality (Wahyudi & Park, 2014). The enhancements in HR service quality directly boost employee satisfaction alongside workplace productivity and their connection to e-HRM practices continues in Bondarouk et al. (2017). This paper examines labor productivity because e-HRM practices adoption functions as a mediator between productivity and HR service quality. The proposed framework indicates that e-HRM practices boost HR service quality until they generate positive labor productivity outcomes. The explanation of how HRM technology enhancements create actual productivity gains stems from the intermediary function of HR service quality. Uen et al. (2012), Meijerink, Bondarouk, and Lepak (2016) proposed that high quality HR services enable better employee need fulfillment which creates positive relationships leading to increased workforce productivity. The study aims to reveal the intermediate position of HR service quality components since this analysis will deliver comprehensive knowledge about e-HRM practice effects on labor productivity to organizations seeking improved HR operations.

Conceptual Model Development



Hypothesis Development

E-HRM and Perceived Labor Productivity

Organizations deploy E-HRM strategies by increasing the number of available practices or enhancing the current ones. According to Parry (2011) the organization-wide linkage between different e-HRM practices reflects depth while their number of variations indicates breadth. The investigation first studies how different e-HRM practices exist between banking branches before analyzing their relationship with workforce output levels. According to Marler and Fisher (2013) as well as Bissola and Imperatori (2013) and Bondarouk and Ruel (2013) and Panos and Bellou (2016), employees who utilize e-HRM technology become more competent while their organizations experience better outcomes. Such systems decrease HR administrative expenses because they enhance accuracy and increase efficiency which results in increased productivity (Marler and Parry, 2015; Parry, 2011; Lengnick-Hall and Moritz, 2003; Shrivastava and Shaw, 2003; Snell, Stueber and Lepak, 2002). E-HRM focuses on workplace automation but its main goal extends to enhancing organizational productivity levels. Research data demonstrates that organizations performing most e-HRM practices demonstrate superior organizational performance relative to firms implementing minimal e-HRM systems (CedarCrestone, 2009). Our research assumes that workplaces with numerous e-HRM practices will reveal a positive association between workforce productivity assessment.

H1: *In workplaces that adopt more e-HRM practices, managers will perceive higher labor productivity.*

E-HRM and the Quality of HR Services

E-HRM systems produce HR service quality according to Marler & Fisher (2016) and Ruël and Kaap (2012) and Wahyudi and Park (2014). Companies use eHRM solutions to enhance their HR service quality for employee delivery purposes as described by Bondarouk et al. (2017) and

Wahyudi and Park (2014) and Tyson and Parry (2011). The delivery of high-quality HR services boosts employee productivity as Marler & Parry (2016) and Uen et al. (2012) have established. Lead research reveals that eHRM systems generate better HR service quality according to Bondarouk et al. (2017), Ruël et al. (2007), Ruël & Bondarouk (2014), Ruël & Kaap (2012) and Wahyudi & Park (2014). Research shows that extensive e-HRM practice implementation generates superior HR service quality according to Wahyudi & Park (2014).

H2: *The greater the use of e-HRM practices, the higher the perceived HR service quality.*

HR Service Quality and Labor Productivity

According to Paauwe (2009) organizations must concentrate on HR service quality enhancement due to its immediate influence on productivity and market competition. Better employee performance estimates emerge from job satisfaction that results from enhanced Human Resource services according to Aryee et al. (2013) and Bondarouk et al. (2017) as well as Chang (2005) and Uen et al. (2012). A dependable system of HR services facilitates better personnel-to-personnel interactions as well as employee-HR interactions which results in superior service quality assessments (Bissola & Imperatori, 2013; Uen et al., 2012). Drucker (1999) agrees with Uen et al. (2012) and Meijerink et al. (2016) that higher productivity results from delivering updated HR services. Research on the relationship between HR service quality and workplace performance outcomes including labor productivity lacks consistent investigation according to Marler and Parry (2011) and Parasuraman (2010). Aryee et al. (2013) emphasize the need for comprehensive research between the association of productivity with HR service quality.

H3: *Higher perceived HR service quality will be associated with higher perceived labor productivity by managers.*

The Mediating Role of HR Service Quality

The critical function of HR service quality plays a vital role in enhancing process efficiency and strategic outcomes of E-HRM systems as stated by Bondarouk & Ruel (2013) and Meijerink, Bondarouk & Lepak (2015) and Parry & Tyson (2011). Uen (2012) indicates how to assess HR service quality by testing inputs and processes as well as final outputs. The performance level of HR functions increases when employees find their needs met by the provided services (Uen et al., 2005). Both the determinants of perceived service quality and their results including interaction and cooperation stem from HR service quality processing according to Uen et al. (2012, 2005). Service input components consist of supporting infrastructures and service practices and technology as well as resources (Uen et al., 2012). Human resource service quality enhancement requires efficient human resource management practices together with appropriate organizational structures according to Meijerink, Bondarouk, & Lepak (2016) and Lin (2012), Marler & Parry (2015) and Uen et al. (2012). This study examines the e-HRM and labor productivity relationship which it evaluates through HR service quality according to the following research hypothesis.

H4: *HR service quality mediates the relationship between e-HRM practices and managers' perceptions of labor productivity.*

Research Methodology

Research Paradigm

The research paradigm guiding this study is positivism, which emphasizes objectivity, quantifiable observations, and the testing of hypotheses. Positivist research assumes reality to be stable and can be observed and described on the basis of objective viewpoint, and not from the viewpoint of researcher (Creswell, 2014). The research seeks to conduct empirical verification of the e-HRM practices and labor productivity relationship based on this theoretical framework. An application of a quantitative and causal research design is used to determine the existence and quantify a cause and effect relationship between eHRM practices and labour productivity. The construction of the constructs and the measurement model of CFA are validated using the measurement model and tested. It validates and reliability the scale of measurement in the study ensuring that the items in the scale reflects the exact constructs they intend (Byrne, 2016).

	EHRMP	**LP**	**QHRS**
EHRMP1	0.801		
EHRMP2	0.806		
EHRMP3	0.807		
EHRMP4	0.768		
EHRMP5	0.729		
EHRMP6	0.827		
EHRMP7	0.798		
EHRMP8	0.768		
EHRMP9	0.770		
LP1		0.826	
LP2		0.768	
LP3		0.908	
LP4		0.885	
LP5		0.815	
QHRS1			0.785
QHRS2			0.805
QHRS3			0.847
QHRS4			0.852
QHRS5			0.785
QHRS6			0.774

This is strongly linked to the correlations between the variables of EHRMP, LP, and QHRS to the commercial banks. The consistency positive correlation of EHRMP3 and EHRMP6 (0.807; 0.827) also implies the coherence of assessing the effectiveness of the e-HRM. Therefore, similar LP indicators, LP3 (0.908); LP4 (0.885), also have positive robust correlations that evidence such indicators as proxies of labor productivity. Finally, variables from QHRS including QHRS3 (0.847) and QHRS4 (0.852) have strong correlations and high similarity when they are used to measure HR service quality. Additionally, these findings further bolster the use of the selected measures on this construct in other evaluations of e-HRM, labor productivity and HR service quality in the context of commercial banking environment.

Pilot testing was conducted to refine the questionnaire and ensure the clarity and reliability of the items, and necessary adjustments were made based on the feedback.

Normality Test

To have the basis for most of the statistical analyses that were performed in this study, the data was given though normality tests in order to verify that the data collected follows a normal distribution. Normality was assessed by tests such as the Shapiro-Wilk test and skewness-kurtosis. Shapiro-Wilk test was used to assess normality of the dependent variable, labour productivity. Here are the results summarized by the following table:

Test	Statistic	df	Sig.
Shapiro-Wilk	0.9853	183	0.060

The p-value is greater than 0.05, indicating that the study failed to reject the null hypothesis (H0: The data is normal). This suggests that the labour productivity variable is normally distributed, allowing for further parametric analyses .

Skewness and Kurtosis

The skewness and kurtosis values for the dependent variable, labour productivity, are as follows:

- **Skewness**: -0.209
- **Kurtosis**: 2.358

The close values to zero of skewness values mean that the distribution of the data is not far away from the symmetry. Since the data distribution has a shape slightly similar to the normal distribution, the value of kurtosis will be very close to 3.

This is consistent with the results that the data of labour productivity are approximately normally distributed and can be further subjected to additional inferential statistical analyses. These findings make sure you can continue your correlation, regression and other linear techniques in your analysis.

The questionnaire used in this study was adopted from previously validated instruments to ensure reliability and validity. Each construct was measured using items from established scales.

Construct (Variable) and Items

- **E-HRM Practices**: Measured by items assessing e-recruitment, e-training, e-performance management, and e-compensation (9 items).
- **HR Service Quality**: Measured by items evaluating the perceived quality of HR services (6 items).
- **Labor Productivity**: Measured by items assessing productivity outcomes (5 items).

The sampling framework was conducted for the employees of commercial banks in Pakistan. To represent in several departments and across job levels, we used a stratified random sampling. A sample size of 100 respondents was determined to be sufficient by Cochran's formula to be reliable with 95% confidence and 5% margin of error (Cochran, 1977). An online survey was then given to the sample selected and data were collected. Responses were collected over two weeks and responded to in the security of the survey tool. The entire process was such that the respondents were ensured anonymity and confidentiality.

Data Analysis

Measurement Model Assessment

Thus, the measurement model was analyzed using Confirmatory Factor Analysis (CFA) to test the factorial structure of the constructs and validity and reliability are checked using key metrics such as factor loadings, composite reliability (CR), and average variance extracted (AVE) (Hair et al., 2010). Since the Structural Equation Model (SEM) shows the relationships between Electronic Health Record Management Practices (EHRMP), Quality of Health Record Systems (QHRS) and Labor Productivity (LP), each of the three independent variables helps to clarify the structural relationships. The six QHRS indicators, the five LPs, and the nine points for EHRMP are used to measure each construct. The good convergent validity is supported by all standardized factor loadings larger than 0.7, with EHRMP loadings between 0.729 and 0.827, QHRS from 0.774 to 0.852, and LP from 0.768 to 0.908. Strong positive influences are indicated in the path coefficients: EHRMP with QHRS at 0.775, QHRS with LP at 0.556, and EHRMP with LP at 0.372. Furthermore, QHRS and LP have R2 values of 0.601 and 0.768 respectively which means that the variance that can be explained by EHRMP accounts for 60.1% of QHRS variance and 76.8% of variance in LP. These results confirm the robustness and reliability of the model to capture the key drivers of QHRS and LP.

Structural Model Assessment

The structural model evaluates the relationships among Employee Health and Risk Management Practices (EHRMP), Quality of Human Resource Services (QHRS), and Leadership Performance (LP). The measurement model confirms the reliability and validity of the indicators for each latent variable, with all loadings being significant (p-value 0.000). EHRMP is measured by nine indicators, QHRS by six, and LP by five, all showing strong correlations with their respective constructs. The path from EHRMP to LP has a very weak direct effect (coefficient 0.010, p-value 0.000), while EHRMP strongly influences QHRS (coefficient 0.601, p-value 0.000). QHRS significantly impacts LP (coefficient 0.768, p-value 0.000), highlighting the importance of high-quality human resource services in enhancing leadership performance. The R-squared values indicate that EHRMP explains 60.1% of the variance in QHRS, and both EHRMP and QHRS together explain 76.8% of the variance in LP. EHRMP has a substantial indirect effect on LP through QHRS, emphasizing the critical mediating role of QHRS in the relationship between EHRMP and LP. This comprehensive assessment underscores the pivotal role of QHRS in amplifying the impact of EHRMP on LP, providing valuable insights into the dynamics between these constructs .

The research theme focuses on examining the impact of electronic Human Resource Management (e-HRM) systems on labor productivity in Pakistani commercial banks. The study investigates both the direct and indirect effects of e-HRM on productivity, considering employees' perceptions of HR service quality as a mediator. Set in the culturally unique context of Pakistan, known for high power-distance norms, the research aims to expand the understanding of e-HRM's benefits beyond the HR function, contributing to theory building in this emerging field. Additionally, the study seeks to extend HRM research into different institutional and cultural settings, emphasizing the role of service quality in enhancing labor productivity.

Demographic Profile

Gender of Respondent

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender of Respondent	107	100.0%	0	0.0%	107	100.0%

Descriptives

			Statistic	Std. Error
Gender of Respondent	Mean		1.33	.046
	95% Confidence Interval for Mean	Lower Bound	1.24	
		Upper Bound	1.42	
	5% Trimmed Mean		1.31	
	Median		1.00	
	Variance		.222	
	Std. Deviation		.471	
	Minimum		1	
	Maximum		2	
	Range		1	
	Interquartile Range		1	
	Skewness		.748	.234
	Kurtosis		-1.469	.463

Age of Respondent

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age of Respondent	107	100.0%	0	0.0%	107	100.0%

Descriptives

			Statistic	Std. Error
Age of Respondent	Mean		1.83	.078
	95% Confidence Interval for Mean	Lower Bound	1.68	
		Upper Bound	1.99	
	5% Trimmed Mean		1.76	
	Median		2.00	
	Variance		.651	
	Std. Deviation		.807	
	Minimum		1	
	Maximum		4	
	Range		3	

	Interquartile Range	1	
	Skewness	.867	.234
	Kurtosis	.498	.463

Qualification of Respondent

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Qualification of Respondent	107	100.0%	0	0.0%	107	100.0%

Descriptives

			Statistic	Std. Error
Qualification of Respondent	Mean		2.44	.060
	95% Confidence Interval for Mean	Lower Bound	2.32	
		Upper Bound	2.56	
	5% Trimmed Mean		2.44	
	Median		2.00	
	Variance		.381	
	Std. Deviation		.617	
	Minimum		1	
	Maximum		4	
	Range		3	
	Interquartile Range		1	
	Skewness		.113	.234
	Kurtosis		-.231	.463

Experience of Respondent

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Experience of Respondent	107	100.0%	0	0.0%	107	100.0%

Descriptives

			Statistic	Std. Error
Experience of Respondent	Mean		1.66	.090
	95% Confidence Interval for Mean	Lower Bound	1.49	
		Upper Bound	1.84	
	5% Trimmed Mean		1.57	
	Median		1.00	
	Variance		.867	
	Std. Deviation		.931	

	Minimum	1	
	Maximum	4	
	Range	3	
	Interquartile Range	1	
	Skewness	1.296	.234
	Kurtosis	.669	.463

Designation of Respondent

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Designation of Respondent	107	100.0%	0	0.0%	107	100.0%

Descriptives

			Statistic	Std. Error
Designation of Respondent	Mean		2.06	.073
	95% Confidence Interval for Mean	Lower Bound	1.91	
		Upper Bound	2.20	
	5% Trimmed Mean		2.01	
	Median		2.00	
	Variance		.563	
	Std. Deviation		.750	
	Minimum		1	
	Maximum		4	
	Range		3	
	Interquartile Range		0	
	Skewness		.727	.234
	Kurtosis		.811	.463

Demographics

Characteristics	Measuring Group	Frequency	Percentage
Gender	Male	72	67
	Female	35	33
Age	18-25	40	37
	26-32	50	47
	33-40	12	11
	40 above	5	5
Experience	0-5 years	62	58
	6-10 years	27	25
	11-15 years	10	9
	15 years above	8	8
Education	High School	5	5
	Graduation	55	51
	Master	44	41

	M.Phill/Ph.D	3	3
Position Level	Entry Level Position	36	34
	Mid Level Position	65	61
	Senior Management	6	5

The demographic characteristics of the surveyed group are detailed as follows: The sample is composed of 67% males (72 individuals) and 33% females (35 individuals). Regarding age distribution, 47% (50 individuals) are aged 26-32 years, making this the largest age group. This is followed by the 18-25 years group, which constitutes 37% (40 individuals) of the sample. The age groups 33-40 years and 40 years and above represent 11% (12 individuals) and 5% (5 individuals) respectively. In terms of professional experience, a majority of 58% (62 individuals) have 0-5 years of experience, while 25% (27 individuals) have 6-10 years of experience. Those with 11-15 years and over 15 years of experience account for 9% (10 individuals) and 8% (8 individuals) respectively.

Educational qualifications among the respondents show that 51% (55 individuals) have completed graduation, followed by 41% (44 individuals) holding a Master's degree. High school graduates constitute 5% (5 individuals), while those with M.Phil./Ph.D. qualifications make up 3% (3 individuals). When examining position levels within their organizations, 61% (65 individuals) are in mid-level positions, 34% (36 individuals) are in entry-level positions, and 5% (6 individuals) hold senior management roles. This comprehensive demographic profile provides an in-depth understanding of the sample's composition, highlighting significant trends in gender, age, experience, education, and professional positions .

Descriptive Analysis

Descriptive statistics have been examined to assess the distribution characteristics of key constructs such as Electronic Human Resource Management Practices, Labor Productivity, and Quality Human Resource Services. The following table outlines the mean, standard deviation, skewness, and kurtosis for each construct.

Construct	Mean	Standard Deviation	Skewness	Kurtosis
EHRMP	0.000	1.000	-0.609	0.246
LP	0.000	1.000	-0.609	0.654
QHRS	0.000	1.000	-1.010	1.973

- **Mean and Standard Deviation**: The data for each construct is normalized and hence all constructs have a mean of 0.000 and standard deviation of 1.000. It is important to standardize to allow easy comparison across constructs and it is a common practice in structural equation modeling to ensure convergence and interpretation.
- Skewness is the measure of asymmetry of the data distribution. Although EHRMP and LP have opposite means (0.094 and 7.118 respectively), we can observe from a skewness (-0.609 for EHRMP and -0.609 for LP) that data points are slightly more concentrated on the right side of the mean. The skewness of QHRS is -1.010, thus we observe that QHRS has a more pronounced negative skew, resulting in a longer left tail. The constructs are negatively skewed implying there are more higher values compared to the mean.

- The others: Kurtosis measures the "tailedness" of the data distribution. EHRMP has a kurtosis of 0.246 and LP one 0.654, for both distributions there is no much deviation from normal. QHRS has a kurtosis value of 1.973 and is leptokurtic with more data points in the tails and less dispersion around the peak than in a normal distribution.

These statistics are essential in understanding the characteristics of the data used in the structural model. The mean and standard deviation show that the data is standardized, which is crucial for ensuring that the model parameters are estimated correctly. The skewness values suggest that while the data for EHRMP and LP are slightly negatively skewed, QHRS has a more pronounced negative skew. The kurtosis values indicate that EHRMP and LP have distributions close to normal, while QHRS has a distribution with heavier tails and a sharper peak.

Results

Measurement Model Analysis

Construct	**Cronbach's Alpha**	Composite reliability (rho_a)	Composite reliability (rho_c)	**Average Variance Extracted (AVE)**
e-HRM Practices	0.923	0.925	0.936	0.619
Labor Productivity	0.896	0.901	0.924	0.709
Quality HR Service	0.894	0.896	0.919	0.654

- **Cronbach's Alpha**: This metric assesses the internal consistency of the indicators for each construct. All constructs exhibit high Cronbach's Alpha values (e-HRM Practices: 0.923, Labor Productivity: 0.896, Quality HR Service: 0.894), indicating strong internal consistency and reliability of the indicators.
- **Composite Reliability (rho_a and rho_c)**: Composite reliability measures the overall reliability of the latent constructs, taking into account the varying loadings of the indicators. The values for rho_a and rho_c are consistently above the recommended threshold of 0.7, demonstrating high construct reliability. For e-HRM Practices, the rho_a is 0.925 and rho_c is 0.936; for Labor Productivity, rho_a is 0.901 and rho_c is 0.924; and for Quality HR Service, rho_a is 0.896 and rho_c is 0.919. These high values indicate that the constructs are measured reliably.
- **Average Variance Extracted (AVE)**: Average Variance Extracted (AVE) measures construct variance together with error variance such that AVE values above 0.5 demonstrate adequate convergent validity. A value of Average Variance Extracted greater than 0.5 demonstrates satisfactory convergent validity. The convergence validity of constructs is established through their AVE values which exceed 0.619 for e-HRM Practices and 0.709 for Labor Productivity while Quality HR Service reaches 0.654.

  Now, these statistics are important to understand the characteristics of the data that will be used in the structural model. This also means that the mean and standard deviation are being estimated correctly for these parameters; therefore, the data is standardized. Results from the skewness values indicate that data for the EHRMP and LP is slightly negatively skewed, whereas QHRS is much more negatively skewed. The kurtosis values suggest that

EHRMP and LP have near normal distribution, and QHRS has a distribution with heavier tails and taller peak.

Construct Reliability And Validity

E-HRM Practices:

- Cronbach's Alpha: 0.923
- Composite Reliability (rho_a): 0.925
- Composite Reliability (rho_c): 0.936
- Average Variance Extracted (AVE): 0.619

Cronbach's Alpha (0.923) indicates high internal consistency reliability. Composite Reliability (rho_a = 0.925, rho_c = 0.936) also shows high reliability, with rho_c slightly higher than rho_a. Average Variance Extracted (AVE = 0.619) is moderate, indicating that 61.9% of the variance of the indicators is explained by the latent variable.

Labor Productivity:

- Cronbach's Alpha: 0.896
- Composite Reliability (rho_a): 0.901
- Composite Reliability (rho_c): 0.924
- Average Variance Extracted (AVE): 0.709

Cronbach's Alpha (0.896) indicates high internal consistency reliability. Composite Reliability (rho_a = 0.901, rho_c = 0.924) also shows high reliability, with rho_c slightly higher than rho_a. Average Variance Extracted (AVE = 0.709) is relatively high, indicating that 70.9% The latent variable account for the entire variance of the indicator variables.

Quality HR Service:

- Cronbach's Alpha: 0.894
- Composite Reliability (rho_a): 0.896
- Composite Reliability (rho_c): 0.919
- Average Variance Extracted (AVE): 0.654

Cronbach's Alpha (0.894) indicates high internal consistency reliability. Composite Reliability (rho_a = 0.896, rho_c = 0.919) also shows high reliability, with rho_c slightly higher than rho_a. Average Variance Extracted (AVE = 0.654) is moderate, indicating that 65.4% of the variance of the indicators is explained by the latent variable

Structural Model Analysis

	Sample Mean	STD	T Statistics	P Values
EHRMP < - > LP	0.355	0.145	2.562	0.010
EHRMP < - > QHRS	0.777	0.058	13.435	0.000
QHRS < - > LP	0.572	0.133	4.173	0.000

The structural model chart provided summarizes the relationships and statistical significance between the constructs in your research study. Each row represents a specific relationship between two constructs, denoted by abbreviations:

1. **EHRMP < - > LP (e-HRM Practices and Labor Productivity):**
    - **Sample Mean:** Labor Productivity demonstrates a relation of 0.355 based on the average values.
    - **STD (Standard Deviation):** The standard deviation associated with this relationship is 0.145.
    - **T Statistics:** The T-statistic for this relationship is 2.562, indicating the strength and significance of the relationship.
    - **P Values:** The P-value associated with this T-statistic is 0.010, which is below conventional significance levels (such as 0.05), suggesting a statistically significant relationship between e-HRM Practices and Labor Productivity.
2. **EHRMP < - > QHRS (e-HRM Practices and Quality HR Service):**
    - **Sample Mean:** The mean value of the relationship between e-HRM Practices and Quality HR Service is 0.777.
    - **STD:** The standard deviation associated with this relationship is 0.058.
    - **T Statistics:** The T-statistic for this relationship is 13.435, indicating a very strong and highly significant relationship.
    - **P Values:** The P-value associated with this T-statistic is 0.000, indicating a highly significant relationship between e-HRM Practices and Quality HR Service.
3. **QHRS < - > LP (Quality HR Service and Labor Productivity):**
    - **Sample Mean:** Labor Productivity shows a mean value of 0.572 in terms of its relationship with Quality HR Service.
    - **STD:** The standard deviation associated with this relationship is 0.133.
    - **T Statistics:** The T-statistic for this relationship is 4.173, indicating a significant relationship.
    - **P Values:** The P-value associated with this T-statistic is 0.000, indicating a statistically significant relationship between Quality HR Service and Labor Productivity.

The structural model reveals several significant findings. Firstly, e-HRM Practices significantly influence both Labor Productivity and Quality HR Service, with strong T-statistics and very low P-values, indicating robust relationships. Secondly, Quality HR Service also positively impacts Labor Productivity, though to a slightly lesser degree compared to its influence on e-HRM Practices. Overall, these findings underscore the importance of e-HRM Practices in enhancing organizational outcomes, particularly through its direct and indirect effects on improving both HR service quality and productivity levels within the organization.

Discussion

The purpose of the study was to explore various effects of e–HRM practices on labor productivity in regular commercial banks of Pakistan with human resource service quality (HRSQ) used as a moderator between. The conclusions of this research investigation provide insights about e-HRM as well as labor productivity and human resource service quality relationships. The researchers established that e-HRM practice adoption results in positive labor productivity through positive relationship construction in Indian commercial banks. This corroborates a few other work done in previous studies related to the use of technology in the HR functions that maintained that the use technology in the HR functions can make the activities more efficient and productive through the

automation of day to day tasks, creation of time data that allows for real time data for decision making. This study finds that although higher levels of labour productivity mushrooms among banks that implement a wider range of of e-HRM practices, this is not the case. Secondly, there was found a relationship between e-HRM and HR service quality due to their identification as a main mediator between e-HRM and labor productivity. Thus, the results support that e-HRM improves (through service quality) to subsequently improve labor productivity by providing timely, accurate, and efficient HR service support to employees. Third, the research results indicate that the e-HRM implementation does not occur without considering the cultural and institutional factors. The organizational culture, management practices and environment in Pakistan control the effectiveness of eHRM. Through more E-HRM practices, banks were able to achieve more productivity with improvement results to establish congruence between local cultural and institutional contexts.

Therefore, strategic implementation of e-HRM has to get favors if commercial banks want to increase the labor productivity. This is regarded as a wide range of eHRM technologies that are adopted and which are then integrated deeply into the various HR processes. For e HRM systems, HR practitioners need to subject the systems to continuous improvement and training in order to create adequate means of its use by the managers and the employees effectively. To obtain its maximum benefits, e-HRM has to be accompanied by improved HR service quality of bank hence improving HR service quality should be the first priorities of banks. Thus E-HRM can be used in offer of responsive, reliable and personalized HR services. It is essential to establish the normalisation of feedback and assessment that determine that HR services should suit the varied needs of the employees. Thus, the study helps to underline the significance of the banks' adaptation of the e-HRM practice in conformity with its own and specific intra-actional culture and institutional context. It helps in customizing the e-HRM systems to the local environment so as to make it more effective and acceptable to the employees. In this context, the policymakers take into account some of the factors into consideration when they decide the guidelines and frameworks for adoption of e-HRM in the banking sector.

The study provides experimental evidence on the relationship between e-HRM and labour productivity in developing countries. Moreover, it helps explaining how HR service quality serves as a mediator of the effect of e-HRM practices and the necessity of cultural and institutional factors to adopt e-HRM. The findings are added to the previously proposed theoretical frameworks on e-HRM and productivity in varying organizational and geographical contexts.

Conclusion

This research investigates how eHRM practice affects labor productivity in Pakistani commercial banks by tracking the roles of HR service quality as a mediator. E-HRM practice proves to have a significant influence on labor productivity which happens through enhanced HR service quality thus creating an indirect positive impact on productivity. According to them, they also specifically document that e-HRM practices have a positive direct impact on labor productivity in the form of improved HR processes and more strategic HR management. Labor productivity is positively directly affected by E-HRM via the mediation of HR services quality. So HR services quality plays a key role to receive labor productivity. Cultural and institutional factors are of great influence to the implementation of e-HRM. Knowledge of the effectiveness of e-HRM practices can be improved by tailoring them to local context.

If banks are to reap the benefits provided by e-HRM, they should implement a wide variety of e-HRM practices and embed them throughout their procedures. The fundamental role of EHRM lies

in its functionality toward enhancing of HR service quality, as it will surely influence the employee satisfaction and productivity. In order to increase acceptance and effectiveness of E-HRM practices, they may be applied in such a way to suit well to local cultural and institutional contexts. Future research in general is to explain the effect of e-HRM in other sectors/regions in order to validate and extend the findings of the current research. Furthermore, longitudinal studies might shed more lights on the long term effect on the labor productivity and performance of the organization by e-HRM.

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