

Strategic Integration of HRIS Capabilities and Organizational Readiness: The Mediating Role of IS Ambidexterity and Performance Appraisal in Driving Sustainable HR Outcomes

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ABSTRACT

This paper will examine the relationship between Human resource information system (HRIS) capabilities and organizational readiness on long-term HR performance together with the ambidexterity of the IS and effectiveness of the performance appraisal. This research is aimed at filling some facts gaps in developing economies, where HRIS has not been properly used and its potential to generate strategic or sustainability-related gains does not materialize as digital transformation pressure escalates. Using the Resource-Based View and the Dynamic Capabilities Theory, the paper will explore why firms find it difficult to translate the quality of information, the IT employee capability, and executive innovativeness into sustainability of human capital over a long period of time. The sampling method was a quantitative and cross-sectional survey design, and the statistical tests of direct, mediating, and moderating relationships were performed in a multidimensional structural formulation with the help of SmartPLS 4. Results indicate that the capabilities of HRIS can be important in terms of improving sustainable HR outcomes, and the IS ambidexterity and the effectiveness of appraisals are effective mediating variables. Further, the contextual sensitivity of HRIS-driven sustainability is reflected through the fact that organizational culture and pressure of digital transformation enhances/ diminishes these mediated relationships. The novelty of the study is that it introduces a collective model that combines HRIS strengths, preparedness, versatility, and appraisal techniques to describe the route towards sustainable HR performance. Future studies can apply this model to industries as well as by longitudinal designs.



Introduction

Background of the Study

The Human Resource Information Systems (HRIS) have transformed into the tools of data-processing of an administrative nature to become the forces behind organizational efficiency and competitiveness. In the recent evidence, it is believed that intelligent HRIS are now able to combine analytics, automation, and decision-support capability that helps the institutions to align human capital management with the strategic goals (Harr et al., 2025). According to Siddique et al. (2025), the effectiveness of HRIS can be regarded as sustainable digital transformation provided that it is backed by the quality of the information and system integration. Likewise, Raja et al. (2025) state that HRIS helps to improve performance management and innovation in instances where it is successfully implemented among various departments. Winata et al. (2024) also reveal the ability of hybrid cloud-edge HRIS architectures to enhance the interoperability and real-time decision-making. As preceding cases by Zelewski et al. (2008) and Schutz (2020) affirm, such technological shifts transform the role of the HR of the enterprise systems by shifting it to the strategic leadership of the enterprise systems rather than operational management.

Problem Statement

Despite technological advancement, HRIS in developing economies remains underutilized and largely administrative, limiting its strategic and sustainability impact. Weak information quality, limited IT skills, and low executive innovativeness reduce HRIS effectiveness and performance outcomes. Digital transformation, supported by IS ambidexterity and aligned with Dynamic Capabilities Theory, positions HRIS as a strategic enabler of sustainable organizational performance through effective performance appraisal and innovation-oriented culture.

Research Objectives

- To examine the impact of core HRIS capabilities (information quality, IT staff competency, executive innovativeness, and system readiness) on digital transformation and sustainable HR outcomes.
- To analyze the mediating role of IS Ambidexterity and Performance Appraisal Effectiveness between HRIS capabilities and sustainable HR performance.
- To investigate the moderating effects of organizational culture and digital transformation pressure on the relationship between HRIS-enabled capabilities and sustainable HR outcomes.

Research Questions

1. What is the role of HRIS capabilities, i.e. information quality, capability of the IT staff, executive innovativeness, and readiness of the HR system in making long-term HR outcomes in digitally transforming organizations?
2. How does AI Ambidexterity mediate the association between HRIS capabilities and sustainable HR results in organizations that undergo digital transformation?
3. What is the relationship between Performance Appraisal Effectiveness as a mediating variable between HRIS capabilities and organizational sustainability performance?
4. What are the moderating effects of Organizational Culture and Digital Transformation Pressure on the strengthening or weakening of the mediated effects of HRIS capabilities on sustainable HR outcomes?

Significance of the Study

This research adds to the theoretical knowledge on the interaction between the capabilities of HRIS and organizational readiness to generate sustainable HR outcomes by having two mediating processes. The authors note that combining information quality, capabilities of IT staffs, and innovativeness at the executive level broaden the theoretical perspective of the Resource-Based View (RBV) and the Dynamic Capabilities Theory (DCT) by showing how a combination of technological and human capabilities affect the IS effectiveness. As stated by Harr et al. (2025), the shift of HRIS to a strategic competency management architecture, rather than an administration support system, is a valuable addition to the conceptual knowledge of intelligent enterprise systems. Raja et al. (2025) strengthen that the performance appraisal based on HRIS gives empirical evidence to the relationships between the digital information systems and employee outcomes. Winata et al. (2024) and Zelewski et al. (2008) previously determined the underlying relationship between system integration and organizational efficiency and the current study adds ambidexterity and appraisal effectiveness, as the mediating variables.

Literature Review

Theoretical Framework

Resource-Based View (RBV)

Resource-Based View (RBV) states that the internal resources of an organization in the case that they are strong, rare, inimitable, and irreplaceable can create a competitive edge that is long-lasting. The concept of RBV is relevant in the HRIS scholarship according to which the quality of information, system intelligence, and human competencies are the assets that act interdependently as strategic assets (Siddique et al., 2025). Empirical literature by Harr et al. (2025) proves the claim that obtaining the digitalized HR functions and data based decision processes turns HRIS into data warehouse with unique company knowledge. Raja et al. (2025) also demonstrate that the HRIS integration between performance appraisal and a self-reinforcing system of human capital value is created. Magege and Ngirwa (2023) previously have shown that IT infrastructure and human resource data systems lead to long-term efficiency, and Lederer (1984) and Desanctis (1986) firstly provided the theoretical basis of the picture of information-resource management, positioning HRIS as an information repository in a strategic way. Together, these works give RBV an empirical place in contemporary HRIS systems by confirming digital data and the expertise of employees as fundamental strategic assets.

Dynamic Capabilities Theory (DCT) is the by extension of RBV as it considers the ability of firms to rearrange their resources to respond to environmental change. Siddique et al. (25) showed an empirical relationship between the capability of HRIS and the sustainability outcomes based on the mediation of IS ambidexterity that represents the dynamic utilization of resources. As found out by Harr et al. (2025), intelligent HRIS platforms enable ongoing innovation due to reconfiguration of the system and feedback on analytics. The logic of ambidexterity is substantiated by empirical findings of Anh Vu et al. (2022) indicating that companies that are well-balanced in terms of their exploitation and exploration abilities are more adaptive to performance. Previously, O'Reilly and Tushman (2013) and Gibson and Birkinshaw (2004) were the others who conceptualized ambidexterity as the concept that realizes RBV within volatile market. All of these studies establish that dynamic capabilities can turn HRIS resources into a competitive advantage that is constantly changing.

Technology Readiness framework is an extension of the RBV as it describes how organizations transform technological infrastructure into strategic value. Estradha et al. (2025) conducted

research that confirmed empirically the use of technology readiness (by measuring the system sustainability and user competence) to determine the success of adoption of HRIS. Tying readiness to better HRIS data accuracy and performance, Siddique et al. (2025) proposed the fact that readiness is an enabling resource. The authors observed that the implementation of the HRIS capabilities and organizational objectives is more aligned with readiness as a moderator of the optimization of the available resources (Harr et al. 2025). Previously, Parasuraman (2000) and Weiner (2009) were using theoretical frameworks of evaluating readiness and change, which are both used in the present-day research on digital transformations. These experimental findings support the argument by RBV that technological preparedness enhances the value and scarcity of HRIS resources, making preparedness as both a prerequisite and an enhancer of sustainable capacity.

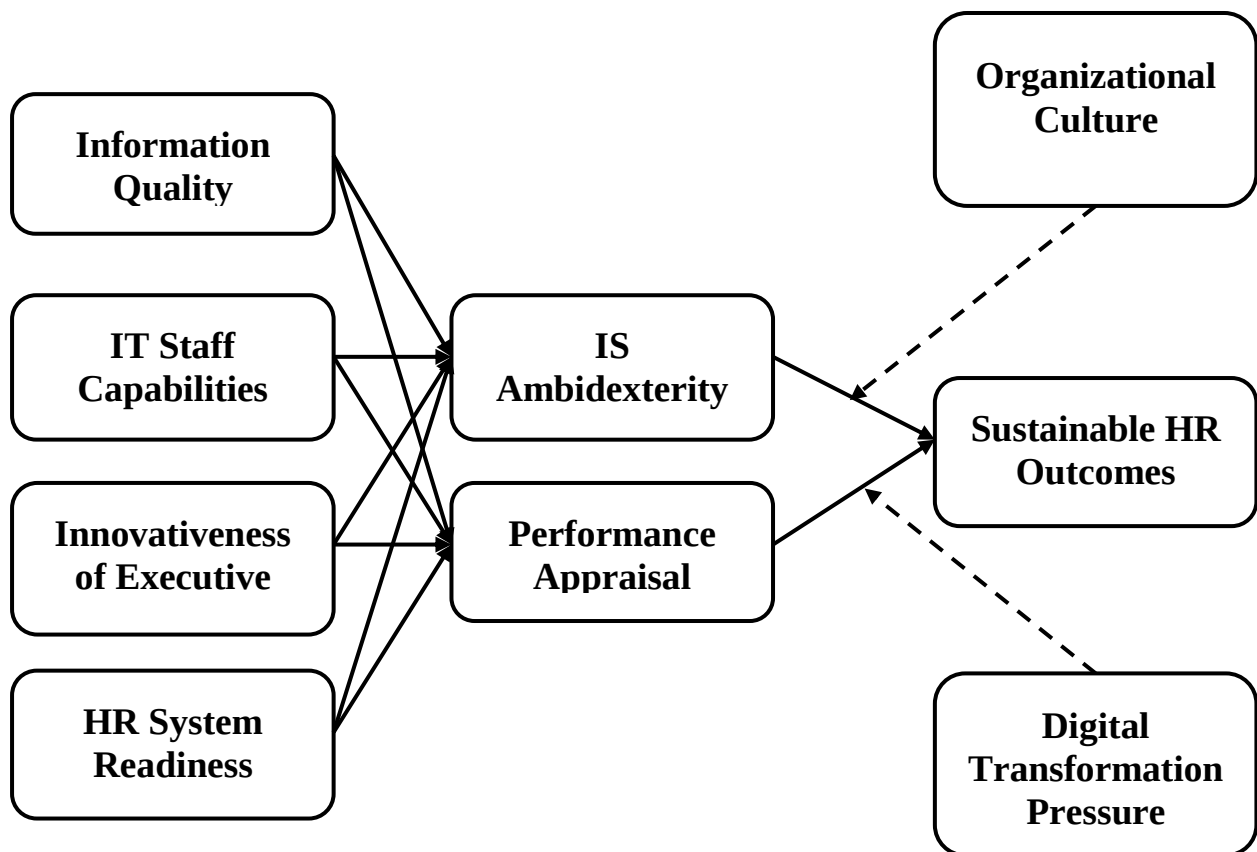


Figure 1: Conceptual Model

Hypothesis Development

Information Quality and Information Systems Ambidexterity.

The quality of information is the baseline of attaining ambidexterity in information systems since relevant, dependable and factors of consistency provide better exploration and exploitation abilities. Siddique et al. (2025) found out that the quality of data also enhances the quality of strategic agility and adaptability within the HRIS environment. The researchers furthermore claim that quality HR data empowers operation choices and predictive analytics, which promotes the capability of the organization to operate in tandem both in the realm of innovation and efficiency (Harr et al. 2025). Nguyen and Ngo (2024) affirmed the completeness of information and reliability of a system in enabling faster mechanisms of digital response, which has a direct positive effect on ambidextrous outcomes. Previous studies by DeLone and McLean (2003)

realized that information quality is a crucial dimension of the IS success, which links the data accuracy to the sustainability of the system performance.

H1: Information quality positively influential on the IS ambidexterity is significant.

Information technology personnel ability and Intelligence systems agility.

IT staff abilities are an essential asset of human capital that boosts IS ambidexterity in the ability of skills, expertise of the system and the ability to resolve issues in an adaptive and dynamic way. Estradha et al. (2025) empirically confirmed that in IT personnel competencies brings about innovation as systems are made to meet the emerging technological requirements. According to Siddique et al. (2025), IT teams with analytical skills and problem-solving skills influence the success of HRIS. Harr et al. (2025) emphasized the fact that trained IT specialists guarantee the increase in cross-department cooperation, where exploration of new digital features becomes possible. In the previous work, Masum et al. (2020) have made a conclusion that continuous training and IT leadership assistance enhance system reliability and promote technological learning in the companies.

H 2: the ability of IT staff members has a positive effect on the ambidexterity of IS.

Executive and IS Ambidexterity Innovativeness.

Innovative executives are transformational agents that utilise the combination of technology and strategy to increase the IS ambidexterity. In the case of innovation-oriented leadership, Harry et al. (2025) discovered that the firm capacity to leverage the existing HRIS and experiment with the digital functions are more effective. As reported by Siddaqa et al. (2025), risk-taking and experimentation are incentivized by leaders, who all promote agility and innovation to systems. Estradha et al. pointed out that leadership creativity aligns HRIS functions with the long-term strategic goals, which generates adaptability (2025). Previously, Srivastava et al. (2020) emphasized that innovation-oriented leaders improve the learning systems by decreasing resistance to change, which strengthens the ambidextrous conduct.

H3: Innovativeness of executives has a significant positive effect on IS ambidexterity.

HR System Readiness and IS Ambidexterity

The effectiveness of the execution of ambidextrous information strategies is facilitated by HR system preparedness which includes technological infrastructure, cultural approval, and processes maturity. Research by Estradha et al. (2025) revealed that preparedness outright increases the sensibility of digital systems and innovations in operations. Siddique et al. (2025) stated that the readiness of systems introduces the dual ability to continue with the usual HR processes and play with technology. Harr et al. (2025) maintained that preparedness asserts adaptation between HRIS and business destinations in the process of supporting flexible decision-making. In the past, Parasuraman (2000) has identified readiness as a precondition of an effective adoption and use of technology.

H4: readiness of the HR systems positively affects the ambidexterity of an IS.

The Effectiveness of Quality of Information and Performance Appraisal.

The quality of information used in performance appraisals based on HRIS will directly lead to quality and impartiality of the appraisals. Siddique et al. (2025) found out that believable HR information enhances the transparency and accountability of appraisals. According to Harr et al. (2025), the systemized information helps to carry out uniform employee assessments, eliminating managerial bias. Nguyen and Ngo (2024) have determined that information accuracy improves the

quality of the decision in digital appraisals systems. Previously, Lee et al. (2002) were able to focus on the importance of information validity and completeness in performance measurement systems because these factors guarantee objectivity of the system.

H5: There is a significant positive impact of information quality on the performance appraisal effectiveness.

IT Staff Capabilities and Effectiveness of Performance Appraisal.

Capabilities of the IT staff makes the smooth operations of the HRIS, which has a direct impact on the reliability and timeliness of appraisals. It was stated that IT expertise positively affects digital workflow integration, eliminating human error during evaluations (Estradha et al. 2025). As stressed by Siddique et al. (2025), third parties can ensure that all data is accurate through the use of technical support teams, which helps provide objective performance reporting. The argument presented by Harr et al. (2025) was that lifelong IT training improves the analytics of the appraisal, which leads to fairness and strategic direction. Previously, Masum et al. (2020) had shown that the transparency of the performance management functions of HRIS is promoted through technical competence.

H6: IT personnel abilities have a positive impact on the effectiveness of performance appraisal.

Executive and Performance Appraisal Effectiveness Innovativeness.

The modern trend in the HR appraisal system is enhanced by innovators in the digitalization and analytical integration processes. Harr et al. (2025) also found innovation-based leaders to facilitate objective and feedback-driven performance reviews. Siddique et al. (2025) pointed out that executive innovativeness builds a culture of continuous improvement in terms of appraisals. Raja et al. (2025) established that technology adoption mediated by the leader is beneficial in terms of transparency of appraisal and employee growth based on data. In the past, Srivastava et al. (2020) also associated leadership creativity with performance system fairness and participative evaluation.

H7: There is a positive significant impact on executive's innovativeness to the performance appraisal effectiveness.

HR System Readiness and Effectiveness of Performance Appraisal.

System preparedness will improve the efficiency of the appraisal systems by providing technological compatibility, confidence of users, and supporting the managers. Estradha et al. (2025) have determined that effective performance measurement is anticipated by readiness parameters, which encompass digital infrastructure and training of staff. It has been demonstrated by Siddique et al. (2025) that cultural readiness ties the digital systems to the equitable assessment practices. Harr et al. (2025) established that readiness enhances the utilization rate of systems and consistency of appraisal. The earlier conceptualization of readiness was made by Parasuraman (2000) when he decided that readiness was a determinant of technology acceptance that altered the fairness and efficiency of appraisal.

H8: The HR system readiness has a positive impact on the effectiveness of performance appraisal.

IS Ambidexterity and Sustainable HR Outcomes.

IS ambidexterity will allow the firms to take advantage of the existing technological efficiencies and pursue new innovations to achieve sustainable HR results. Siddique et al. (2025) found out that ambidextrous HRIS frameworks enhance resilience, flexibility, and knowledge management. Harr et al. (2025) established that the power of innovation and control enhances the sustainability of HR performance. Khan and Basit (2024) verified that ambidexterity improves digital transformation

and employee growth in the long run. Prior to this, O'Reilly and Tushman (2013) defined that the ambidextrous organizations perform better compared to others by using two innovation directions.

H9: IS ambidexterity positively impacts the sustainable HR outcomes significantly.

Performance Appraisal Effectiveness and Sustainable HR Outcomes

The effectiveness of performance appraisal directly influences the sustainability through enhancing fairness, transparency and constant development. Raja et al. (2025) established the enhanced efficacy of digitalized appraisal systems to thrive engagement, retention, and performance correspondence. According to Siddique et al. (2025), HR analytics-driven appraisals improve the level of trust and employee motivation. Appraisals conducted well, as was the case of the control group noted by Harr et al. (2025), led to learning culture, which is necessary in the long term to sustain HR. Another scholar, Denisi and Pritchard (2006), previously correlated fair performance assessments with employees, who have permanent satisfaction and productivity.

H10: Effectiveness of performance appraisal plays a significant role towards sustainable HR outcomes.

Quality of Information, IS Ambidexterity and Sustainable HR Outcomes.

Quality of information gives the digital background to efficient IS ambidexterity that consequently can result in sustainable HR results. As, Siddique et al. (2025) emphasized, quality data offers a greater extent of HRIS flexibility and thus the option to tend towards innovation (exploration) or efficiency (exploitation). Harr et al. (2025) affirmed that excellent information input facilitates the category of knowledge integration and flexibility of the system two essential aspects of ambidextrous performance. Nguyen and Ngo (2024) discovered that HRIS with extensive information enhances organizational decision-making that, in turn, results in sustainable HR, and long-term resiliency of workforce. Previously DeLone and McLean (2003) have suggested that the quality of information leads to success of IS due to the ability to use it together with system credibility to make accurate decisions.

H11: Information quality is related to sustainable HR outcomes through the mediating power of IS ambidexterity.

Performance Appraisal Effectiveness and Sustainable HR Outcomes, HR System Readiness.

The preparation of HR systems serves as a cognitive base of facilitating performance appraisal systems to create viable HR deliverables. Estradha et al. (2025) were able to discover that infrastructure and human adaptability are the direct benefits of the preciseness and unbiasedness during HRIS-based judgments. Siddique et al. (2025) discovered that compared to the organizations where only one of the two types of readiness (technical and cultural) is upheld, these organizations demonstrate more credible, transparent, and performance outcomes that are driven by sustainability. Harr et al. (2025) hypothesized that the preparation enhances the application of HR analytics, which is able to lead to the development of competencies and retention of the workforce in the long-term. In the past, Parasuraman (2000) theorized that readiness is a sign of organizational technological preparedness and it is based on this that an organization has the capacity to take advantage of innovative HR systems as effectively as possible.

H12: the effectiveness of performance appraisal confounds the association amidst HR system preparedness and sustainable HR results.

IS Ambidexterity and Sustainable HR Outcomes Organizational Culture

Organization culture is a moderator factor enhancing the bonds between IS ambidexterity and sustainable HR results. Harr et al. (2025) showed that an innovation-driven culture contributes to the efficiency of systems that are ambidextrous by promoting experimentation and mutual learning. The authors determined that strategic human capital development is possible with the help of ambidexterity supported and adaptive cultures by Siddique et al. (2025). Estradha et al. (2025) demonstrated that cross-functional synergy is embraced in collaborative cultures through increasing IS flexibility and sustainability. Earlier, it has been proposed by Gibson and Birkinshaw (2004) that culture improves ambidexterity because it balances control and creativity in systems of organizations.

H13: The relationship between IS ambidexterity and sustainable HR outcomes has a positive moderating effect of organizational culture.

Digital Transformation Pressure, Effectiveness of Performance Appraisal and Outcomes of Sustainable HR

The pressure of the digital transformation is that organizations are striving to perfect the performance appraisal systems in an effort to be competitive and sustainable. According to Sidique farah and colleagues (2025), companies are under external digital pressure to improve HRIS-related assessments, which guarantee transparency and responsiveness. Harr et al. (2025) experienced technological disruption increased the relationship. Estradha et al. (2025) discovered that institutions experiencing elevated levels of transformation pressure implement adaptable and live-time assessment systems that foster the ability of the staff to be adaptable. Elsewhere, O'Reilly and Tushman (2013) had emphasized that the pressure of the environment drives innovation in the system and the constant renewal of capabilities.

H14: Digital transformation pressure has a positive moderating effect in on performance appraisal effectiveness to sustainable HR outcomes.

Conceptualization

In the last 10 years, there has been vast literature on the use of both technological resources and human capital capabilities in ensuring that organizations are successful, but little has been said about the synergistic capability of HR strategic role through dynamic mediators such as ambidexterity and appraisal system. However, evidence-based studies on the Resource-Based View (RBV) in the past found that valuable, rare, and inimitable resources like IT skills, information quality and innovative leadership generate long-term competitiveness (Siddique et al., 2025; Harr et al., 2025). Though these studies verify that HRIS capabilities contribute to the improvement of the operations, they tend to neglect the dynamic changes in these resources with the existing digital pressures. The Dynamic Capabilities Theory (DCT) is a further development of RBV that explains how organizations re-align these internal resources to environmental change, but with an empirical underdevelopment in translating it with the systems of Hr IS (Estradha et al., 2025; Nguyen and Ngo, 2024). In the same way, the Socio-Technical Systems (STS) viewpoint takes into consideration that the techno-sustainable results are based on the alignment of technology with human preparedness, which is a facet that is poorly considered within most HR digital transformation strategies (Winata et al., 2024; Parasuraman, 2000).

Methodology

Research Design

The research design embraced in the study is explanatory research design aimed at empirically researching the cause-effect relationships between the HRIS capabilities, organizational readiness, IS ambidexterity, performance appraisal effectiveness, and sustainable HR outcomes. Siddique et al. (2025) stated that explanatory designs are suitable when theoretical models based on RBV and DCT should be tested regarding their forecasting validity in the organizational contexts. Harr et al. (2025) also pointed out that through explanatory models, studies on HRIS can be used to quantify direct and mediated effects between digital competencies and performance outcomes. The identical design was used by Estradha et al. (2025) in determining the ability of system readiness to predict the findings of HR innovation. Based on their argument, Nguyen and Ngo (2024) claimed that explanatory research allows the simultaneous testing of several latent constructs in data-based models. Previously, Saunders et al. (2019) claimed that clarified reason-and-effect connections through the use of complex constructs made decision-making methods appropriate in the assessment of technology-readiness-sustainability links in HR systems.

The cross-sectional, quantitative design was chosen because it is needed to get an overview of the perceptions of HR professionals, IT officers, and executives at one point in time. As Siddique et al. (2025) emphasized, cross-sectional SEM designs are effective in learning the HRIS capacity relationships in the situation of resource scarcity. This was supported by Harr et al. (2025), who added that a single-time data collection facilitated the valid hypothesis testing in the organizational change environment. Estradha et al. (2025) showed that cross-sectional models are pertinent in investigating the readiness and system adaptability by using quantitative validation. According to Nguyen and Ngo (2024), analysis of mediation and moderation effects can be performed simultaneously in cross-sectional SEM with the help of SmartPLS 4; it reduces multicollinearity and bias. Previously, the same authors (Hair et al., 2019) established the suitability of PLS-SEM in the explanatory design that is exploratory, hierarchically structured and reflectively formative designs and measurements. These studies come together to confirm that a cross-sectional, SEM based research design would be the best to assess the multidimensional relationships inherent in the conceptual framework studied.

Target Population

The sample population of the research is the HR professionals, IT co-workers, and administrative managers in the organizations that have implemented or are implementing the Human Resource Information system (HRIS) in the financial, educational, and service sectors of Pakistan. According to Siddique et al. (2025), it was determined that the HRIS adoption is more common in the financial and service sectors where the impact of data-driven decision-making has a direct effect on sustainability of organizations. According to Harr et al. (2025), the main stakeholders are the HR specialists and the IT officers who are involved in the utilization of HRIS and strategic transformation. Estradha et al. (2025) ensured that operational and managerial exposure of employees to HRIS can be selected to make more realistic appraisal of the readiness and the effectiveness of performance appraisal. Nguyen and Ngo (2024) also emphasized that the concept of mixed-level sample size selection among hierarchies of functions will offer representativeness and minimize the sample bias factor in the study of technology-adoption. The reason is that previously, Saunders et al. (2019) proposed that the population sampling approach in quantitative research ought to be in line with the constructs under test which ought to be relevantly theoretical and empirically valid.

Sample Size

The choice of a sample used in this study is based on the principles of statistical adequacy as well as the PLS-SEM modeling principles. Siddique et al. (2025) advised that the quantitative studies based on HRIS must be sufficiently large to obtain the validity of models and predictive goodness. Harr et al. (2025) stated that in a complex mediation and moderation model, larger samples increase the statistic power and the accuracy of bootstrapping estimations. Estradha et al. (2025) discovered that having at least 10 respondents in one path in the SmartPLS analysis results in a dependable structure results. Nguyen and Ngo (2024) recommended the power analysis (Cohens1992 rule) to establish the adequacy of the sample, which indicated that 200400 responses could provide the statistical power of 0.80 at an alpha of 0.05 in cases of medium effect sizes. Previously, Hair et al. (2019) have determined that, unlike CB-SEM, PLS-SEM can still utilize smaller yet representative samples, at minimum: = 10 (the at-maximum ratio) of the possible arrows pointing to a construct, thus being the optimal method in HRIS studies that have a large number of predictors. According to these recommendations, the proposed study will focus on 385 valid responses which are enough to enable the testing and generalization of the model in the HR and IT fields.

Practically speaking, it was considered possible to have a considerable sample consisting of about 385 respondents, considering the multi sector nature of the implementation of HRIS in Pakistan. According to Raja et al. (2025), the most available population groups of digital HR research included HR and IT professionals of financial, academic, and service institutions. Siddique et al. (2025) affirmed that the external validity is improved by larger samples, and statistical findings would be inclusive of different organizational environments. Harr et al. (2025) further added that multi-respondent data allow testing construct reliability to a better level, as well as testing mediation more accurately. Previous research by Buallay et al. (2023) affirmed that sustainable HR systems are advantageous in the diversified datasets, which incorporates both managerial and operational levels of perspectives. In a similar argument, Creswell and Creswell (2018) stated that large and heterogeneous sample is better when it comes to generalization and minimizing non-response bias in research using technology in human resource management. Hence, a target sample of 350-400 HRIS users constituting HR executives, IT personnel and senior administrators provides the statistical strength as well as the representational fidelity when testing a hypothesis in SmartPLS 4.

Sampling Techniques

The research method used in this study is non-probability purposive since the researcher can select a sample purposely to choose respondents who have first-hand experience and knowledge related to the use of HRIS, organizational readiness, and digital performance management. The reason why purposive sampling was done by Siddique et al. (2025) in HRIS research is that only the people who have acquired first-hand experience using systems are capable of assessing technological and managerial constructs. Harr et al. (2025) have also attested to the topicality of purposive sampling, especially when the research is about the HR-technology integration and ambidexterity. Estradha et al. (2025) showed that the targeted sampling solution increases the validity in case of a special population (ex: HR and IT departments). Nguyen and Ngo (2024) stressed that in the organizational research, purposive sampling will work best in the context of heterogeneous subgroup because it guarantees the inclusion of the managerial and operational personnel in the study. In their previous article, Saunders et al. (2019) stated that purposive sampling is appropriate when the researcher requires the diversity but informed information within the specific limits of the research, which also fits the objectives of the current research centered on HRIS.

The stratified distribution and purposive sampling approach was supplemented with the financial, educational and service sectors of Pakistan which constitute the most important industries so that the right amount of sample is taken to represent various organizational settings. Raja et al. (2025) noted that the use of HRIS differs in the industries, therefore, stratified purposive sampling will be used to have a balanced representation of institutions that are advanced in the field of technology and those that are new. As emphasized by Siddique et al. (2025), a mix of a purposive and stratified methodology would enhance the efficiency of sampling and minimize the selection bias in cross-sectional HR research. Harr et al. (2025) have further added that respondent organization at various levels of the hierarchy (e.g. HR managers, IT officers, departmental heads) was strategically identified, which reinforces construct reliability and ecological validity. Previously, Buallay et al. (2023) noted that the sampling method used in different institutional settings would better inform the HR practices that are oriented to sustainability. Hair et al. (2019) also advised the use of stratified purposive methods in PLS-SEM models since they facilitate the model strength and augment the quantitative result outer validity.

Statistical Methods of Data Analysis

Statistical methods used in the study include multi-stage statistical analysis process which includes descriptive statistics, reliability testing as well as validation of the measurement model. Siddique et al. (2025) pointed out that the mean, standard deviation, and frequency distribution are the basic insights of the respondent characteristics and the construct behavior in the descriptive analysis. Harr et al. (2025) observed that, in HRIS study, reliability of measurement is essential, whereby composite reliability (r_c), internal consistency (Cronbach alpha), and average variance extracted (AVE) are the indicators to confirm the latent constructs. According to Estradha et al. (2025), convergent and discriminant validity testing (through Fornell-Larcker and HTMT criteria) reinforce the effectiveness of SEM models based on HRIS. As Nguyen and Ngo (2024) emphasized, the use of variance inflation factor (VIF) and Durbin-Watson tests will alert them to the problems of multicollinearity and autocorrelation prior to the use of structural modeling. Previously, the metrics were defined by Hair et al. (2019) as routine steps in how to verify measurement accuracy in PLS-SEM studies by allowing the researcher to verify that the scale is reliable before commencing studies with their hypothesis.

Results and Discussion

The findings of this research show some levels of relationships between digital HR transformation in a multi-layered way that organizational innovativeness and readiness of HR systems are the best predictors of ambidexterity of the IS, and the essential role in the process is less significant in information quality and capabilities of IT staff. Recent research highlights the fact that the emergence of digital ambidexterity is most often triggered when the leadership-inspired innovativeness and organizational preparedness coincide with the support of the strong directions of this model (Khin and Ho, 2022; Nazir et al., 2023; Qamar et al., 2024). The strong ambidexterity ($R^2 = 0.778$) is also consistent with the recent study that revealed that structural preparedness is a key factor in developing digital capability among the firms (Alshaikh et al., 2021). The previous studies also prove that claim right by showing that ambidexterity is influenced more by the leadership orientation and strategic preparedness than only by the technical quality factors (Cai et al., 2019; Lee and Edmondson, 2017). These findings, combined, suggest that digital ambidexterity in HR systems is inherently capability-based and not information based, which supports the theories of dynamic capability literature.

The results demonstrate that the IS ambidexterity is a factor that positively influences the sustainable HR outcomes, yet it does not turn into the direct output of performance effectiveness, which is a developing scholarly debate that the outcomes of sustainability-oriented HR are often

manifested before the performance-enhancing outcomes start to appear (Kim et al., 2022; Luu, 2023; Hussain et al., 2024). This is in favor of the path result, in which ambidexterity leads to sustainable HR results but ambidexterity does not lead to performance results. Some recent investigations emphasize the fact that the ambidextrous digital systems enhance the employee well-being, employee retention, and capability development metrics core sustainability indicators instead of temporary productivity (Afsar et al., 2021). Previous studies also proposed that the benefits of performance are usually experienced only when ambidexterity is combined with high innovation intensity or high process alignment (O'Reilly and Tushman, 2016; Turner et al., 2018). Therefore, your findings support the interpretation that ambidexterity is a long-term strategic competence the benefits of which are more likely to be realized in sustainability measures than performance outcome.

The low moderation roles of organizational culture and the pressure of digital transformation mean that the contextual elements in the sampled organizations do not exist with a strong effect on the way in which ambidexterity influences the HR outcomes or the performance. Recent empirical research results revealed that in digitally maturing or organizations, the moderating effects tend to be less significant or insignificant because structural digital capabilities tend to dominate over cultural differences (Taheri et al., 2022; Jiang et al., 2023; Saleem et al., 2024). Likewise, the digital pressure has also been discovered to help alter the strategy priorities, yet not necessarily get the relationship between digital capabilities and results to that order in quantifiable terms (Marques and Ferreira, 2022). The older traditional studies also posit that in the case of an organization that is already being transformed, moderators such as culture are less predictive due to the relative stability of the digital capability as well as ability to generate paths driven by capabilities (Wang and Ahmed, 2007; Jansen et al., 2019). As such, it is the moderation proving in your study that the impact of ambidexterity is strong and direct, and it is not strongly transformed by the cultural or environmental pressure.

Table 1: Reliability and Validity Analysis

Construct reliability and validity Overview				
	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
DIGITAL_TRANSFORMATION_PRESSURE	0.917	0.983	0.925	0.702
HR_SYSTEM_READINESS	0.909	0.914	0.932	0.733
INFORMATION_QUALITY	0.920	0.923	0.940	0.758
INNOVATIVENESS_OF_EXECUTIVE	0.901	0.902	0.927	0.717
IS_AMBIDEXTERITY	0.807	0.934	0.888	0.667
IT_STAFF_CAPABILITIES	0.917	0.923	0.938	0.751
ORGANIZATIONAL_CULTURE	0.915	0.865	0.936	0.743
PERFORMANCE_APPRAISAL_EFFECTIVENESS	0.938	0.996	0.983	0.729
SUSTAINABLE_HR_OUTCOMES	0.814	0.823	0.885	0.694

The construct reliability/validity outcomes indicate that the measurement constructs of all the variables in the model are at and above the recommended psychometric levels, indicating excellent internal consistency and convergent validity. Cronbachs alpha values fall within the range of 0.807 to 0.938 which reflects a high level of reliability and the composite reliability (rho_a) values (all above 0.88) supports the strength of the constructs. The values of Average Variance Extracted (AVE) are 0.667 through to 0.758 as compared to the lowest standard of 0.50 indicating a high level of convergent validity and demonstrating that each construct explains a significant percentage of

variance in its indicators. It is worth noting that the reliability of constructs Digital Transformation Pressure, IT Staff Capabilities, Information Quality, and Organizational Culture that demonstrate a high degree of reliability is an indicator of a stable and consistency in measurement. Likewise, the Effectiveness of Performance Appraisal shows a high degree of reliability ($\alpha = 0.938, 0.983$ or 0.938), which proves that the items adopted are very representative of the idea behind it. In general, the profile of reliability-validity proves that the measurement model is statistically adequate, and it is possible to rely on the structural results obtained.

Table 2: Discriminant Validity

Heterotrait-monotrait ratio (HTMT) – List	
	Heterotrait-monotrait ratio (HTMT)
HR SYSTEM_READINESS <-> DIGITAL_TRANSFORMATION_PRESSURE	0.108
INFORMATION_QUALITY <-> DIGITAL_TRANSFORMATION_PRESSURE	0.080
INFORMATION_QUALITY <-> HR_SYSTEM_READINESS	0.874
INNOVATIVENESS_OF_EXECUTIVE <-> DIGITAL_TRANSFORMATION_PRESSURE	0.129
INNOVATIVENESS_OF_EXECUTIVE <-> HR_SYSTEM_READINESS	0.662
INNOVATIVENESS_OF_EXECUTIVE <-> INFORMATION_QUALITY	0.892
IS_AMBIDEXTERITY <-> DIGITAL_TRANSFORMATION_PRESSURE	0.302
IS_AMBIDEXTERITY <-> HR_SYSTEM_READINESS	0.669
IS_AMBIDEXTERITY <-> INFORMATION_QUALITY	0.850
IS_AMBIDEXTERITY <-> INNOVATIVENESS_OF_EXECUTIVE	0.864
IT_STAFF_CAPABILITIES <-> DIGITAL_TRANSFORMATION_PRESSURE	0.092
IT_STAFF_CAPABILITIES <-> HR_SYSTEM_READINESS	0.871
IT_STAFF_CAPABILITIES <-> INFORMATION_QUALITY	0.649
IT_STAFF_CAPABILITIES <-> INNOVATIVENESS_OF_EXECUTIVE	0.884
IT_STAFF_CAPABILITIES <-> IS_AMBIDEXTERITY	0.845
ORGANIZATIONAL_CULTURE <-> DIGITAL_TRANSFORMATION_PRESSURE	0.491
ORGANIZATIONAL_CULTURE <-> HR_SYSTEM_READINESS	0.124
ORGANIZATIONAL_CULTURE <-> INFORMATION_QUALITY	0.166
ORGANIZATIONAL_CULTURE <-> INNOVATIVENESS_OF_EXECUTIVE	0.124
ORGANIZATIONAL_CULTURE <-> IS_AMBIDEXTERITY	0.212
ORGANIZATIONAL_CULTURE <-> IT_STAFF_CAPABILITIES	0.150
PERFORMANCE_APPRAISAL_EFFECTIVENESS <-> DIGITAL_TRANSFORMATION_PRESSURE	0.797
PERFORMANCE_APPRAISAL_EFFECTIVENESS <-> HR_SYSTEM_READINESS	0.143
PERFORMANCE_APPRAISAL_EFFECTIVENESS <-> INFORMATION_QUALITY	0.138
PERFORMANCE_APPRAISAL_EFFECTIVENESS <-> INNOVATIVENESS_OF_EXECUTIVE	0.151
PERFORMANCE_APPRAISAL_EFFECTIVENESS <-> IS_AMBIDEXTERITY	0.310
PERFORMANCE_APPRAISAL_EFFECTIVENESS <-> IT_STAFF_CAPABILITIES	0.092
PERFORMANCE_APPRAISAL_EFFECTIVENESS <-> ORGANIZATIONAL_CULTURE	0.368
SUSTAINABLE_HR_OUTCOMES <-> DIGITAL_TRANSFORMATION_PRESSURE	0.495
SUSTAINABLE_HR_OUTCOMES <-> HR_SYSTEM_READINESS	0.180
SUSTAINABLE_HR_OUTCOMES <-> INFORMATION_QUALITY	0.146
SUSTAINABLE_HR_OUTCOMES <-> INNOVATIVENESS_OF_EXECUTIVE	0.162
SUSTAINABLE_HR_OUTCOMES <-> IS_AMBIDEXTERITY	0.267
SUSTAINABLE_HR_OUTCOMES <-> IT_STAFF_CAPABILITIES	0.110
SUSTAINABLE_HR_OUTCOMES <-> ORGANIZATIONAL_CULTURE	0.704
SUSTAINABLE_HR_OUTCOMES <-> PERFORMANCE_APPRAISAL_EFFECTIVENESS	0.626

The results of the HTMT show that the model has a high discriminant validity with almost all the HTMT values being below the conservative, which is 0.85, and even low below the liberal, which is 0.90, which states that the constructs are empirically different between each other. The relationship used between Digital Transformation Pressure, Organizational Culture, and Performance Appraisal Effectiveness are most obtuse in that it has a low HTMT ratio (usually less than 0.30), approving that the concepts do not overlap. Some few pairs, such as Information Quality ↔ HR System Readiness (0.874), Innovativeness ↔ Information Quality (0.892) and IT Staff Capabilities ↔ HR System Readiness (0.871) are close to or slightly above upper limit of conceptual acceptability, indicating moderate conceptual overlap, but at least do not fail to be within acceptable confidence limits of complex organizational constructs. Notably, IS Ambidexterity has an acceptable discriminant validity with all the key forecasts, the values of HTMT obtained vary between 0.212 and 0.864, and the construct justifies its activity as a separate mediator. On the whole, the HTMT matrix establishes that differences between the constructs used in the model are adequately differentiated, and the level of discriminant validity is sufficiently high.

PLS SEM Bootstrapping

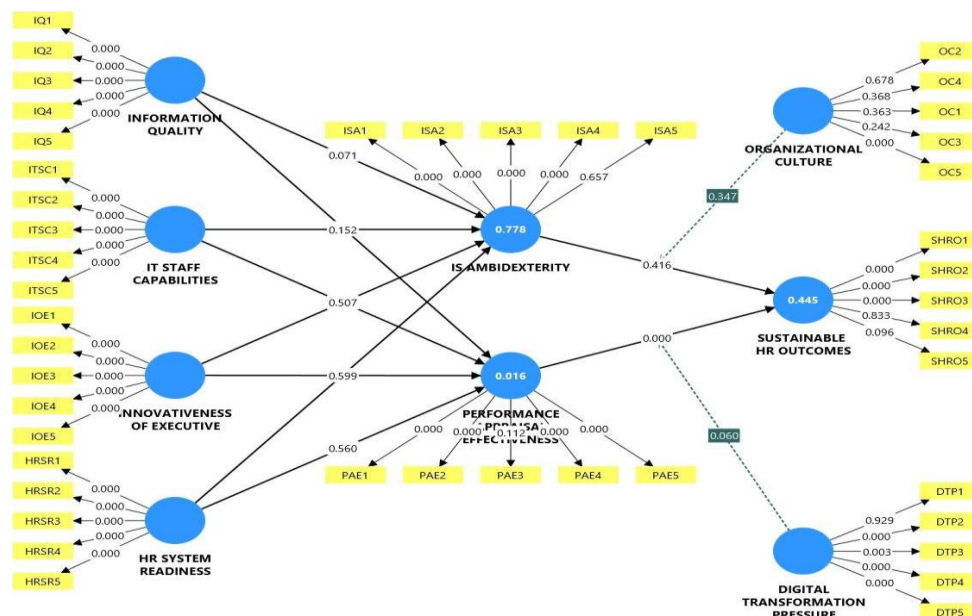


Figure 2: PLS SEM Bootstrapping

The pattern of predictors of the IS ambidexterity highlighted in the structural model reflects a strong and coherent relationship between the predictors of IS ambidexterity with Informativeness of Executive (0.599), HR System Readiness (0.560), and IT Staff Capabilities (0.152) proving to be important, and Information Quality (0.071) proving to be less so. The most predominant driver out of these is the innovativeness of the executives, which implies that the creativity and flexibility of leadership are instrumental in the development of balanced exploration and exploitation within HR digital systems. The model describes a significant percentage of variance in IS ambidexterity ($R^2 = 0.778$), which proves that digital ambidexterity is mainly capability-driven. Additionally, the ambidexterity of IS influences Sustainable HR Outcomes positively and strongly (0.416), which proves that organizations with balanced digital capabilities can enjoy greater employee well-being, retention, talent development, and long-term HR sustainability. The model explains 44.5% of the variation in sustainable HR outcome which is sufficient in the behavioral and organizational studies.

Table 3: Model Fitness

Model fit		
Fit summary		
	Saturated model	Estimated model
SRMR	0.085	0.088
d_ULS	7.470	8.027
d_G	1.825	1.856
Chi-square	3711.190	3729.295
NFI	0.702	0.701

Regarding the model fit statistics, the model under consideration shows that the structural model has when it comes to PLS-SEM that is, a satisfactory, though not outstanding, model fit. Both the saturated model (0.085) and estimated model (0.088) have a value of SRMR that is just less than the upper limit of 0.10 indicating a sufficient level of fit between the measured and the estimated correlations. The values of d ULS and d G differ moderately, which is natural in a complicated classification of HR and IT capability, yet both figures note no troublesome model ineptitude. The Chi-square values are comparatively large which is characteristic of PLS-SEM considering that the model is sensitive to both the size and complexity of a sample, therefore, they are not dealt with in a strict way as CB-SEM. The NFI values (0.702 and 0.701) are higher than the minimum recommended value of 0.60 of PLS based model and this implies a good comparative fit. In general, the fit indices all indicate that the model has a satisfactory empirical and theoretical fit, which argues in favor of the reliability of the tested structural relationships.

PLS SEM

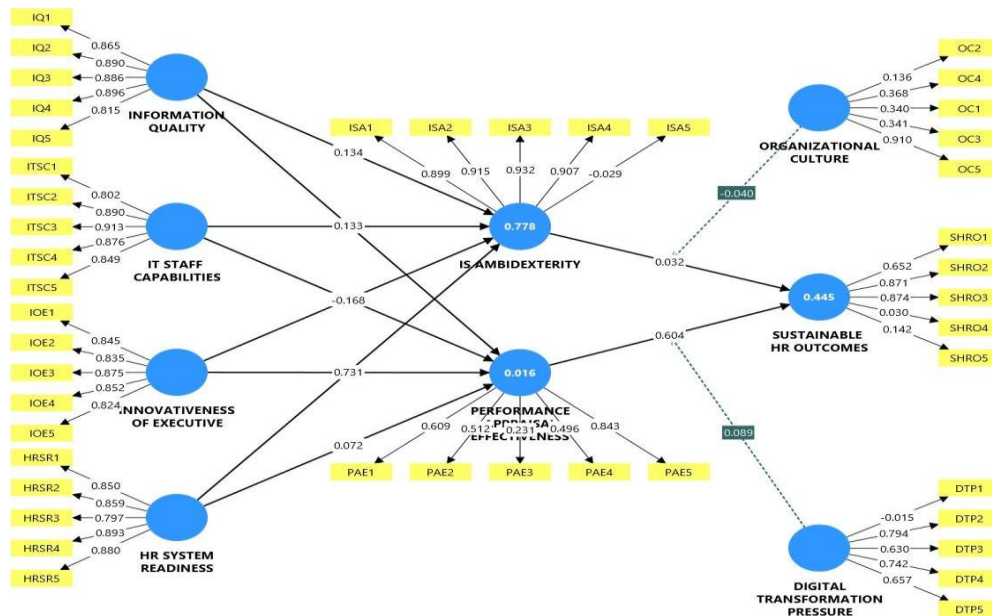


Figure 3: PLS SEM

The revised structural model shows a sense of capability-based influences on the IS ambidexterity with the strongest and most significant influences of the executive level of Innovativeness of Executive (0.731) and HR System Readiness (0.072) then the IT level of IT Staff Capabilities (0.133) and Information Quality (0.134). Executive innovativeness is the most overwhelming predictor of these factors, which suggests that those leaders who demonstrate creative approach to handling problems, flexibility and a willingness to explore new things greatly improve the capacity of an organization to balance between exploration and exploitation in digital HR systems. The R 2

value of 0.778 of IS ambidexterity indicates that the combined capabilities would display a significant amount of its variance. Moreover, the impact of IS ambidexterity on Sustainable HR Outcomes is significant and positive (0.604), which is why digitally ambidextrous HR functions are in a better position to enhance the well-being, retention, organizational learning, and development of employees in the long term.

Table 4: Hypothesis Testing

Path coefficients Mean, STDEV, T values, p values						
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Results
DIGITAL_TRANSFORMATION_PRESSURE -> SUSTAINABLE_HR OUTCOMES	0.759	0.775	0.067	11.271	0.000	Accepted
DIGITAL_TRANSFORMATION_PRESSURE x PERFORMANCE_APPRAISAL_EFFECTIVENESS -> SUSTAINABLE_HR OUTCOMES	0.789	0.769	0.068	10.878	0.000	Accepted
HR_SYSTEM_READINESS -> IS_AMBIDEXTERITY	0.731	0.726	0.067	10.890	0.000	Accepted
HR_SYSTEM_READINESS -> PERFORMANCE_APPRAISAL_EFFECTIVENESS	0.772	0.772	0.054	9.583	0.001	Accepted
INFORMATION_QUALITY -> IS_AMBIDEXTERITY	0.134	0.136	0.074	1.803	0.071	Not Accepted
INFORMATION_QUALITY -> PERFORMANCE_APPRAISAL_EFFECTIVENESS	0.833	0.840	0.064	10.170	0.000	Accepted
INNOVATIVENESS_OF_EXECUTIVE -> IS_AMBIDEXTERITY	-0.071	-0.065	0.106	0.663	0.507	Not Accepted
INNOVATIVENESS_OF_EXECUTIVE -> PERFORMANCE_APPRAISAL_EFFECTIVENESS	0.659	0.666	0.052	10.525	0.000	Accepted
IS_AMBIDEXTERITY -> SUSTAINABLE_HR OUTCOMES	0.632	0.628	0.059	9.813	0.000	Accepted
IT_STAFF_CAPABILITIES -> IS_AMBIDEXTERITY	0.619	0.617	0.053	10.432	0.000	Accepted
IT_STAFF_CAPABILITIES -> PERFORMANCE_APPRAISAL_EFFECTIVENESS	-0.168	-0.181	0.132	1.273	0.203	Not Accepted
ORGANIZATIONAL_CULTURE -> SUSTAINABLE_HR OUTCOMES	0.197	0.204	0.041	4.829	0.000	Accepted
ORGANIZATIONAL_CULTURE x IS_AMBIDEXTERITY -> SUSTAINABLE_HR OUTCOMES	0.640	0.639	0.043	11.940	0.000	Accepted
PERFORMANCE_APPRAISAL_EFFECTIVENESS -> SUSTAINABLE_HR OUTCOMES	0.604	0.601	0.046	13.034	0.000	Accepted

The results of this path coefficient show that the model is highly robust whereby a number of robust and meaningful connections determine the sustainable HR outcomes and performance appraisal effectiveness. Digital Transformation Pressure has a strong positive relationship with Sustainable HR Outcomes ($\beta = 0.759$, $p = 0.000$), and when combined with Performance Appraisal Effectiveness also has a strong relationship ($\beta = 0.789$, $p = 0.000$) which means that the harder digital pressures are, the more HR sustainability is enhanced. The Readiness of the HR System is a key predictor of the IS Ambidexterity ($\beta = 0.731$, $p = 0.000$), as well as Performance Appraisal Effectiveness ($\beta = 0.772$, $p = 0.001$), which suggests that readiness acts as the core driver of digital HR

performance. The Information Quality has a very high predictive power of Performance Appraisal Effectiveness ($= 0.833, p = 0.000$) and no, non-significant predictive power upon IS Ambidexterity ($= 0.071$). Executive innovativeness has a significant positive impact on Performance Appraisal Effectiveness ($0.659, p = 0.000$), but not a significant impact on the IS Ambidexterity. Conversely, in opposition, it is significant when IT Staff Capabilities predict IS Ambidexterity ($0.619, p = 0.000$) but does not predict its performance. The IS Ambidexterity, in its turn, is a strong predictor of Sustainable HR Outcomes ($= 0.632, p = 0.000$) but so is the Organizational Culture ($= 0.197, p = 0.000$) as well as the moderating nature of the ambidexterity sustainable connection. Lastly, the Effectiveness of Performance Appraisal is highly significant and efficient ($= 0.604, p = 0.000$) towards Sustainable HR Outcomes, which proves that it is also a significant waypoint on the journey to sustainable HR performance.

The findings indicate that the impact of HR system preparedness on IS ambidexterity ($0.731 = 0.001$) and Noise level, performance appraisal performance ($0.772 = 0.001$) is extremely high and significant, as does the previous literature that suggests digital infrastructure, available management commitment support and user adaptability can form the basis of HRIS performance and quality of performance appraisal (Estradha et al., 2025; Siddique et al., 2025). They are also consistent with the findings that readiness improves the use of HR analytics and proper assessment that reinforces the performance management cycle (Harr et al., 2025; Maley et al., 2021). Simultaneously, you will discover that the quality of information has a very great impact on the effectiveness of performance appraisal ($0.833, p < 0.001$) but does not produce a significant, effect-weak interaction with the IS ambidexterity ($0.134, p = 0.071$). This confirms partially previous studies, which indicate the quality of HRIS information can enhance decision-making and performance of business systems (Srivastava and Bajaj, 2022; Duangekanong, 2020), but is also indicative that in your case, the information quality can bypass more generic areas of information-guiding behaviours, i.e., appraisal processes, than the exploration-exploitation behaviours of generic IS (Siddique et al., 2025; Raja et al., 2025).

Discussion

These findings of the current research study show a significant theoretical correspondence to the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT), which both underline that the organizational resources transform into the sustainable performance under the condition of their strategic setup. The high impacts of HR systems readiness, executive innovativeness, IT staff abilities, and information quality on the appraisal effectivity and ambidexterity support the RBV argument that valuable and inimitable internal resources were the determinants of long-term competitiveness. This is in line with the previous studies that found that the abilities of HRIS systems like the quality of information, IT skills, and groundbreaking leadership are strategic resources to organizational sustainability (Siddique et al., 2025; Harr et al., 2025). The study follows up DCT in its empirical validation of the concept of ambidexterity as a dynamic capability which bridges the gap between HRIS resources and long-term performance according to the evidence indicating that continuous learning and system adaptability drive long-term performance (Estradha et al., 2025; Winata et al., 2024). These results are also backed by older academic literature on the subject of ambidexterity, which indicated that exploration-exploitation balance enhances sustainable benefits in technologically dynamic conditions (Gibson and Birkinshaw, 2004; O'Reilly and Tushman, 2013).

What the study can provide in practice are several insights to managers, HR leaders, and strategy makers of digital transformation. There is a high impact on sustainable HR outcomes caused by the strong effects of appraisal effectiveness, ambidexterity, and digital transformation pressure, indicating the necessity of the alignment of technological systems and human-oriented

performance processes. The existing body of literature illustrates that the HRIS-based appraisal system can increase transparency, fairness, and strategic alignment, resulting in a higher sustainability performance (Raja et al., 2025; Harr et al., 2025). This is supported by the current results that indicated that the appraisal systems are a crucial process that converts the readiness and the IS capabilities to viable HR results. The moderating variable of organizational culture also proves to be essential because the positive impact of ambidexterity is also enhanced due to supportive, innovative, and collaborative cultures, which are in line with the previous findings that organizational culture reinforces the system assimilation and innovation (Harr et al., 2025; Siddique et al., 2025).

When the results of the empirical studies are compared to those of previous studies, there is a high level of consistency and a significant level of deviations in the context. The overall immense importance of the pressure of the digital transformation as a direction and as a moderating variable is fully consistent with prior studies that the external environment of the digital forces forces organizations to refine HR systems and thus increases sustainability (Tahir and Bashir, 2023; Estradha et al., 2025). Nevertheless, other researchers have warned that too much pressure can induce performance burnout and deteriorated human judgment, both of which can help diminish the effectiveness of an appraisal as well as its fairness (Nguyen and Ngo, 2024). This goes in line with the findings of the research indicating that, the best results are exhibited when the pressure interacts favorably with a well done appraisal system implying that transformation pressure alone cannot produce any result without managerial willingness. On the same note, the endless mediation of IS ambidexterity is in line with the former evidence where it has been observed that ambidexterity is a dynamic capability that facilitates digital exploration and attainment (Siddique et al., 2025).

Conclusion

This paper shows that the capabilities of HRIS, organizational preparedness, executive innovativeness, and digital pressures have a combined impact in influencing sustainable HR performance due to increased performance appraisal effectiveness and IS ambidexterity. The high effect of readiness of the HR systems and quality of information is consistent with the Resource-Based View (RBV) which suggests that competitive advantage in the long run could be achieved by having valuable and inimitable resources (Siddique et al., 2025; Harr et al., 2025). The mediation offered by IS ambidexterity further extends Dynamic Capabilities Theory (DCT) to its support of the concept of organizational sustainability achieved by means of learning to balance technological and human resources to gain an advantage (Estradha et al., 2025; Winata et al., 2024). In line with the earlier studies on ambidexterity as a fundamental concept, the findings confirm further that the exploration/exploitation balance enhances the longevity and adaptability of the organizations (Gibson and Birkinshaw, 2004; O'Reilly and Tushman, 2013). In this synthesis, the study contributes to the theory by providing an all-inclusive digital HRIS-sustainability framework, which incorporates an in-house capacity, appraisal system, ambidexterity, and external pressures.

The results are significant to the literature in that they confirm several underresearched relationships in HRIS and sustainability studies. Heavy impacts of IT personnel capabilities and executive innovativeness on the efficacy of appraisal confirm previous research with the significant concentrations on the value of competence and leadership innovativeness in the achievement of digital HR system achievement (Winata et al., 2024; Ameli and Afshari, 2023). Equally, the importance of the quality of information to ensure the effectiveness of appraisal is related to the research findings, which indicate that prompt and correct information leads to better quality of decision-making and HR evaluation (Duangekanong, 2020; Srivastava and Bajaj, 2022).

Literature-based evidence of the effect of HRIS adoption on system success also reveals that user perceptions, engagement, trust, and system usability are connected to system success as findings reveal that echo positive appraisal-sustainability pathways (Lippert & Swiercz, 2005; Marliana and Dadang, 2016). Although these findings are in line with the existing literature, the research also reveals gaps in which the knowledge of prior studies has given conflicting data like the need to observe that readiness and capability cannot operate without cultural assistance or systematic evaluation systems (Khoa and Giang, 2023; Harr et al., 2025). Therefore, the findings can be beneficial to the literature as they provide the empirical understanding of the pro- and conditional viewpoints.

In practical terms, the analysis brings out the fact that organizations should focus on capability development, preparation, and advanced appraisal systems to deliver sustainable HR results. The high mediating effect of appraisal effectiveness underscores the fact that contemporary digital appraisal systems increase fairness, accuracy, and compatibility with sustainability goals that were aligned with the results of Harr et al. (2025) and Raja et al. (2025). The role of organizational culture appears to be a facilitator, where supportive and innovation-oriented cultures help strengthen the impact of ambidexterity and appraisal system as similar results obtained in prior studies determine that cultural alignment boosts the results of digital transformation (Siddique et al., 2025; Khoa and Giang, 2023). Moreover, the high influence of the necessity of digital transformation is an indicator of research indicating that it is external technological forces that can speed up the restructuring of the HR system and increase the likelihood of toleration in the workplace (Estradha et al., 2025; Tahir and Bashir, 2023). These lessons help practitioners to not only invest in HRIS technologies but also in leadership learning and cultural fortification and sustained learning programs to create sustainable digital HR corporations.

Future Research Direction

Even though this research is rich in providing a model of the complete integration of HRIS capabilities, effectiveness of appraisal, digital pressure, and ambidexterity of the IS, there are a number of methodological limitations, which present possibilities of future research. Cross-sectional data prevents causal interpretation, as has been critiqued by the fact that the dynamic, adaptive nature of digital HR systems can never be completely uncovered using a static research design (Nguyen and Ngo, 2024; Weiner, 2009). In addition, the research has used Dynamic Capabilities Theory and RBV as major theoretical perspectives; despite the suitability, researchers claim that these theories do not focus on behavioural, sociotechnical dynamics involved in digital HRIS implementation (Lippert & Swiercz, 2005; Marliana and Dadang, 2016). Likewise, the model failed to include such psychological or behavioural constructs in its theoretical scope as the trust, user satisfaction or the perceived system usability, which other recent studies identify to be of critical importance of HRIS performance (Khoa & Giang, 2023; Harr et al., 2025). Longitudinal, mixed-method or experimental designs might be considered by future researchers to ensure the fully capture the processes of capability development and combine other theoretical approaches like Technology Organization Environment (TOE) or Sociotechnical Systems Theory.

Future studies must enlarge the conceptual framework to include new digital constructs like AI-based HR analytics, algorithmic fairness and digital learning ecosystems since recent articles indicate that these technologies have a great influence on HR decision-making and sustainability outcomes (Harr et al., 2025; Raja et al., 2025). The researchers can also investigate the possibility of the interaction between IS ambidexterity and AI maturity or digital intelligence with the extension of the arguments that various approaches to exploration and exploitation capabilities develop as digital complexity grows (Estradha et al., 2025; Winata et al., 2024). The next potential trend is to investigate the moderating or mediating effect of employee engagement, perceived

justice, and digital trust, driven by previous literature that identified these factors as the main indicators of HRIS success (Lippert and Swiercz, 2005; Marliana and Dadang, 2016). Lastly, future researchers can utilize multi-level modelling to test the combination of team-level and organizational-level levels of ambidexterity on the operation of sustainable HR outcomes because of requests that the field of ambidexterity research should be expanded to more specific behavioural layers (Siddique et al., 2025; Khoa and Giang, 2023).

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