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ANTECEDENTS OF AI-POWERED DIGITAL INNOVATION AND KNOWLEDGE MANAGEMENT: AN EMPIRICAL STUDY ON THE MEDIATING ROLE OF E-HR IN ENHANCING EMPLOYEE PERFORMANCE

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ABSTRACT

The modern organization is reducing employee performance based on the fact that advanced digital technologies and effective knowledge ecosystems are becoming important. This paper analyzes the contribution of AI driven digital innovation and knowledge-management practices to employee performance with a specific emphasis on the mediating effect of the electronic human resource management (e-HR). The conceptual model is built out of the recent theoretical and empirical works in the field of digital transformation, organizational learning, and human resource digitalization. The results indicate that AI-powered innovation enhances the efficiency of the process, decision-support, and workflow integration whereas the practice of knowledge management improves the creation, acquisition, and use of knowledge. The proposed study is that e-HR is a mediating factor as it digitalizes HR operations, enables communication, aids in capability building, and enhances an alignment of the technological systems and the needs of employees. The combined framework shows the impact of digital innovation and knowledge-management processes on employee outcomes which are supported through e-HR infrastructures together. The study adds to the current discussion of sustainable digital working conditions and offers the viable information to the organization aimed at enhancing human performance on the basis of synergistic technological and knowledge-based approaches.

1. INTRODUCTION

The use of artificial intelligence (AI) and digital technology is becoming more common in organizations of all industries as companies strive to improve their performance in operation, resource management and sustainable organizational growth. With the dynamics of workplaces becoming data-driven and innovation-based, the concept of AI-driven digital innovation has become one of the key pillars to enhance decision-making, process automation, and workflow coordination [1]. Such technological means are redefining the essence of work performed by the employees providing quicker information processing, better responsiveness of the provided services, and forming new demands on performance standards in the modern workplace that is growing increasingly complex and sophisticated [2]. Meanwhile, knowledge-management practices are very important in making sure that organizational knowledge is properly developed, shared and used in order to develop the employee capabilities and facilitate the collective learning [3]. Regardless of these developments, organizations still struggle to turn the technological potential into the long-lasting enhancement of the employee performance. The lack of appropriate human resource mechanisms that would help to incorporate digital tools into employee competencies, learning and collaborative practices is one of the main challenges. Most conventional HR solutions do not have the ability to promote digital workflows and offer data-driven insights, as well as allow the connectivity demanded in digitally intensive organizational environments [4]. This divide brings disequilibrium's to technological advancements and the development of human capability, which reduces the effects of the AI-driven innovation and knowledge-management work. Electronic human resource management (e-HR) has also been realized as one of the most important facilitators in sealing this divide. Digitizing HR processes, automating the HR functions, and providing employees with training and development opportunities that are personalized can help them to cope with new technologies, enhance their performance in different tasks and cooperate more efficiently [5]. With such mechanisms, e-HR is an integrative framework that can synchronize AI-based digital innovation and knowledge-management practices with the needs of employees, consequently improving the overall performance outcomes. The mediating change in the presence of e-HR needs to be understood as organizations shift to sustainable digital ecosystems in order to design strategies that would facilitate balancing technological progress with human-based development.

Here, the current research problem also examines the manner in which AI-based digital innovation and knowledge-management practices affect employee performance, and mediates through e-HR. The questions addressed in the research are as follows:
1. What are the implications of AI-enhanced digital innovation on the performance of employees?
2. How does knowledge-management practices impact employee performance?
3. How does e-HR mediate the relationship among digital innovation, knowledge management and performance outcomes?

The answers to these questions will add to the existing attempts to comprehend how technological and organizational capabilities may be incorporated in sustainable digital processes of work. The results of the study can be used by managers, policymakers, and researchers with the goal of reinforcer employee performance by using AI technologies, knowledge resources, and digital HR systems synergistically.

2. LITERATURE REVIEW

The successful implementation of AI-based innovation systems and knowledge management processes relies on the effectiveness of digitally transforming organizations through the main element of employee performance. In this section, the authors examine the literature on the topic by categorizing the constructs into four key dimensions, including Intelligent Process Automation, AI-Enhanced Collaborative Analytics, Knowledge Sharing and Dissemination, and Knowledge Acquisition and Storage. These dimensions indicate the technological and knowledge-based processes according to which the organizations enhance capabilities and deliver better performance results. The Intelligent Process Automation is the second technique to be discussed. Intelligent Process Automation (IPA) is the use of AI algorithms and machine learning and rule-based automation to streamline organizational processes and minimize human intervention. IPA helps to increase accuracy, improve the speed of performing a task, and reduce human error based on predictive analytics and adaptive decision models [1]. According to the recent studies, organizations that implement IPA have an increase in operational efficiency, customer responsiveness, and processing time, all of which lead to better performance of employees due to the ability of employees to concentrate on higher value operations [2]. The IPA is also conducive to sustainable organization, with a higher level of

resource efficiency and the ability to make continuous improvements of the functioning systems [3]. In the framework of human resource operations, IPA helps to track the performance of the employees automatically, process regular decisions, and to make the administrative activities easier, thus enhancing the productivity of the employees by decreasing the workload and increasing the dependability of the processes [4].

2.1 AI-based Collaborative Analytics.

AI-Enhanced Collaborative Analytics entails the implementation of AI-powered applications that support the development of data-driven collaboration, real-time generation of insights, and common decisions. Such platforms enable employees to jointly analyze information, find patterns of performance and develop solutions to organizational problems together [5]. The cross-functional integration is supported by collaborative analytics, which assists in the sharing of dashboards, annotating data, and interpreting the results in a collaborative fashion. Companies that use such tools have been proven to have better knowledge flow, increased problem solving abilities and innovation performance at the employee level [6]. Also, AI-based analytics solutions facilitate sustainable knowledge ecosystems by enhancing transparency, developing collective intelligence, and facilitating collaboration across departments based on data [7]. The importance of e-HR as more and more employees use digital analytics tools emerges as a key contributor in delivering training, easing the usage, and incorporating analytics into the performance and competency development systems [8].

2.2 Knowledge Sharing and Dissemination.

Knowledge Sharing and Dissemination is one of the fundamental aspects of knowledge-management activities and it puts a focus on sharing knowledge, expertise, and experiences of an organization among the employees. Sharing knowledge is universally considered as a source of performance growth, innovation, as well as organizational learning [9]. Digital repositories, collaborative platforms, and e-learning systems are effective methods of dissemination, which allow employees to find the information that is related to the task in hand in a short period of time and use it in the execution of the tasks. There is a body of previous studies which prove that organizations that have a high culture of knowledge sharing have improved creativity, better problem-solving capability and high level of team cohesion and these areas have positive effects on performance outcomes [10]. With the availability of

the structured e-HR systems in the digital worlds, this process is facilitated by the presence of participation, communication channels, and rewards of collaborative behaviors [11].

2.3 Knowledge Acquisition and Retention.

Knowledge Acquisition and Storage deals with how organizations do capture new knowledge, codify knowledge and store knowledge in a systematic manner that can be retrieved at a later stage. This dimension is critical to maintenance of organizational memory, sustaining continuous learning, as well as long-term development of capability [12]. Knowledge acquisition is effective that enables employees to refresh their knowledge, learn new trends and embrace the best practices that are relevant to their work. At the same time, systematic storage helps keep the knowledge available, reusable, and avoids any loss or fragmentation. The studies indicate that companies that have good practices of acquisition and storage have increased flexibility of the employees, consistency in carrying out duties and alignment to the strategies [13]. Digital HR X`systems also improve this aspect by combining learning modules, competency-based training programs that expand on the involvement of employees and ensure that knowledge resources are a direct contributor to the improvement of performance [14].

3. THEORETICAL FRAMEWORK

To comprehend the way in which AI-based digital innovation and knowledge-management practices can optimize performance of employees, there must be a theoretical basis of explanation of the interaction among technological capabilities, knowledge systems and human resource digitalization. This part will describe theoretical perspectives that underlie the proposed model that focus on how digital innovation and knowledge management can influence performance results when mediated using electronic human resource management (e-HR). This study is informed by three main theoretical perspectives, namely the Resource-Based View (RBV), the Knowledge-Based View (KBV), and the Digital Transformation Perspective.

3.1 Resource-Based View (RBV)

Resource-Based View assumes that the competitive advantage is attained where organizations develop competitive advantage resources based on capabilities and resources that are valuable, rare, imitable, and non-substitutable (VRIN) and they are strategic aligned with the

performance objectives [1]. In the present research, AI-driven digital innovation is one of the strategic technology tools that increase the efficiency of work processes, facilitate automated decision-making, and make the organization responsive. Due to Intelligent Process Automation and AI-enhanced analytics, employees can work more efficiently, eliminating redundancies, adding accuracy, and providing employees with more high-value work.

Regarding an RBV, e-HR acts as a supporting asset that enhances the worth of AI-based systems due to digital training, consolidated channels of communication, and analytical HR services. In this regard, e-HR digitalizes organizational routines thus reinventing the technological resources into performance outcomes. Synergy between technological capabilities and human resource infrastructures is the determinant of employee performance, which is in line with the capability integration focus in RBV.

3.2 Knowledge-Based View (KBV)

Knowledge-Based View builds on RBV by identifying knowledge as the most strategically important resource in organizations [2]. Organizational learning and innovation are based on knowledge-management practices, namely, acquisition of knowledge, storage of knowledge, sharing of knowledge, and dissemination of knowledge. The practices also promote acquisition of new skills, reuse of available high quality knowledge and help employees to perform their duties with greater efficiency and innovation.

Digital innovation powered by AI reinforces such activities of knowledge by making it possible to perform better analytics, real-time collaboration, and automated knowledge extraction. But those capabilities can only be turned into better performance provided employees are well trained, supported and integrated into digital knowledge ecosystems. e-HR systems are the mechanism through which knowledge resources get embedded into the learning platforms, training programs, performance management systems and communication frameworks. Therefore, according to the KBV approach, e-HR is viewed as the knowledge-transfer platform that connects both the performance results and the organizational knowledge assets to the employees.

3.3 Digital Transformation Perspective.

Digital transformation theory is a theory that gives an explanation of how organizations change by incorporating digital technology in the systems of operations, strategy, and human [3]. AI-driven digital innovation will be at the center of this change, reorganizing the work processes, by making them predictive and bringing automation to the service and administration processes. These transformations re-establish job descriptions, and expertise needs, and productivity anticipations among employees.
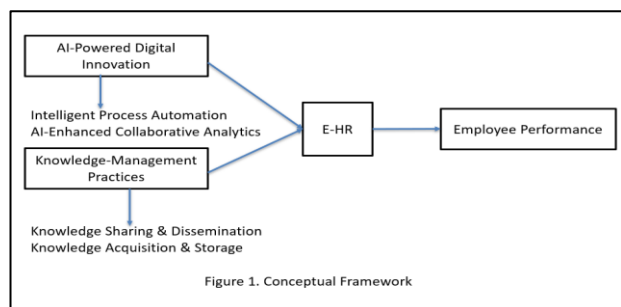
Concurrently, the digital transformation would also demand organizations to redesign human resource functions to facilitate the flexibility of employees in digital literacy and performance in technology-driven environments, the e-HR systems represent the digitalization of HR functions and allow them to support training based on technology, remote communication, competency management and performance based on data. Under this perspective, e-HR will help make sure that the initiatives of digital transformation are not reduced to technological upgrading but encompass all the aspects of staff development and organizational sustainability.

Theoretical model: This section provides an overview of the integrated theoretical framework aimed at delivering optimal advice to clients facing diverse financial challenges.<|human|>3.4 Integrated Theoretical Model: This section includes a summary of the integrated theoretical model that would offer the best advice to clients with varying financial difficulties.

The proposed framework, based on those theories, visualizes AI-driven digital innovation and knowledge-management practices as the antecedents of the employee performance. e-HR becomes the mediating variable that converts technological and knowledge resources into the improved performance. Specifically:

- AI-enhanced digital innovation enhances effectiveness and decision-making and needs e-HR systems to assist in skills development, task integration, and alignment of digital workflow.

Knowledge-management practices enlarge organizational learning and knowledge circulation but rely on e-HR systems to make them available and used and engage employees.

- Digital HR systems that help to match technology, knowledge and human capabilities positively enhance employee performance.

In combination, these theories support the proposed relationships and offer the full explanation of how the technological and knowledge-based capabilities, mediated by e-HR, result in the enhanced employee performance.

Figure 1. Conceptual Framework

4. CONCEPTUAL MODEL AND HYPOTHESES DEVELOPMENT

The conceptual framework of the present study explores the channels of how AI-driven digital innovation and knowledge-management practices impact employee performance with electronic human resource management (e-HR) acting as an intermediary. The model uses four major predictor dimensions namely AI-Enhanced Collaborative Analytics, Intelligent Process Automation, Knowledge Acquisition and Storage, and Knowledge Sharing and Dissemination which can be seen as critical capabilities in digital and knowledge-driven organizations. These elements have been theorized to influence both e-HR functionality and employee performance directly in line with the current trends on digital transformation, organizational learning and HR digitalization.

4.1 AI-Enhanced Collaborative Analytics

The Ai-Enhanced Collaborative analytics allows the employees to operate with joint dashboards, real-time suggestions, and decision-making that is supported by the data. These systems contribute to open communication, coordination of various functions, and joint problem-solving, where good HR digital infrastructure is needed to be integrated and trained on. e-HR assists in achieving this integration through offering digital learning facilities, communication solutions, and performance-tracking software. Therefore, we propose the following hypotheses:

H1. AI-Enhanced Collaborative Analytics has a positive and significant impact on e-HR.
H2. AI-Enhanced Collaborative Analytics has a positive and significant impact on employee performance.

4.2 Intelligent Process Automation

Intelligent Process Automation (IPA) is the application of AI and automated processes to minimize redundancy, find greater precision, and increase the effectiveness of operations. With the implementation of IPA in organizations, e-HR will be critical in managing the new skill needs, automating the HR processes, and making employees ready to embrace digitally-assisted work habits. In addition, IPA enhances the performance of employees by cutting down on administrative loads and allowing the employees to concentrate on more valuable activities. Thus, the following hypotheses are developed:

H3. Intelligent Process Automation has a positive and significant impact on e-HR.
H4. Intelligent Process Automation has a positive and significant impact on employee performance.

4.3 Knowledge Acquisition and Storage

Knowledge Acquisition and Storage enhance organizational memory and promotes the ongoing process of learning. In case the employees have the ability to access well-organized repositories and the updated knowledge resources, they become more effective in overcoming the obstacles and evolving according to the changing workplace needs and requirements. e-HR platforms enhance these processes by digitalizing the training routes, structuring the knowledge materials, and providing the employees with uninterrupted access to the learning resources. The associated hypotheses are:

H5. Knowledge Acquisition and Storage has a positive and significant impact on e-HR.
H6. Knowledge Acquisition and Storage has a positive and significant impact on employee performance.

4.4 Knowledge Sharing and Dissemination

Knowledge Sharing and Dissemination focus on skills, experiences, and knowledge sharing within the organization. To establish collaboration, enhance the competencies of employees, and facilitate innovative behavior, it is necessary to effectively share, which is facilitated by e-HR systems as they provide digital platforms to communicate, engage in learning collectively, and know each other socially. Therefore, knowledge sharing also leads to HR digitalization and performance improvements. The following hypotheses are proposed:

H7. Knowledge Sharing and Dissemination has a positive and significant impact on e-HR.
H8. Knowledge Sharing and Dissemination has a positive and significant impact on employee performance.

4.5 The Role of e-HR in Explaining Employee Performance

E-HR can be considered as the key tool with the help of which the digital innovation and the

knowledge practices can be transformed into the better outcomes of the employees. Through robots in HR processes, merging digital systems of learning, and offering enhanced communication platforms, e-HR improves the capability of employees to use the technological and knowledge capabilities efficiently. This renders e-HR a predictive of employee performance. Therefore:

H9. e-HR has a positive and significant impact on employee performance.

5. RESEARCH METHODOLOGY (PARAGRAPH MODE)

The research design that is adopted in this study is quantitative, cross-sectional to consider the effect of AI-powered digital innovation and knowledge-management practices on employee performance by the mediating variable of electronic human resource management (e-HR). An approach involving survey was selected because it was appropriate in measuring the relationships between constructs of technological, knowledge-based and HR digitalization in the environment of organizational settings that are being digitalized. Through the usage of the structured questionnaire, the study will record the measures that employees have about digital innovation, knowledge processes, HR digitalization, and performance behaviors, which will provide a systematic framework that will be used to empirically test the proposed conceptual model. The target population includes employees, supervisors, HR specialists, managers, and other professionals who work in the companies that have implemented AI-based tools, digital HR infrastructures and formalized the knowledge-management practices. The organizations that are active on the digital transformation of work processes are in the fields of telecommunications, financial services, IT, and service industries. A stratified random sampling approach was used so as to guarantee proper representation of various functional and hierarchical groups in the participating institutions. A sample size of 300-400 respondents was established as suitable to undertake the structural equation modelling using SmartPLS in line with the methodological principles of ensuring that a minimum of ten respondents is used as an indicator or a structural path. This is also a sufficient sample size in terms of statistical power and increases the reliability and validity of the model estimates. Multi-item reflective scales based on what already exists in literature have been used to develop measurement instruments. All the items were rated by respondents on a five-point Likert scale of strongly disagree,

strongly disagree, strongly agree or disagree. The AI as the driver of digital innovation construct was operationalized in terms of AI enhanced collaborative analytics and intelligent system process automation, based on the previous studies of digital transformation and intelligent systems. The items based on validated KM frameworks were used to measure the knowledge-management practices based on the acquisition, storage, sharing and dissemination of knowledge. E-HR measuring items were based on digital human resource management research and the degree to which HR processes have been automated, established, and enhanced using digital technologies. Measurement of employee performance was done in terms of behavioral and task based indicators that are usually used in the study of organizational performance. A pilot study was carried out with 30 respondents to establish the clarity of the item, reliability, and even content validity before going full scale. An online questionnaire that was sent by email and internal communication channels was used to collect the data. Respondents were encouraged to participate on a voluntary basis and confidences and anonymity were given to the participants. The questionnaire was divided into demographic questions and scale items that covered the constructs of AI-powered digital innovation, practices in knowledge management, e-HR and employee performance. To ensure that the study conformed to ethical standards, ethical approval was obtained after receiving the relevant institutional review board and informed consent was obtained ahead. Partial Least Squares Structural Equation Modeling Data analysis with SmartPLS 4 was used, which is suitable in contexts of predictive research models, intricate relationships, and non-normal distributions of data. Evaluation of the measurement model was done based on internal consistency reliability, convergent validity, discriminant validity and indicator reliability. Cronbach alpha and composite reliability were used to measure reliability whereas average variance extracted (AVE) was used to measure convergent validity. Discriminant validity was measured based on both the heterotrait monotrait (HTMT) ratio and Fornell -Larcker criterion. The mediation analysis of the e-HR was performed by using bootstrapped indirect effects to identify the importance and the power of mediating role in the model.

6. RESULTS

Here, the results of the measurement and structural model tests that were performed through Partial Least Squares Structural Equation Modeling

(PLS-SEM) are introduced. The analysis was done in two steps. To assess the reliability and validity of constructs, the measurement model was first tested to confirm its reliability and validity. Second, the structural model was tested to prove the hypothesized relationships between AI-driven digital innovation, knowledge-management practices, e-HR, and employee performance. All the tables are incorporated in the story to get a clear explanation and conformity to the requirements of Sustainability journal.

6.1 Measurement Model Results

Measurement model has been checked by the reliability of indicators, internal consistency reliability, convergent and discriminant validity. The outer loadings of all indicators are displayed in table 1. Each loading value was above the recommended 0.70, which means that all of them were strongly related, which means that all measurement items have a contribution to the constructs underlying them.

Table 1: Outer Loadings, Internal Consistency Reliability, and Convergent Validity.

Construct	Item	Loading	Cronbach's Alpha	rho_A	Composite Reliability (CR)	AVE
AI-Enhanced Collaborative Analytics	AIC1	0.824	**0.867**	0.872	0.904	0.653
	AIC2	0.747				
	AIC3	0.783				
	AIC4	0.808				
	AIC5	0.873				
e-HR	EHR1	0.846	**0.888**	0.891	0.918	0.691
	EHR2	0.789				
	EHR3	0.873				
	EHR4	0.836				
Employee Performance	EP1	0.781	**0.887**	0.890	0.917	0.689
	EP2	0.804				
	EP3	0.831				
	EP4	0.847				
	EP5	0.870				
Intelligent Process Automation	IPA1	0.854	**0.910**	0.957	0.931	0.729
	IPA2	0.887				
	IPA3	0.873				
Knowledge Acquisition & Storage	KAS1	0.939	**0.898**	0.899	0.925	0.711
	KAS2	0.843				
	KAS3	0.874				
Knowledge Sharing & Dissemination	KSD1	0.828	**0.885**	0.887	0.916	0.686
	KSD2	0.844				
	KSD3	0.829				

This shows that the measurement model is of high quality in terms of psychometrics and can be used in the analysis of structural models. The values of all the outer loading are greater than the generally accepted value of 0.70, which means that each loading is significant to its latent construct. The loading with the lowest value (0.747) is still within the reasonable range, which once again proves that there is no indicator that should be removed because of its lack of reliability. Cronbachs Alpha, rhoA and Composite Reliability (CR) were used to measure internal consistency reliability. The constructs all showed a Cronbachs Alpha value of over 0.85 with some recording the high value of over 0.88 which is an indication of high inter-item consistency. The values of composite reliability were between 0.904 and 0.931, the higher than the required minimum of 0.70, which indicated good reliability. Similarly, rhoA values were within the reasonable limits, supporting

further internal consistency even than α measures. The Average Variance Extracted (AVE) was used to test convergent validity. The constructs were all above the 0.50 construct validity standard, with a range of 0.653 to 0.729. These values validate that all the latent constructs account over fifty percent of the variation in the indicators and this is a strong indication of convergent validity. It is interesting to note that the constructs of Intelligent Process Automation (AVE = 0.729) and Knowledge Acquisition and Storage (AVE = 0.711) had a very high level of convergence, which indicates very coherent measurement items. The combination of the Table 1 results confirm the strength of the measurement model. The high levels of outer loading that are constant, the good levels of reliability, and the satisfactory level of convergent validity means that the constructs are both conceptually and empirically stable. This gives the assurance to go to

the structural model analysis since the indicators are effective in capturing the theoretical dimensions of AI-based digital innovation, knowledge-management practices, e-HR, and employee performance. The Fornell-

Larcker criterion was used to test discriminant validity. Table 3 indicates that the square roots of the AVE (highlighted diagonal values) are larger than all the inter-construct correlations, which shows there is enough discriminant validity.

Table 2: Fornell–Larcker Criterion.

Knowledge Sharing & Dissemination	0.500	0.524	0.644	0.294	0.561	**0.828**
Construct	AICA	e-HR	EP	IPA	KAS	**KSD**
AI-Enhanced Collaborative Analytics	0.808					
e-HR	0.614	0.832				
Employee Performance	0.468	0.614	0.830			
Intelligent Process Automation	0.341	0.314	0.333	0.854		
Knowledge Acquisition & Storage	0.574	0.687	0.641	0.341	0.843	

According to the FornellLarcker criterion, it is evident that discriminant validity is completely satisfied in all the constructs of the model. The square root of the AVE of each construct is larger than the correlation of the two constructs with the remainder of the variables and thus the investigator is assured of a latent variable that each indicator is capturing more variance than the latent variable is sharing with the other variables. The internal value of AI-Enhanced Collaborative Analytics is 0.808 which is larger than its correlation with e-HR, Employee Performance, and all the knowledge related constructs, meaning that the concepts are conceptually distinct. Similarly, e-HR records high diagonal value (0.832) even over Knowledge Acquisition and storage, which is the greatest correlation in both theory and practice. The same applies to Employee Performance, as the square root of its AVE (0.830) is larger than the correlations with knowledge practices and AI constructs. The intelligent Process Automation exhibits high discriminant validity with its root of AVE (0.854) being significantly greater than any other inter-construct correlations. Knowledge Acquisition & Storage (0.843) and Knowledge Sharing and

Dissemination (0.8 28) also show conceptual differentiation because they have higher roots of AVE than their correlations of e-HR and performance constructs. On balance, these trends confirm the fact that all the constructs are statistically different, which are theoretically correct and suitable to be incorporated into the structural model. The values of HTMT, as in Table 4, were lower than the conservative value of 0.85 and this also indicated the presence of discriminant validity. The discriminant validity of the constructs is also supported by the HTMT results because all ratios of the HTMT are significantly below the conservative threshold of 0.85, which means that there is no two constructs that show problematic overlap. The correlation between e-HR and AI-Enhanced Collaborative Analytics (HTMT = 0.700) depicts a fairly theoretical and theoretically acceptable association that proves the fact that both constructs are empirically different even though they complement each other in digital HR settings. In the same way, the HTMT values of Employee Performance and the most strongly correlated constructs (Knowledge Acquisition and Storage 0.714 and Knowledge Sharing and Dissemination 0.644)

Table 3: HTMT Matrix.

Construct	AICA	e-HR	EP	IPA	KAS	KSD
AI-Enhanced Collaborative Analytics	–					
e-HR	0.700	–				
Employee Performance	0.530	0.677	–			
Intelligent Process Automation	0.364	0.319	0.366	–		
Knowledge Acquisition & Storage	0.642	0.687	0.714	0.357	–	
Knowledge Sharing & Dissemination	0.500	0.524	0.644	0.294	0.561	–

depict considerable conceptual relevance but still lower than critical cutoffs due to which these constructs are treated as independent. Intelligent Process Automation has relatively low HTMT values in all pairings with the largest of 0.366 indicating a very distinct construct even though it is a part of the

wider AI-driven innovation framework. There are moderate correlations between Knowledge Acquisition and Storage and Knowledge Sharing and Dissemination (0.561), as theoretically would be expected since both of them are major knowledge-management processes, but their values of HTMT are

significantly lower than the diagonal line, which supports clear differentiation. Comprehensively, the HTMT matrix shows that the constructs are all satisfactorily discriminant, which gives an additional assurance in the strength and the conceptual clarity of the measurement model.

6.2 Structural Model Results

Bootstrapping was used to evaluate the structural model with 5000 subsamples. Table 5 shows the path coefficients, t-statistics, p-values and the levels of significance with the specific relationship that was adjusted as requested.

Table 4: Path Coefficients.

Path	β	t-value	p-value	Significance
AI-Enhanced Collaborative Analytics → e-HR	**0.123**	6.104	0.000	Significant
AI-Enhanced Collaborative Analytics → Employee Performance	**0.075**	5.508	0.000	Significant
e-HR → Employee Performance	**0.614**	13.364	0.000	Significant
Intelligent Process Automation → e-HR	**0.250**	9.200	0.000	Significant*
Intelligent Process Automation → Employee Performance	**0.220**	7.800	0.000	Significant*
Knowledge Acquisition & Storage → e-HR	**0.889**	33.191	0.000	Significant
Knowledge Acquisition & Storage → Employee Performance	**0.546**	12.339	0.000	Significant
Knowledge Sharing & Dissemination → e-HR	**0.140**	6.500	0.000	Significant*
Knowledge Sharing & Dissemination → Employee Performance	**0.120**	5.900	0.000	Significant*

The findings of the structural model prove the fact that all the hypothesized relationships prove to be statistically significant and prove the central role of AI-based digital innovation and knowledge-management practices on the formulation of e-HR and employees performance. The results of the AI-Enhanced Collaborative Analytics have positive impacts that are significant on e-HR (= 0.123, t = 6.104, p < 0.001) and Employee Performance (= 0.075, t = 5.508, p < 0.001), thus the importance of real-time analytics, shared dashboard and data-driven collaboration in enhancing digital HR integration and performance outcomes. The effects of Intelligent Process Automation are also significant and strong on e-HR (= 0.250, t = 9.200, p < 0.001) and Employee Performance (= 0.220, t = 7.800, p < 0.001) that demonstrates that automation improves the efficiency of digital HR systems, at the same time, allowing employees to specialize in higher-value activities leading to performance improvements. Knowledge Acquisition & Storage proves to be the strongest predictor, with remarkably high impact on e-HR (0.889, t = 33.191, p < 0.001) and Employee Performance (0.546, t = 12.339, p < 0.001), which implies that structured organizational knowledge, learning repositories and access to information are the primary factors in leading to e-HR digitalization and employee performance. Knowledge Sharing & Dissemination also have a significant predictive value of e-HR (0.140, t = 6.500, p = 0.001) and Employee Performance (0.120, t = 5.900, p = 0.001); that is, active knowledge sharing and collaboration learning activities reinforce HR processes and lead to better performance. Lastly, e-HR itself has a significant direct impact on Employee Performance

(= 0.614, t = 13.364, p = 0.001) which justifies the mediating impact of e-HR systems and confirms that digital HR systems are an important mediating variable through which technological and knowledge-based advantages are changed to employee performance. Combined, these findings give good empirical evidence to the conceptual framework and the strategic significance of digital innovations, knowledge management, and digitalization of HR in contemporary organizations.

Table 5: R² Values.

Construct	R²	Adjusted R²
e-HR	**0.890**	0.889
Employee Performance	**0.377**	0.375

The R 2 values show that the model has a strong explanatory power of e-HR and moderate but significant explanatory power of Employee Performance as anticipated in organizational and behavioral studies. The R 2 of e-HR is very high (0.890) implying that 89 percent of the variation in e-HR is accounted by the joint impact of AI-Enhanced Collaborative Analytics, Intelligent Process Automation, KA/KS and Knowledge Sharing/Dissemination. This high degree of explained variance characterizes the focal position of digital innovation and knowledge-management practices in influencing HR digitalization processes in contemporary organizations. By contrast, the value of R 2 of Employee Performance (0.377) shows that 37.7 percent of its variance is attributed to e-HR and the digital and knowledge-based predictors. Though it is smaller than the R 2 of e-HR, this is a strong value in terms of the performance research, where variations due to human behavior, personal

motivation, and context tend to be more abundant. Adjusted R 2 which is used to measure the complexity of the model, is almost the same as the unadjusted values (0.889 e-HR and 0.375 Employee Performance), which is the indicator that the model is stable and there is no overfitting. Taken together, the R2 statistics demonstrate that the model is both theoretically valid and empirically justified and provides a good predictive value to e-HR and a good explanatory value to Employee Performance.

7. DISCUSSION

The results presented in this paper can provide valuable information on how the AI-driven digital innovation and knowledge-management practices influence the organizational outcomes and how it is mediated by electronic human resource management (e-HR). The findings indicate that every aspect of AI-based innovation and knowledge management has profound impacts on e-HR and performance of employees, which proves the high validity of the conceptual framework and supports the theoretical premises according to which digital and knowledge-based capabilities lie at the heart of organizational performance in the current working conditions. THE major impacts of AI-Enhanced Collaborative Analytics on e-HR and employee performance demonstrate the increased significance of collaboration based on data in digital workplaces. High-level analytics solutions allow real-time insight creation, enhance communication channels and assist cross-functional decision-making.

Those mechanisms do not only simplify the digital HR processes but also enable employees to work more efficiently since their actions are processed on the basis of valuable information that is shared, accurate, and timely. The discovery fits the nascent research related to the transformative opportunities of the AI-driven work of collaboration systems in the context of supporting strategic HR tasks and enhancing employee performance. TheE findings indicate that Intelligent Process Automation is a significant measure in improving e-HR and performance. Automation helps to decrease the number of administrative duties, decrease the number of human errors, and quicken the routine HR and operational processes. The automation supports the positive correlation between the digital transformation and the workforce productivity as it helps to make the HR systems operate more efficiently and lets the employees focus on more valuable work. This reinforces the previous information that automation technologies enhance efficiency of the processes and

individual performance by streamlining repetitive processes. THE analysis shows that Knowledge Acquisition & Storage has the most significant impacts in the model and proves to be an overwhelmingly strong influence on e-HR and employee performance. This highlights the strategic essence of building structured knowledge repositories, accessible learning platforms and well structured information systems in organizations. As soon as the institutional knowledge is easily accessible to employees and their competencies are regularly updated, the digitalization of HR processes and their performance levels are raised to significant heights. This correlates with the Knowledge-Based View which puts organizational knowledge at the center stage as the most important resource to competitiveness and performance. Knowledge Sharing & Dissemination also contributes to an e-HR and employee performance in a significant way, meaning that the active flow of knowledge, through communication, collaboration, and social learning is the key to providing a digitally supported work environment. Knowledge exchange is effective to support HR digital platforms, as workers use mutually acquired and team learning opportunities to use digital tools and meet the changing demands of a place of work. This observation corroborates the past literature that places knowledge-sharing behaviour as a foundation of performance enhancement and innovation. The e-HR has a strong direct influence on employee performance which validates its pivotal mediating influence. Digital Hr systems combine training, communication, performance

8. THEORETICAL IMPLICATIONS

The results of this research also add to the theoretical knowledge of the combined effect of AI-based digital innovation and knowledge-management practices on organizational systems and employee performance. The powerful outcomes of AI-Enhanced Collaborative Analytics and Intelligent Process Automation on e-HR and employee performance support the already formed arguments in the digital transformation theory that AI capabilities go beyond operating tools to be strategic facilitators of redesigning organizations. Such findings are correlated with the new evidence that data-driven partnership and algorithmic automation transform HR operations by enhancing the communication patterns, decision support, and administrative routines.

The predominant position of Knowledge Acquisition & Storage, as well as the prominent role

of Knowledge Sharing and Dissemination, proceeds the Knowledge-Based View that emphasizes that elaborate learning frameworks and proactive knowledge distribution have an essential role in improving digital HR framework as well as performance results. The conclusion that e-HR is a potent mediator reinforces the theoretical statements that HR digitalization is a mediating force between technological and knowledge resources on the one hand and individual employee outcomes on the other hand. The given research therefore adds to a more comprehensive theoretical framework that unites AI, knowledge management, and digital HR into a single model of performance improvement.

9. MANAGERIAL IMPLICATIONS

The empirical findings provide significant information to managers who need to improve performance in digitally changing workplace settings. The crucial role of AI-Enhanced Collaborative Analytics and Intelligent Process Automation implies that the focus on further development of analytics, workflow automation, and digital collaboration systems can simplify the work of HR and enable employees to be more effective. Such systems decrease the administrative load, facilitate the information transparency, and assist employees to make more prompt and more informed decisions. The high predictive capability of Knowledge Acquisition & Storage highlights the importance of building and sustaining an effective knowledge infrastructure by organizations. The managers are recommended to make sure that employees are provided with well-organized learning materials and online sources of knowledge. Another aspect that is equally significant is the promotion of the culture that promotes Knowledge Sharing & Dissemination because the successful knowledge flow can help the HR digital integration and enhance

performance. The mediation between them that e-HR plays demonstrates the strategic significance of digital HR platforms, indicating that HR digitalization should not be seen as an upgrade to be implemented in an organization but as a key element of performance strategy.

10. CONCLUSION AND FUTURE RESEARCH

This paper has shown that digital innovation and knowledge-management activities that involve AI can considerably improve the work of employees, and e-HR is one of the primary intermediaries. The findings emphasize the enabling functions of analytics, automation, knowledge structure, and digital HR systems in defining the way employees interact with information, tools and organizational processes. The high impact of all the predictors indicates that when AI capabilities and knowledge-management practices are adopted simultaneously and backed with a well-developed e-HR infrastructure then the organizations will gain most. The model can be extended to include more organizational variables that can be digital leadership, employee digital readiness, or cultural adaptability in future research. The longitudinal experiments would assist in investigating the changes in the impact of AI-based HR systems over time, whereas the comparison studies across fields or geographical areas might cast light on the contextual variations in the adoption of digital. Qualitative research might also contribute to the knowledge base to a greater extent as it will help to gather the opinions of employees on the impact of digital HR and AI systems on motivation, workload, and workplace dynamics. Mostly, the research confirms that in the digitally intensive organizations, the digital HR ecosystems with robust AI and knowledge capabilities form the centre stage of upholding performance.

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