Examining the Hybrid Digitalization of HRM in Jordanian Banks: A Structural Equation Modeling Approach

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Abstract: - Despite the recent accelerated use of virtual practices, hybrid digitalization of Human Resource Management practices inside the banking industry remains an important strategic consciousness for enhancing organizational effectiveness and competitiveness. Previous studies show that several factors affect banking performance. This study focused on Jordanian banks and used Structural Equation Modeling to investigate the impact of hybrid digitalization on bank performance. In particular, the extent to which the traditional HRM practices (recruitment and employee relations) and digital HR tools (HR software for recruitment and digital employee communications platforms) affect bank performance. Furthermore, the study examined the mediating impact of employee engagement and satisfaction on the association between hybrid digitalization and bank performance. Thus, the study concluded that there are positive correlations between the study variables in Jordanian banks, and all hypotheses were accepted.

Key-Words: - Hybrid Digitalization, Traditional HRM Practices, Digital HR Tools, Employee Engagement and Satisfaction, Jordanian Banks' Performance, SEM.

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1 Introduction

Global change today requires a rapid move towards the hybridization of human resources management practices by replacing traditional practices with digital practices and technological tools.

Therefore, there is a necessity and responsibility for banks to reformulate and shape human resources management within the banking sector. [1], confirm that this shift is enhancing employee performance. In the Jordanian banking context, that's supported by its desire to use new technologies to improve employee performance and facilitate HRM practices.

As one of the traditional HRM practices, employee recruitment is trying to be digitalized to ease access and make it a flexible point to acquire and select the skilled and much-engaged generations of employees, which may decrease the turnover rates, [2]. The digitalization of HRM is like a strategic plan that helps retain the most engaged and satisfied employees, [3]. That confirms the organizational success and the employee's loyalty towards performing their jobs, which enhances the Quality, productivity, and overall outcomes, [4]. Understanding the impact of the scoring mix on employee engagement and organizational success is important for Jordanian banks to adapt to today's dynamic workplace environment.

This study aims to investigate how structural equation modeling (SEM) is used to digitize the human resources of banks. Examining the relationship between HRM practices, digital tools, employee engagement, and firm performance, this study provides insights into the importance of a hybrid approach to HRM in the Jordanian banking industry. Some of the drawbacks were the study

sample and self-reporting biases, as well as cross-sectional data. Furthermore, the results' application may be limited due to the unique conditions of Jordanian banks.

1.1 Problem Statement

Like other sectors around the world, the banking sector in Jordan is going through several challenges to integrate with the digital revolution and move forward towards engaging in this trend. Certainly, since the trend is recent and new, there is still a clear gap in the literature and application in many cases regarding finding a clear mechanism used to monitor the impact of the use of digital technology in human resources management on performance.

This lacuna in the literature limits banking organizations' capacity to proactively integrate HRM techniques to increase employee engagement, streamline processes, and, ultimately, improve overall organizational performance. As a result, there may be an urgent need for comprehensive research on the complex interaction between traditional HRM practices, virtual HR technology, employee engagement, and organizational performance in the context of Jordanian banks. Addressing this gap is critical for informing proof-based total decision-making.

1.2 Research Objectives

This study is guided through the following subsequent goals:

- To study the quantity of hybrid digitalization in HRM practices within Jordanian banks, including the adoption of digital HR equipment alongside conventional HRM practices such as recruitment and employee family members.
- To determine the effect of hybrid digitalization on employee engagement and delight within Jordanian banks, considering elements that include the effectiveness of digital communication structures and HR software in fostering worker engagement.
- To inspect the relationship between hybrid digitalization in HRM practices and organizational overall performance in Jordanian banks, with a focal point on key overall performance indicators including efficiency, productiveness, and patron pleasure.
- To discover the mediating role of worker engagement and satisfaction in the courting between hybrid digitalization in HRM practices and organizational performance within Jordanian banks.
- To provide actionable insights and recommendations for Jordanian banks to strategically integrate digital HR tools with traditional HRM practices, enhance employee engagement and satisfaction, and optimize organizational performance in the digital era.

1.3 Significance of the Study

Theoretically, this study contributes to HRM theory by analyzing the integration of digital technologies with traditional HRM practices in Jordanian banks. It explores the results of hybrid scoring in terms of employee engagement, satisfaction, and organizational generalization. Furthermore, the insights that this study provides into the banks, present the impact of digital hybrid strategies on organizational abilities. It also examines employee engagement and satisfaction as a mediator variable, to clarify the mechanisms through which HRM practices are linked to overall performance outcomes.

As such, the study provides practical implications for Jordanian bankers to transform their HRM practices into digital practices, including focusing on providing effective digital HR products to the employees. It also highlights the virtual technologies advantages that integrate HRM practices with improving organizational performance.

2 Theoretical Framework

The study focuses on the hybrid use of HRM in banks in Jordan, through adopting a resource-based view theory (RBV), social exchange theory, and (TAM) model.

RBV argues that businesses can gain sustainable competitive advantage by promoting the use of valuable, unique, and difficult-to-imitate products. Performance is one dimension of this outcome, through testing the tangible, and intangible resources, whether it is human or technological sources.

According to social change theory, individuals participate based on expectations and benefits, keeping trust and commitment to each other in the workplace. Based on the social exchange theory, [5] emphasizes the importance of dynamic HRM practices aligned with corporate goals and strategies and various approaches to low employee engagement

The Technology Acceptance Model (TAM) is one of the most influential models of technology acceptance, in which two main factors influence

one's intention to use a new technology: perceived convenience for use and perceived usefulness.

2.1 Literature Review

The literature on composite HRM practices and their implications for overall organizational performance sheds light on numerous factors of this phenomenon.

2.1.1 Traditional HRM

According to Figure 1, HRM consists of many practices, which help develop the human capital; the knowledge, skills, and abilities, to enhance strategic objectives such as job performance, [6].

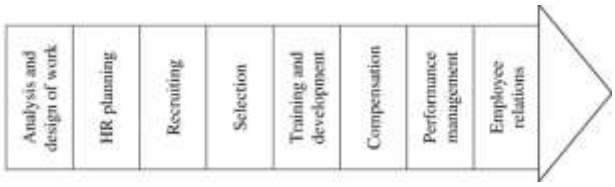

Fig. 1: HRM Practices
Source: [6]

According to this research, only recruitment and employee relations are the adopted practices.

2.1.2 Digital HR

Digital HR is a sophisticated method of HRM that utilizes generation, cellular, electronic media, social media, and the internet to optimize social, mobile, analytics, and cloud technology to pressure organizational behavior. Digital HRM is a digital advancement in HRM that utilizes technology, mobile, electronic media, social media, and IT to enhance operational processes and ensure business performance, [7], [8], [9].

Commercial organizations must understand and apply digital HRM effectively to meet universal demands and improve organizational presentation. [10] and [11] highlighted the role of digital HRM in improving organizational performance and promoting digital transformation in business associations. In this research, Digital HR tools consist of HR software and digital employee communication platforms.

2.1.3 Employee Engagement and Satisfaction

Employee engagement is a critical factor in business success, with studies examining its impact on job satisfaction, leadership, communication, and employee involvement. [12], emphasized the importance of employee engagement in fostering emotional connection and motivation.

Furthermore, a study with the aid of [13] found that employee satisfaction notably stimulated their satisfaction or dissatisfaction with e-HRM practices implementation in Jordanian banks.

2.1.4 Performance

Performance is a dependent variable that is implemented in many topics as a success output. Many studies clash in their findings regarding performance. [14], found that job engagement positively affects job satisfaction but not organizational performance. [15], found that employee engagement significantly influences performance through job satisfaction in Metro Lampung, Philippines shipping companies. [16], found a positive relationship between employee engagement, job satisfaction, and organizational performance in Lagos State Nigeria.

2.1.5 Concepts Relationships Formulation

The studies by [17] and [18] indicate that an effective HRM program has a significant impact on employee engagement and performance. [19], also confirmed the positive relationship between HRM behavior practices and employee satisfaction and performance. The study by [20] also highlighted the role of supervisor roles in HR systems, where positive roles increase engagement. The study of [21] also suggested new strategies for organizations to navigate globalization and competition, such as promoting new workplace cultures, language, multi-skilling, and customer focus.

The speedy development of digital technologies has considerably impacted the working surroundings, necessitating a reevaluation of employee engagement practices. While those technologies enable faraway work, bendy hours, and extra hard responsibilities, they also present demanding situations like technological strain, over-reliance, work-life struggle, and burnout syndrome [22]. Digital HRM practices, such as digital training and performance appraisal, have been found to significantly impact motivation and job performance, [23]. [24], found that employee engagement positively affects job satisfaction in an Oleo chemical company.

The study by [25] and [26], examined the impact of electronic human resource management practices on customer satisfaction and employee satisfaction in Jordanian banks. Employee satisfaction impacts their belief in enforcing e-HRM in their banks. The previously mentioned research also found that cognizance among managers and HRM officials became the most influential variable in helping the implementation of e-HRM in Jordanian banks.

However, there is a lack of studies to determine the direct relationships between the mentioned sub-variables in this research. So, the contribution tries to fill the found gap and present a sign for banks to improve the interaction of traditional and digital in a serious way to transform HRM to better achieve high levels of performance.

2.2 Hypothesis Development

H1: Traditional HRM Practices have a positive association with Employee Engagement and Satisfaction in Jordanian Banks.

H1a: Recruitment has a positive association with Employee Engagement and Satisfaction in Jordanian Banks.

H1b: Employee Relations have a positive association with Employee Engagement and Satisfaction in Jordanian Banks.

H2: Digital HR Tools have a positive association with Employee Engagement and Satisfaction in Jordanian Banks.

H2a: HR Software for Recruitment has a positive association with Employee Engagement and Satisfaction in Jordanian Banks.

H2b: Digital Employee Communication Platforms have a positive association with Employee Engagement and Satisfaction in Jordanian Banks.

H3: Traditional HRM Practices have a positive association with Jordanian Bank's Performance.

H3a: Recruitment has a positive association with Jordanian Bank's Performance.

H3b: Employee Relations have a positive association with Jordanian Bank's Performance.

H4: Digital HR Tools have a positive association with the Jordanian Bank's Performance.

H4a: HR Software for Recruitment has a positive association with Jordanian Bank's Performance.

H4b: Digital Employee Communication Platforms have a positive association with Jordanian Bank's Performance.

H5: Employee Engagement and satisfaction mediate the effect between Traditional HRM Practices and Jordanian Bank's Performance.

H6: Employee Engagement and satisfaction mediate the effect between Digital HR Tools and Jordanian Bank's Performance.

2.3 Research Model

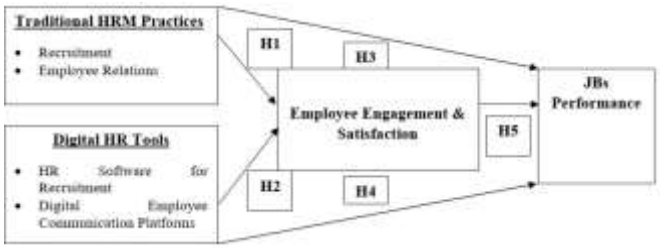

Fig. 2: Proposed Model

3 Methodology

3.1 Research Design

This study adopts a quantitative research approach to analyze digitally hybrid human resources in Jordanian banks. A randomized survey design is used to collect data from the employees and HR personnel of the selected banks. Path coefficients were examined in Smart PLs 4.1.0.1; to investigate the hybrid digitalization of HRM in Jordanian Banks. Moreover, Smart PLS-4 was designed specifically for structural equation modeling and is appropriate for complex models with both formative and reflective features, [27]. As a result, the mediating effects and correlations were assessed**.**

3.2 Sampling

The target population consists of Jordanian bank personnel from all levels and departments. According to the Jordanian banks association, the bank's employees are 22407 employees. The sample size was selected using the principles of statistical power and representativeness. According to [28], the sample size in this study is 377 employees.

Random sampling techniques were utilized to ensure that different portions of the workforce were represented. The study employed stratified random sampling to ensure a diverse representation of banking industry employees, reducing bias risk and capturing diverse perspectives, identifying trends among different workforce segments.

3.3 Variables and Measures

Data was gathered via a standardized questionnaire distributed electronically to participants. The questionnaire contained items aimed to measure changes in traditional HRM practices, digital HR

tools, employee engagement, satisfaction, and organizational performance.

As well, the questionnaire intends to measure traditional HRM practices, including recruitment, employee interactions, and performance management, using recognized scales, [29].

The questionnaire will examine the utilization and efficacy of digital HR tools such as recruitment software, employee communication tactics, and performance rating systems, [30], [31].

The strategy use of employee engagement and satisfaction is to assess how digital HR affects employee attitudes and behaviors through some items extracted from the work of [32] and [33].

The use of objective indicators is to measure the organizational performance metrics; productivity, innovation, and financial performance. The items are supported by [34], [35].

4 Results

Table 1 (Appendix) shows R^2 values which ranged between 0.291 and 0.961. While the value of R-square-adjusted ranged between 0.285 and 0.960, provided that R^2 values should be 0.67 or higher according to the results of the analysis. Moreover, R^2 values are measurements in numbers that range from 0 to 1. Higher R^2 values signify a stronger correlation and more significant ramifications, whereas lower R^2 values imply a weaker relationship and lesser impact. To objectively assess the model fit, this study may classify it as "weak," "moderate," or "good" based on R^2 values of 0.19, 0.33, and 0.67, respectively.

The R^2 values for all variables were higher than the recommended value; Which indicates a positive relationship between external and internal variables in the structural and measurement model. The path coefficients appear in Figure 2 within the framework of studying achievement motivation.

The route coefficients between the variables are shown in the above Figure 2. The direction and intensity of the interactions between these variables are reflected in the route coefficients. All indications of several research variables, however, showed outside loading values of more than 0.7. The convergent validity requirement can be satisfied with an outer loading value of 0.5 to 0.6. Moreover, since none of the variable indicators have outer loading values lower than 0.5, the data above demonstrates that all of the variable indicators are suitable for use in research and pertinent for more investigation.

Similarly, AVE, composite reliability, and Cronbach's Alpha are used to evaluate the reliability of the variables in Table 2 (Appendix).

The composite reliability (> 0.70), the average extracted variance, and the strong Cronbach's Alpha coefficients all show that the constructs in Table 2 (Appendix) are dependable and credible for the SEM-PLS investigation. These procedures ensure the accuracy, internal consistency, and dependability of the necessary concepts.

The research model is assessed by statistical analysis using a variety of metrics. Depending on how near +1 the two numbers are to one other, the correlation between them might be either positive or negative. To evaluate the relationship's significance, (T) is employed. If the 95% confidence level is used, a t-statistics result greater than 1.96 indicates a statistically significant link between the variables. P-values play a crucial role in assessing significance. However, a p-value of less than the chosen threshold, which is often 0.05, indicates that the relationship between the variables is statistically significant.

The measured values of the different indicators are displayed in Appendix in Figure 3 and Table 3, which present the results of the hypothesis testing.

The results of the hypothesis testing for direct effects as presented in Table 3 (Appendix) and the previous Figure 4 (Appendix), provide a thorough examination of the connections between the variables. hypothesis can be accepted or rejected based on the direct effects between variables that have been seen. This table adds to the overall knowledge of the study findings by providing a useful tool for comprehending the conclusions drawn from the hypothesis testing process.

Table 3 (Appendix) provides the hypothesis testing results, related to the association between various HRM practices (both traditional and digital) and employee engagement, satisfaction, as well as the performance of Jordanian Banks. However, H1 indicated "Traditional HRM Practices have a positive association with Employee Engagement and Satisfaction in Jordanian Banks". Based on the results above, the T value of (Traditional HRM Practices -> Employee Engagement & Satisfaction) is 2.358, and p is 0.018; While for (Traditional HRM Practices -> JBs Performance) T and P values are 20.054, 0.000; respectively. Thus, H1 is supported. This means that there is evidence of a positive association between traditional HRM practices and both employee engagement/satisfaction and Jordanian Banks' performance.

For H1a "Recruitment has a positive association with Employee Engagement and Satisfaction in Jordanian Banks", the results indicated that (Recruitment -> Employee Engagement & Satisfaction). This hypothesis is supported, T = 2.109, p = 0.035, this indicates that there is evidence of a positive association between recruitment practices and employee engagement/satisfaction. Similarly, for H1b "Employee Relations have a positive association with Employee Engagement and Satisfaction in Jordanian Banks". Table 3 (Appendix) also shows (Employee Relations -> Employee Engagement & Satisfaction) with T = 19.216, and p = 0.000; thus, this hypothesis is supported. However, this result confirms that there is strong evidence of a positive association between employee relations and employee engagement/satisfaction.

H2 stated that "Digital HR Tools have a positive association with Employee Engagement and Satisfaction in Jordanian Banks" with (Digital HR Tools -> Employee Engagement & Satisfaction) have T = 21.198, and p = 0.000. Thus, H2 is supported.

For H2a and H2b are (HR Software for Recruitment -> Employee Engagement & Satisfaction) and (Digital Employee Communication Platforms -> Employee Engagement & Satisfaction) with values of T = 4.504, p = 0.000; and T = 3.718, p = 0.000 respectively. Thus, H2a and H2b are supported. However, these results confirm that HR Software for Recruitment has a positive association with Employee Engagement and Satisfaction in Jordanian Banks. In addition, there is a positive association between HR software for recruitment and employee engagement/satisfaction. There is also a positive association between digital employee communication platforms and employee engagement/satisfaction.

H3 indicated that "Traditional HRM Practices have a positive association with Jordanian Banks Performance", based on Table 3 (Appendix) (Traditional HRM Practices -> JBs Performance) with T = 20.054, p = 0.000. In addition, H3a "Recruitment has a positive association with Jordanian Banks Performance" (Recruitment -> JBs Performance: T = 2.461, p = 0.045) as well as H3b "Employee Relations have a positive association with Jordanian Banks Performance" with (Employee Relations -> JBs Performance) have a T value 5.488, and p-value = 0.000. Thus, H3; H3a; H3b are supported. Moreover, H4 indicated that also "Digital HR Tools has a positive association with Jordanian Banks Performance" with path (Digital HR Tools -> JBs Performance) has a T value of 9.527, and p = 0.000.

In addition, H4a with path (HR Software for Recruitment -> JBs Performance): T = 3.081, p = 0.002. As well as H4b (Digital Employee Communication Platforms -> JBs Performance) with T = 10.574, p = 0.000. Thus, H4, H4a, H4b are supported.

As seen in Table 3 (Appendix), for mediating effect, Employee Engagement and satisfaction mediated both effects as in H5 and H6. Moreover, H5 indicates that “Employee Engagement and satisfaction mediate the effect between Traditional HRM Practices and Jordanian Bank's Performance”. This is because the indirect effect (Traditional HRM Practices -> Employee Engagement and satisfaction -> JBs Performance) is significant (β =0.224, T>1.96, and P = 0.000p which is less than 0.05). Therefore, H5 is supported. For H6, which indicates that “Employee Engagement and satisfaction mediate the effect between Digital HR Tools and Jordanian Banks Performance”. This is because the indirect effect of (Digital HR Tools -> Employee Engagement and Satisfaction -> JBs Performance) is significant (β =0.252, T>1.96, and P = 0.000p which is less than 0.05). Therefore, H5 is supported. However, the results indicate that the hypotheses in this paper are supported based on the result of the p-value presented in Table 3 (Appendix), which indicates that there are positive correlations between the study variables in Jordanian banks (various human resources practices, employee engagement/satisfaction, and performance of Jordanian banks). In particular, recruiting and employee relations are positively correlated with employee engagement and satisfaction. Traditional HRM practices, such as recruitment and employee relations, are positively correlated with the performance of Jordanian banks. Furthermore, there is a strong positive correlation shown between the performance of Jordanian banks and employee engagement/satisfaction and digital HR solutions including digital employee communication platforms and HR software for recruiting.

5 Discussion

The study used Smart PLS 4.1.0.1 to analyze the hybrid digitalization of HRM in Jordanian Banks. The results showed a positive relationship between external and internal variables in the structural and measurement model. Traditional HRM practices, such as recruitment and employee relations, positively impacted employee engagement and

satisfaction, while digital HRM practices, such as HR software and digital employee communication platforms, also positively impacted performance. Employee engagement and satisfaction mediated the effect between traditional HRM practices and Jordanian Bank's performance.

6 Limitations

Sample biases, self-reporting biases, and cross-sectional data are some of the limitations. Furthermore, the applicability of results could be limited by the particular circumstances of banks in Jordan.

7 Conclusion

Despite these constraints, the suggested approach provides a strong structure for examining the combination of digitalization in HRM within Jordanian banks and its effects on organizational performance. This study seeks to offer valuable insights into HRM dynamics in the digital era and contribute to academic literature and managerial practice through the use of a quantitative approach and advanced statistical techniques. It is recommended that banks focus more on digitizing HRM practices in the new trends of the technological era.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

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Conflict of Interest

The authors have no conflicts of interest to declare.

APPENDIX

Table 1. R-square and adjusted value

	R-square	R-square adjusted
Digital HR Tools	0.615	0.611
Employee Engagement & Satisfaction	0.961	0.960
JBs Performance	0.933	0.931
Traditional HRM Practices	0.291	0.285

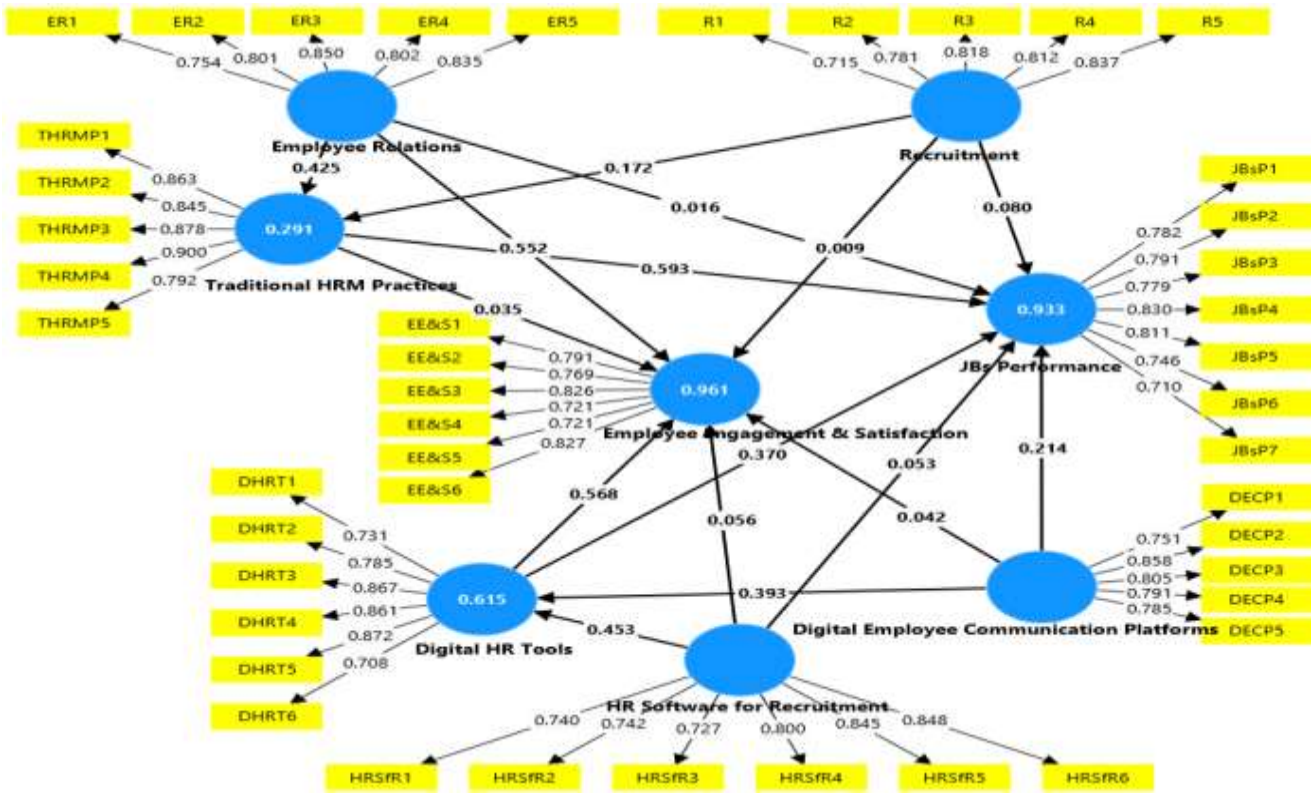

Fig. 3: Measurement Model

Table 2. Reliability testing

Path	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Digital Employee Communication Platforms	0.858	0.862	0.898	0.638
Digital HR Tools	0.891	0.898	0.917	0.651
Employee Engagement & Satisfaction	0.868	0.872	0.901	0.604
Employee Relations	0.869	0.878	0.905	0.655
HR Software for Recruitment	0.875	0.883	0.906	0.617
JBs Performance	0.892	0.897	0.915	0.607
Recruitment	0.853	0.868	0.895	0.630
Traditional HRM Practices	0.909	0.910	0.932	0.733

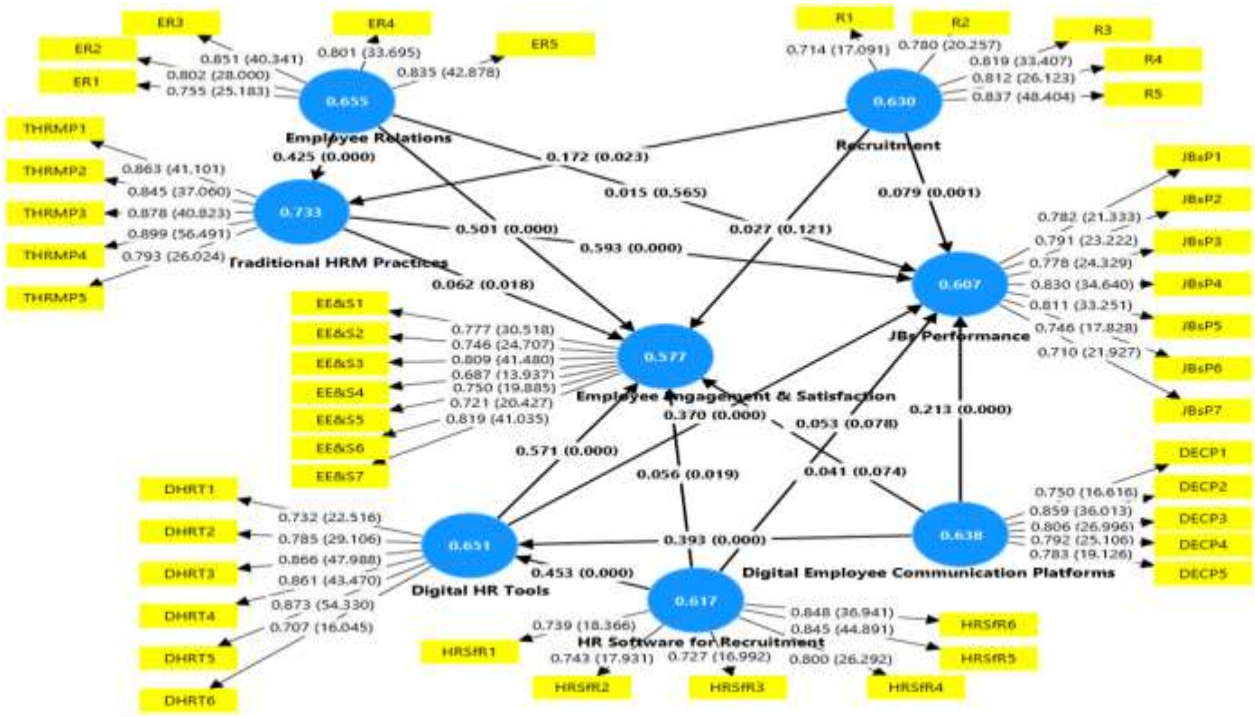

Fig. 4: Structural Model

Table 3. Hypothesis-Testing

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Digital Employee Communication Platforms -> Digital HR Tools	0.393	0.397	0.068	5.763	0.000
Digital Employee Communication Platforms -> Employee Engagement & Satisfaction	0.183	0.186	0.049	3.718	0.000
Digital Employee Communication Platforms -> JBs Performance	0.359	0.359	0.034	10.574	0.000
Digital HR Tools -> Employee Engagement & Satisfaction	0.571	0.571	0.027	21.198	0.000
Digital HR Tools -> JBs Performance	0.370	0.369	0.039	9.527	0.000
Employee Relations -> Employee Engagement & Satisfaction	0.527	0.530	0.027	19.216	0.000
Employee Relations -> JBs Performance	0.237	0.237	0.043	5.488	0.000
Employee Relations -> Traditional HRM Practices	0.425	0.425	0.065	6.530	0.000
HR Software for Recruitment -> Digital HR Tools	0.453	0.451	0.066	6.871	0.000
HR Software for Recruitment -> Employee Engagement & Satisfaction	0.203	0.199	0.045	4.504	0.000
HR Software for Recruitment -> JBs Performance	0.114	0.113	0.037	3.081	0.002
Recruitment -> Employee Engagement & Satisfaction	0.038	0.037	0.018	2.109	0.035
Recruitment -> JBs Performance	0.123	0.125	0.049	2.461	0.045
Recruitment -> Traditional HRM Practices	0.172	0.175	0.076	2.269	0.023
Traditional HRM Practices -> Employee Engagement & Satisfaction	0.062	0.062	0.026	2.358	0.018
Traditional HRM Practices -> JBs Performance	0.593	0.594	0.030	20.054	0.000
Mediating Effect					
Traditional HRM Practices -> Employee Engagement and Satisfaction -> JBs Performance	0.224	0.227	0.040	5.678	0.000
Digital HR Tools -> Employee Engagement and Satisfaction -> JBs Performance	0.252	0.252	0.037	6.745	0.000