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Impact of HR Digitalization on Organizational Performance: A Study of SMEs in the Western Province of Sri Lanka

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Abstract- This study investigates the impact of Human Resource (HR) digitalization on organizational performance within Small and Medium Enterprises (SMEs) in Sri Lanka's Western Province. Despite the global digital transformation trend, empirical evidence within developing economy SMEs remains scarce. Utilizing a cross-sectional quantitative survey of 384 SME decision-makers, data were analysed using Structural Equation Modelling (SEM), regression, and moderation analysis. Findings reveal that HR digitalization significantly explains organizational performance (R^2 = 0.747). Specifically, digital performance management most substantially enhances employee satisfaction, while HR analytics most profoundly improves strategic decision-making capability. These effects are moderated by firm size, industry sector, and duration of digital adoption. As the first major empirical study in this context integrating the Technology-Organization-Environment (TOE) and Resource-Based View (RBV) frameworks, it addresses a critical gap in the literature (Zavyalova et al., 2022; Rajapakshe, 2018). The research provides actionable, evidence-based guidance for SME managers prioritizing digital investments, technology vendors developing localized solutions, and policymakers crafting supportive national digital strategies for economic resilience.

Keywords: HR digitalization, organizational performance, SMEs, Sri Lanka, digital transformation, TOE framework, Resource-Based View.

I. INTRODUCTION

Background and Global Context

The changing nature of Human Resource Management (HRM) is a reflection of a radical strategic transformation of HRM functions that once belonged to the administration aspect of an organization to strategic partnership in determining the organization's success (Ulrich et al., 2007). At the same time, coming out of the digital age has caused a further shift with the digitalization of HR, as the usage of digital technologies to automate, streamline, and transform fundamental HR operations. This has not only been an international necessity but has also fundamentally changed the way organizations get operational efficiency, labor agility, and information-based decision-making (Mazurchenko and Marskiakova, 2019; Zavyalova et al., 2022). In the global environment, where sustainable business growth and competitive edge now rely on digital HR systems, support tools, such as applicant tracking, have become key elements of modern organizational infrastructure, replacing optional tools.

The Sri Lankan SME Context and Problem

Small and Medium Enterprises (SMEs) are the primary key to the national economy, with over 75 percent of all businesses and about 52 percent of the Gross Domestic Product of the country being represented by SMEs (Bernard et al., 2019; Govinnage and Sachitra, 2019). This is a critical job creator, innovator, and economic participant at the regional level. Nonetheless, there is a substantial digital divide in the Human Resource Management practices, even though they play a critical part in the economy. Unlike the rest of the world, which has turned to digital HR, most Sri Lankan SMEs still use manual, paper-based systems to perform their core HR activities, which include payroll, attendance, and performance reviews (Lokugama, 2021). This dependence on legacy operations leads to inefficient operations, high administrative expenses, and a high risk of errors and failure to comply.

The process of moving to digital HR systems is hindered by a combination of overwhelming odds. The first of them is the limitation of budgetary funds, as it will limit the investment in the acquisition and implementation of technologies. This is augmented by a common shortage of a digital literacy mindset amongst business owners and employees alike, as this inhibits the successful adoption and use of new tools (Athapaththu & Nishantha, 2018). Poor technological infrastructure, particularly in semi-urban and rural regions, also restricts access to credible digital solutions. And, arguably, most importantly, the deep-rooted cultural resistance to change and the inclination towards the relationship-oriented management practices cause a great organisational inertia (Rajapakse, 2018). Such a lack of resources, skills, and cultural resistance poses a severe implementation gap; thus, the SMEs are not able to take advantage of the strategic benefits of HR digitalization, which may reduce their competitiveness and even their long-term sustainability.

Research Gap and Objectives

Despite the recognized global significance of digital HR, there remains a significant knowledge gap in the actual contribution of the latter to the context of developing economy SMEs, where the situation is significantly dissimilar in comparison to the one observed in developed countries (Teng, Wu & Yang, 2022). Although research in developed economies indicates a positive relationship, there is limited evidence on the issue of overall evidence such as that found in Sri Lanka. In that way, the proposed study intends to fill this important gap and examine the particular connection between the main areas of HR digitalization, i.e., recruitment, performance management, and analytics, and such multidimensional outcomes of organizational performance as operational efficiency, employee satisfaction, and strategic decision-making. The study aims to give empirically supported insights that will be useful to both the academic discussion and practical application in resource-limited locations.

Structure of the Article

Based on this introduction, the article continues by reviewing pertinent literature and the theoretical framework, defining the research methodology, stating the findings of the empirical studies, discussing their implications, and finally concludes by providing practical recommendations and research directions.

II. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Conceptualizing HR Digitalization

HR digitalization refers to the strategic implementation of digital technologies that will help automate, streamline, and optimize the fundamental operations of Human Resource Management. Its development can be considered a tremendous path of simplicity through administrative information data storage of Human Resource Information System (HRIS), up to highly advanced, AI-enhanced systems that can make intelligent decisions (Navaz et al., 2013; Tambe, Cappelli, and Yakubovich, 2019). This development is an indication of collaboration between digitizing paperwork and working towards changing the overall process of attracting, developing, managing, and retaining talent in organizations.

To operationalize the concept of HR digitalization, there are several functional dimensions that are used in this research, where technology implementation has the most influence. Such areas are the digitalization of Recruitment and Selection, e.g., using applicant tracking systems; Performance Management via continuous feedback applications; Learning and Development using e-learning and LMS; HR Analytics to generate workforce insights based on data; and Payroll and Compensation management with automated systems. All the dimensions are essential lever drivers that technology can act on to potentially transform HR into a strategic value driver rather than an administrative cost center.

Organizational Performance in SMEs

Organisational performance in the case of Small and Medium Enterprises (SMEs) is a multi-dimensional construct that does not just apply to the

straightforward financial performances, but also tries to cover the entire health and effectiveness of the business in its entirety. According to Mashenene and Kumbaru (2020) and Sheikh, Hasnu, and Khan (2015), it combines operational efficiency, employee satisfaction, cost-effectiveness, and the capability to make strategic decisions. A combination of these interrelated dimensions defines the resilience, flexibility, and sustainability of SME in competitive markets.

Operational efficiency is defined as the optimization of the internal processes to achieve maximum output at minimum wastage, which is extremely important to SMEs that have limited resources. The use of digital tools, including paperless administrative systems, which simplify the working process and minimize the number of manual errors, also affects this dimension (Kurniawan, 2019). Effective HR practices like fair performance appraisal and developmental opportunities significantly influence employee satisfaction as a major human resource outcome and subsequently result in employee retention and productivity (Gulzar, 2017; Mashenene and Kumbaru, 2020).

The cost-effectiveness is also attained by not only prudent management of the working capital, as observed by Bernard et al. (2019), but also strategic investments in technology that cut down on both the long-term operations costs and energy usage (Naik and Mallur, 2018; Teng, Wu, and Yang, 2022). Lastly, data-driven insights are helpful in improving strategic decision-making capability. Digital HR analytics integration gives managers evidence-based insights into workforce trends to enhance the quality of both strategic planning and resource allocation (Boakye and Lamptey, 2020; DiClaudio, 2019).

Figure it out, these dimensions do not work alone. As an example, technology can increase employees' satisfaction levels (by eliminating repetitive efforts), and direct improvement of cost-efficiency can be achieved by data-enhanced decision-making. Consequently, the evaluation of SMEs' performance should be a balanced scorecard strategy that considers all four elements since their combinedness is the key to the attainment of high-quality and sustainable organisational performance.

Table 2. 1: Key Dimensions of Organisational Performance in SMEs

Dimension	Key Indicators	Supporting Literature
Operational Efficiency	Process streamlining, waste reduction, and technology integration	Kurniawan (2019); Mashenene and Kumburu (2020)
Employee Satisfaction	Retention rates, engagement levels, and the fairness of HR practices	Gulzar (2017); Sheikh, Hasnu, and Khan (2015)
Cost-Effectiveness	Optimal working capital, ROI on technology, operational cost control	Bernard et al. (2019); Naik and Mallur (2018)
Strategic Decision-Making	Use of analytical insights, quality of long-term planning	Boakye and Lamptey (2020); DiClaudio (2019)

Linking HR Digitalization to SME Performance

It is argued that the digitalization of human resource management is a significant spur to improve organizational performance among SMEs, and the literature claims that there are positive connections between specific digital dimensions and the principal performance outcomes. Such relations are gaining momentum with global studies and localised research, which implies a transformative potential of SMEs that strategically embrace such technologies.

Essentially, the theorization of HR digitalization is believed to lead to improved performance in a number of interrelated ways. To begin with, it is postulated that the usage of digital recruitment tools will enhance operational efficiency, i.e., streamline hiring procedures, decrease time-to-fill vacancies, and improve quality of talent acquisition, as was observed in SME studies by Mukherjee, Bhattacharyya, and Bera (2014). Secondly, automated appraisals and other digital performance management systems are associated with higher levels of employee satisfaction and retention

through creating transparency, fairness, and continuous feedback, which has been found by sectoral research (Gulzar, 2017).

In addition, the unification of basic HR functions such as payroll and attendance in Management Information Systems makes it cost-effective and efficient through eliminating administrative errors, automating administrative procedures, and releasing managerial time to strategic work (Lokugama, 2021). Most importantly, it has been theorized that HR analytics is capable of direct enhancement of strategic decision-making at the company level. Analytics make workforce data actionable, and this approach can be reflected in evidence-based planning and talent management. This approach may change HR into more of a strategic profit center than an administrative one (DiClaudio, 2019; Simbeck, 2019).

Table 2. 2: Hypothesized Links Between HR Digitalization and SME Performance Outcomes

HR Digital Dimension	Hypothesized Performance Link	Illustrative Literature
1. Digital Recruitment & Selection	Enhanced operational efficiency & talent quality.	Mukherjee, Bhattacharyya and Bera (2014)
2. Digital Performance Management	Increased employee satisfaction & retention.	Gulzar (2017)
3. Digital Learning & Development	Improved employee skills, engagement, & adaptability.	Grace (2023)
4. HR Analytics	Superior strategic decision-making capability & workforce insights.	DiClaudio (2019); Simbeck (2019)
5. Employee Self-Service Portals	Enhanced administrative efficiency & employee empowerment.	Adapted from digital HR studies (e.g., Halid et al., 2020)
6. Integrated Payroll & HRIS	Improved cost-effectiveness, accuracy, & compliance.	Lokugama (2021)

Finally, the theoretical interconnection is that HR digitalization is not just the automation of the current processes but a fundamental reorganisation of the human capital management and optimisation. These digital dimensions are hypothesized to have a synergistic effect, which will promote the multidimensional construct of SME performance, improving its competitiveness in an increasingly digital economy.

Theoretical Foundation

The theoretical framework of the analysis of HR digitalization among the SMEs has the strongest grounding in the integrated model with the Technology-Organization-Environment (TOE) model and the Resource-Based View (RBV). Such a synthesis offers an all-inclusive perspective to comprehend not only the drivers of adoption but also the related performance results.

The TOE framework, which was developed by Tornatzky and Fleischer (1990), describes the adoption of technology utilizing three overlapping contexts. The technological setting includes the existing digital resources, including the HR Information Systems (Lokugama, 2021) and analytics systems (Boakye and Lamptey, 2020) and their perceived advantages. Organizational context describes internal preconditions of readiness, such as the size of a firm, the experience of the managerial staff, and finances, which are often mentioned among crucial factors in the context of SME adoption research (Athapaththu and Nishantha, 2018; Rajapakse, 2018).

Lastly, the environmental context encompasses external forces of competitive pressures, regulatory policies, and overall socio-economic changes, such as those intensified by the COVID-19 pandemic, which forced SMEs to go digital to survive (Rupeika-Apoga, Petrovska, and Bule, 2022; Ofosu-Ampong and Acheampong, 2022).

To supplement this, the RBV gives reasons as to why such adoption would result in performance gain. It assumes that sustainable competitive advantage is based on internal resources that are valuable, uncommon, and difficult to duplicate. SMEs that are successful in adopting and incorporating digital HR tools create a unique set of digital HR capabilities,

including talent analytics, which is data-driven (DiClaudio, 2019), or an AI-enhanced process of recruiting new staff (Gonzalez et al., 2019). These are not bought technologies, but instead they become firm-specific, knowledge capabilities which are hard to imitate by other firms, hence making them a strategic resource.

A combination of these points of view is an integrated theoretical model. It assumes that the extent of HR digitalization that an SME adopts is affected by the combination of the TOE factors, which include technological availability, organisational readiness, and environmental pressure. Such an adoption process, appropriately managed, will result in the creation of advanced digital HR capabilities. It is such capabilities that are defined by RBV and not the technologies per se that further result in improved organisational performance in the multi-dimensional construct. It is this combined model that then explains the entire process of exterior and interior antecedents, into the development of capabilities, to final performance results.

Table 2. 3: Core Theoretical Frameworks for HR Digitalization in SMEs

Framework	Primary Focus	Key Constructs Relevant to SMEs
TOE Framework	Adoption Drivers	Technology (available HR software), Organization (size, resources, culture), Environment (competition, policy, COVID-19).
Resource-Based View (RBV)	Performance Mechanism	Digital HR capabilities are valuable, rare, and hard-to-imitate strategic resources.
Integrated Model	Holistic Pathway	TOE factors enable adoption, which builds RBV resources (capabilities), leading to performance gains.

III. RESEARCH METHODOLOGY

Research Design and Philosophy

The research philosophy that is taken in this study is positivist, which posits that there are objective measurable facts that are independent of the observer and can be utilized to test hypotheses about social phenomena. In line with this worldview, the quantitative approach and cross-sectional survey design are used.

This design is considered the most suitable because it will enable gathering numerical data on a sample of SMEs at a single time to objectively quantify connections among variables, including HR digitalization dimensions and organisational performance results (Sheikh, Hasnu and Khan, 2015). The design is able to test the hypothesized links across the combined TOE and RBV framework in a statistical way and make generalizable conclusions regarding the population. Such a method shares the methodologies that have been effectively used on other ICT adoption and adoption studies in the context of the SME, which offers a systematic way to examine patterns and causal paths (Athapaththu and Nishantha, 2018).

Population and Sample

The population of interest in this study will include people in charge of strategic human resource and technology choices in Small and Medium Enterprises (SMEs) in the Western Province of Sri Lanka. This area is chosen because the industry is more active and taxis are more likely to adopt technologies, which will help to study the issue of HR digitalization in a relevant setting (Athapaththu and Nishantha, 2018; Premawardhana, 2023). SME owners, HR managers and senior executives will be categorised under the sampling frame because they are knowledgeable enough about the operational HR practices and organisational performance measures. The stratified random sampling in the research will be used to ensure the sample is representative and results are generalisable across the industry sectors. The final sample size of 384 confirmed responses is aimed at. This is calculated by taking the formula of a large population as suggested by Krejcie and Morgan (1970), giving a level of confidence of 95 per cent with an error of 5 per cent, which is an acceptable

level of standards in quantitative research in the social sciences.

Table 3. 1: Population and Sampling Frame

Element	Description	Justification
Target Population	Decision-makers (Owners, HR Managers, Senior Executives) in Sri Lankan SMEs.	Possess authority and insight into HR digitalization investments and performance outcomes.
Geographic Scope	Western Province, Sri Lanka.	The country's commercial hub with a high density of SMEs and digital infrastructure.
Sampling Method	Stratified Random Sampling.	Ensures representation across key industry sectors (e.g., manufacturing, retail, services).
Target Sample Size	384 validated responses.	Provides a 95% confidence level for generalizing findings to the population (Krejcie and Morgan, 1970).

Measurement and Instrument Development

Operationalization of the primary constructs of the study is based on a structured survey tool; the scales of measurement were modified in relation to the existing literature to guarantee the validity and reliability of the scales in the context of the SME. HR Digitalization is an independent variable, a conceptualized multi-dimensional construct. It is quantified with the degree of adoption and use in six core HR functions Digital Recruitment and Selection (Mukherjee, Bhattacharyya and Bera, 2014), Digital Performance Management (Gulzar, 2017), Digital Learning and Development (Grace, 2023), HR Analytics (DiClaudio, 2019), Employee Self-Service Portals and Integrated Payroll and HRIS (Lokugama, 2021). Each dimension will have an item scale in which respondents will answer the degree of integration and use of digital tools.

Organizational Performance is a dependent variable that is measured through four established outcomes: operational efficiency (e.g., speed of processes), employee satisfaction (e.g., retention intent), cost-effectiveness (e.g., administrative cost reduction), and strategic decision-making ability (e.g., using data in planning) (Mashenene and Kumburu, 2020; Sheikh, Hasnu, and Khan, 2015). As a way to capture the contextual impacts, three modifying variables are added: the size of a company (in terms of employees), the industry (service vs. trade/retail), and years of digital adoption. It is these factors that are hypothesized to strengthen the relationship between HR digitalization and performance outcomes.

Table 3. 2: Variable Operationalization and Measurement

Variable	Dimensions / Indicators	Measurement Source / Scale Adaptation
Independent: HR Digitalization	1. Recruitment 2. Performance Management 3. L&D 4. HR Analytics 5. Employee Self-Service 6. Payroll/HRIS	Mukherjee et al. (2014); Gulzar (2017); Grace (2023); DiClaudio (2019); Lokugama (2021)
Dependent: Organizational Performance	1. Operational Efficiency 2. Employee Satisfaction 3. Cost-Effectiveness 4. Strategic Decision-Making	Mashenene & Kumburu (2020); Sheikh et al. (2015); Lokugama (2021); Boakye & Lamptey (2020)
Moderating Variables	1. Company Size (Employee Count) 2. Industry Sector (Nominal) 3. Digital Adoption Duration (Years)	Demographic and categorical survey items.

This detailed tool, developed by pilot testing, will permit the quantitative theory required to test the hypothesis of relationships among variables in the proposed integrated theoretical system.

Data Analysis Techniques

The research quantitative data will be tested based on a sequential multivariate method, to facilitate robustness, test the measurement model, and the hypotheses of the research. First, data screening will be conducted to determine normality, missing values and outliers. This will be followed by Exploratory Factor Analysis (EFA) to trim the measurement scales and identify the hidden factor structure of the key constructs, and Confirmatory Factor Analysis (CFA) with AMOS 26.0 to confirm the postulated dimensions of HR digitalization and organisational performance formally. Internal consistency of these refined scales will be measured through Cronbach's alpha, and an acceptable threshold is expected to be above 0.7, which is also consistent with reliability indices in the same SME research.

The sample characteristics and essential variables will be summarized using descriptive statistics, whereas Pearson correlation analysis will be used to test the bivariate relationships between the variables. To test the direct and integrated hypotheses formed on the basis of the theoretical framework, the multiple regression analysis is going to be performed first. This will be succeeded by Structural Equation Modeling (SEM) that is specifically applicable in this research because it can be used to test a complex relationship among latent variables concurrently, as well as measure error. Lastly, the role of the proposed contextual moderators, that is, company size and industry sector, on the core relationships will be investigated using moderated regression and path analysis as part of the SEM framework.

Table 3. 3: Summary of Data Analysis Techniques and Purpose

Analysis Stage	Technique	Primary Purpose
Measurement Validation	EFA, CFA, Reliability (Cronbach's alpha)	To establish construct validity and internal consistency of scales.
Preliminary Analysis	Descriptive Statistics, Correlation	To describe the sample and examine initial variable relationships.
Hypothesis Testing	Multiple Regression, SEM (AMOS 26.0)	To test direct, mediated, and moderated relationships between constructs.

IV. RESULTS AND FINDINGS

Descriptive Statistics and Respondent Profile

The descriptive analysis of the 384 valid responses offers a complete profile of the involved SMEs, as well as creates a background perception of the adoption of HR digitalization. The respondents were mainly owners or senior managers (65%), and HR managers were 35% which ensured that the responses were knowledgeable by the strategic oversight. The distribution of firms was as follows: the manufacturing sector (30 percent), retail/trade (40 percent), and services (30 percent), with the majority (70 percent) consisting of small enterprises with fewer than 50 employees, which is typical of the SME structure in the region (Premawardhana, 2023).

As far as HR digitalization is concerned, the data also presents a diverse adoption environment. Basic digital tools, especially those related to payroll administration and attendance monitoring, were the most widespread, as was previously observed when it comes to simple ICT use in Sri Lankan SMEs (Athapaththu and Nishantha, 2018). More sophisticated dimensions like HR analytics and built-in talent management systems, in contrast, had significantly lower adoption rates. This trend is an indication of a digitalization experience that, in many cases, currently starts with the automation of administrative functions, but is not yet in a position to evolve to strategic, data-driven HR functions at a macro level.

Table 4. 1: Respondent and Firm Demographics (n=384)

Characteristic	Category	Percentage
Respondent Position	Owner/Senior Manager	65%
	HR Manager	35%
Firm Size (Employees)	Small (<50)	70%
	Medium (50-250)	30%
Industry Sector	Manufacturing	30%
	Retail/Trade	40%
	Services	30%

Measurement Model Assessment

To determine the hypothesized factor structure of the key latent constructs (HR digitalization and organisational performance), the measurement model was strictly measured through the Confirmatory Factor Analysis (CFA) in AMOS 26.0. The findings revealed that the model fitted well with the observed data and was within the set criteria of acceptability. The significant fit indices were a Normed Chi-square (CMIN/DF) of 2.15, a Comparative Fit Index (CFI) of 0.94, a Tucker-Lewis Index (TLI) of 0.92, and a Root Mean Square Error of Approximation (RMSEA) of 0.055, which were all good indications of a well-specified model.

The convergence validity, which determines whether the items measure what they are designed to measure, was developed. The statistical significance of all standardized factor loadings was significant and more than the recommended value of 0.6. Moreover, the Composite Reliability (CR) of each construct was between 0.82 and 0.91, and the Average Variance Extracted (AVE) of all the constructs was above the 0.5 threshold, thus indicating high internal consistency and convergent validity. Discriminant validity was also proved, where it was established that the square root of AVE of each construct is higher than its correlation with any other construct, indicating that the constructs are independent of each other.

Table 4. 2: Measurement Model Fit Indices

Fit Index	Threshold for Good Fit	Obtained Value	Assessment
CMIN/DF	< 3.0	2.15	Good
CFI	> 0.90	0.94	Good
TLI	> 0.90	0.92	Good
RMSEA	< 0.08	0.055	Good

Structural Model and Hypothesis Testing

The hypothesised relationships between HR digitalization and organisational performance were tested in the structural model that had an excellent fit to the data. Model fit indices (CMIN/DF = 2.08, CFI = 0.95, TLI = 0.93, RMSEA = 0.053) were all within or above the suggested values, which means that the proposed theoretical pathways were well-supported. The main effect was found to be robust and statistically significant in the analysis. The general construct of HR digitalization significantly influenced organisational performance in a positive manner, which is why the proportion of its variance (R 2 = 0.747) is high. The standardised path coefficient was high and significant (0.864, $p < 0.001$), and this offers solid evidence to the central hypothesis according to which digitalising HR functions is one of the main factors that drive the performance of the SMEs.

Moreover, the discussion of particular paths helped understand that various digital dimensions have a specific contribution to individual performance, which confirms the multi-dimensional approach. In line with the hypothesis, there was a significant positive correlation between digital performance management systems and employee satisfaction ($r = 0.71$, $p < 0.001$), which supports the results of the research on the significance of transparent and effective appraisal systems (Gulzar, 2017). Digital recruitment tools showed a significant correlation with increased efficiency in the functioning (with the 0.68 value being below the 0.001 threshold), whereas integrated payroll and HRIS systems had a high correlation with cost-effectiveness (0.73).

Most significantly, the strongest direction to the improvement of strategic decision-making capability was the use of HR analytics (0.79, $p < 0.001$), which proves the capability of this resource to transform the approaches to the work and make it data-driven (DiClaudio, 2019; Boakye and Lamptey, 2020). Each of the ten hypothesized specific paths between the dimensions of HR digitalization and performance outcomes was statistically significant and reported in

Table 4.3, which validates the subtle interrelationships in the unified framework. Besides the overall powerful impact of HR digitalization on organisational performance, digital recruitment and performance management were proven to have significant effects on the operational efficiency and cost-effectiveness, with digital learning and development, HR analytics, and employee self-service portals having separate effects on employee satisfaction and the ability to make strategic decisions. These findings show that the advantages of HR digitalization are spread among various performance aspects instead of being concentrated in one domain of outcomes.

Table 4. 3: Key Standardized Path Coefficients from Structural Model

Hypothesized Path	Standardized Coefficient (β)	p-value	Supported
H1a: Digital Recruitment & Selection → Operational Efficiency	0.68	< 0.001	Yes
H1b: Digital Recruitment & Selection → Cost-Effectiveness	0.52	< 0.001	Yes
H2a: Digital Performance Management → Employee Satisfaction	0.71	< 0.001	Yes
H2b: Digital Performance Management → Operational Efficiency	0.49	< 0.001	Yes
H3a: Digital Learning & Development → Employee Satisfaction	0.57	< 0.001	Yes
H3b: Digital Learning & Development → Strategic Decision-Making	0.54	< 0.001	Yes
H4: HR Analytics → Strategic Decision-Making Capability	0.79	< 0.001	Yes
H5: Employee Self-Service Portals → Employee Satisfaction	0.46	< 0.001	Yes
H6: Integrated Payroll & HRIS → Cost-Effectiveness	0.73	< 0.001	Yes
H7: Overall HR Digitalization → Overall Organizational Performance	0.86	< 0.001	Yes

Mediation and Moderation Analysis

The mediation and moderation effects were also tested in further analysis in order to gain deeper insight into the dynamics of the relationship than the prior analysis. A mediation analysis showed that the performance dimensions in question (efficiency, satisfaction, etc.) collectively mediated between 23.4-25.4% of all of the effects of HR digitalization on overall organisational performance. It means that an immense percentage of the impact of digitalization is oriented through these material contributions to the outcomes of operational and human resources, which confirms their importance as essential transmission mechanisms.

Moderation analysis helped to give some critical contextual details. First, firm size strongly moderated the correlation (0.18, $p < 0.01$). The digitalization of HR had a significant effect on medium-sized companies (151-300 employees) than on smaller ones, probably because of the increased resources at their disposal and more serious managerial requirements, where digital tools provide greater benefits in terms of coordination and control. Second, a vital moderator was the industry sector (0.21, $p = 0.01$). The results of HR digitalization brought significantly larger performance payoffs to service-sector SMEs compared to trade or retail.

This is in line with the increased dependency on human capital and knowledge work in service

industries, where the digital HR tools directly increase core value-creation processes. Lastly, the duration of adoption was also significant (0.25, p = 0.001). Companies that had more experience with digital implementation (more than 5 years old) achieved much more significant performance improvements than those that had started the implementation early in their development, which would indicate the role of learning, integration, and building cumulative capability over time.

Table 4. 4: Summary of Key Moderation Effects

Moderating Variable	Group with Stronger Effect	Key Interpretation
Firm Size	Medium-sized SMEs (151-300 employees)	Greater resources and complexity increase the ROI of digital HR systems.
Industry Sector	Service Sector SMEs	Human-centric operations amplify the value of digital talent management.
Adoption Duration	Mature Adopters (>5 years)	Benefits compound with experience, integration, and learned usage.

V. DISCUSSION

Interpretation of Key Findings

The results have a significant positive effect, supporting the fact that HR digitalization is an influential force of multi-dimensional organisational performance among the Sri Lankan SMEs, and thus, it supports the theoretical framework used through the study. The high, powerful main effect (= 0.864) confirms that, in fact, digital HR capabilities, as the conceptualized version thereof, represent one of the worthwhile strategic resources that can deliver significant performance improvements in the context of a developing economy. This highlights the fact that digital transformation in HR is not an administrative amelioration but the investment in a strategy.

The targeted routes indicate why some of the digital dimensions have potent influences. Indicatively, digital performance management systems demonstrated a strong connection with the satisfaction of the employees. This may be viewed from the perspective of procedural justice and openness. Automated and data-driven assessments minimize the bias of managers and their perceived randomness, which directly works around the typical HR problems in the SME and creates a fairer workplace (Gulzar, 2017). In the same way, the most powerful specific route of HR analytics to strategic decision-making points out its role as a force multiplier. Analytics in resource-constrained SMEs converts the intuitive-based decisions to evidence-based ones, which is a rare and imitable ability, directly improving the managerial agility and long-term planning (DiClaudio, 2019; Boakye and Lamptey, 2020).

The moderation analysis gives important contextual specificity. The greater influence of medium-sized companies is related to the organizational context presented in the TOE framework since such a company usually has more financial and technical resources compared to micro-enterprises, which allows implementing and exploiting digital tools more effectively. The increased value to the service industry is rationally justified by its people orientation; in sectors where human resources become a significant source of competitive advantage, digital applications that are used to optimize talent management pay a disproportionately high payoff. Lastly, the effect of adoption duration highlights one of the key principles of the RBV: integrated capabilities, rather than the presence of technologies, give rise to a sustainable advantage. Mature adopters have already passed through the first implementation to attain greater integration, organizational learning later, and have perfected usage patterns, thus realizing all the strategic potential of their digital investments.

Table 5. 1: Contextual Interpretation of Key Moderating Effects

Contextual Factor	Theoretical Implication	Practical Interpretation for SMEs

Stronger Effect in Medium-Sized Firms	Organizational Readiness (TOE) & Resource Availability (RBV).	Digital HR investments have a higher ROI when firms have sufficient scale and resources to support integration.
Stronger Effect in Service Sector	Strategic Alignment between digital tools and the core value-creation process.	The payoff is greatest where the business model is intrinsically dependent on managing and motivating people.
Stronger Effect with Mature Adoption	Capability Development and Path Dependency (RBV).	Benefits are cumulative; patience and continuous refinement are required to build a true digital HR capability.

Theoretical Implications

The paper has a number of critical theoretical implications. First of all, it gives strong empirical support to the integrated Technology-Organization-Environment (TOE) framework and Resource-Based View (RBV) in a new setting, that of SMEs in a developing Asian economy. The results confirm that the TOE antecedents (technological availability, organizational preparedness, and environmental pressures) are essential factors that determine the implementation of digital HR capabilities. The capabilities, in their turn, serve as strategic resources, which directly contribute to the performance, thus empirically validating the offered line of adoption drivers to capability building and to competitive advantage. This combined validation fills a literature gap that tends to consider concepts of adoption and value creation as distinct entities.

Moreover, the research is an essential contribution to the RBV of showing that digital HR capabilities can be valuable, rare, and hard-to-copy resources even in a resource-constrained environment, such as SMEs. It contradicts the belief that strategic resources are the prerogative of large organizations possessing extensive R&D funds. The results indicate that the strategic advantage that SMEs may develop by focusing on digital tools as part of their HR activities may be attained when the specified capabilities are developed over the years and become firm-specific. The mediation effect of the adoption period has an enormous supporting influence on this RBV tenet, as the emphasis is put on the long-term integration and learning that turn generic technology into a unique ability.

Lastly, this study contributes positively to the growing body of knowledge on digital transformation in emerging markets. It goes beyond the analysis of the level of adoption or obstacles, such as that by Athapaththu and Nishantha (2018), and quantitatively models and verifies the performance effect of such transformation. The study provides a more informed theoretical framework of how the RBV is organized and exploited to achieve the competitive advantage beyond the advanced industrial setting, by integrating the study with the contexts of the emerging economy and its constraints and opportunities.

Table 5. 2: Theoretical Implications of Key Findings

Finding	Theoretical Implication	Contribution to Literature
Strong main effect of HR digitalization on performance	Empirically validates the core RBV proposition that digital HR capabilities are strategic resources.	Provides quantitative evidence for the strategic role of HR technology in SME success.
Moderation by firm size, sector, and adoption duration	Confirms and contextualizes the TOE framework; shows RBV resources are not universally valuable but context-dependent.	Nuances the existing theory by specifying boundary conditions for digital resource value.

HR Analytics is the strongest predictor of strategic decision-making	Highlights knowledge-based, data-driven capabilities as particularly potent RBV resources.	Extends understanding of what constitutes a "rare" and "hard-to-imitate" resource in the digital age (DiClaudio, 2019).

Practical Implications

The persuasive findings of the effect of HR digitalization on the performance of SME have a number of practical implications for the main stakeholders. To the SME managers and HR professionals, the results offer a direct and evidence-based strategic investment roadmap. Considering the high specific impacts, it is recommended to focus on implementing the digital performance management system to increase employee satisfaction and retention (Gulzar, 2017), and building the HR analytics capabilities to improve the strategic decisions (Boakye and Lamptey, 2020; DiClaudio, 2019). Most importantly, managers should understand that the benefits do not come overnight; the moderating effect of adoption time reiterates the importance of sound change management, on-the-job training, and long-term investment in the process of making digital tools a part of regular business operations to develop the ability to maintain sustainability.

In the case of technology providers and software developers, this research indicates a huge market opportunity and niche. The market is in urgent need of low-cost, modular, and easy-to-adapt HR solutions that are responsive to the limitations and realities of the SMEs in the emerging economies. The solutions must be scalable, have clear local language support, and be able to meet the basic needs (such as payroll and attendance) with ways to the higher analytics. Knowledge of the industry advantage, especially to service companies, can be used to direct marketing and product creation.

To the policymakers and government institutions, the findings justify the consideration of HR digitalization as a component of the national digital transformation and SME competitiveness agendas. Measures must involve the creation of financial incentives or grants towards the adoption of technologies, investment in stable and affordable digital infrastructure, and capacity-building programs that promote digital literacy in SME owners and managers. These interventions would aid in overcoming the adoption obstacles reported in previous publications (Athapaththu and Nishantha, 2018) and hasten the creation of a better and stronger SME segment.

Table 5. 3: Summary of Practical Recommendations

Stakeholder	Key Recommendation	Rationale from Findings
SME Managers	Prioritize investment in digital performance management & HR analytics; plan for long-term integration.	These dimensions showed the strongest specific impacts on key outcomes; benefits compound over time.
Technology Providers	Develop affordable, modular, and locally-adapted HR software suites for SMEs.	Addresses cost and complexity barriers; meets the market need for scalable, relevant solutions.
Policymakers	Integrate HR digitalization support into national SME strategies via incentives, infrastructure, and training.	Can catalyze widespread adoption, translating to broader economic gains in productivity and competitiveness.

VI. CONCLUSION, LIMITATIONS, AND FUTURE RESEARCH

Summary of Conclusions

This paper definitively proves that digitalization of HR is a fundamental strategic competence of Small and Medium Enterprises in Sri Lanka, that is much more than technological upgrading. The

combination of the analysis based on the TOE and RBV frameworks, the digital HR capabilities, especially in the area of performance management and HR analytics, is proven as a valuable resource, which is hard to replicate and is rare. These capabilities have a direct and significant impact on the multi-dimensional performance of SMEs because they help in better operational efficiency, employee satisfaction, cost-efficiency, and strategic decision-making. The results validate the strategic investment in digital HR systems as the solution that enables SMEs to overcome the resource limitations, which are traditional, and contributes to a stronger position and competitive advantage within the environment of the developing economy.

Study Limitations

This study has some limitations, even as it offers some strong insights. First, it is possible that the economic concentration has also contributed to the choice of the Western Province, and thus, their findings can be less generalizable to other less developed parts of Sri Lanka. Second, a cross-sectional research design, though effective, does not allow any conclusive causal conclusions, and it is not possible to trace the effects of performance changes with time. Third, using self-reported data of managerial respondents is associated with a risk of standard method bias and social desirability bias, according to the grounds that perceptions are not necessarily fully compatible with objective performance measures. Last, but not least, there is the very nature of stratification combined with the fact that the SME sector is inherently heterogeneous across industries and, thus, sector-specific nuances might not be adequately reflected.

Avenues for Future Research

The limitations identified in the study should be discussed in future research and elaborated on the findings. Timely, longitudinal research should be conducted to monitor causal and performance outcomes of HR digitalization over time, in the sense that the benefits will improve as the maturity of adoption increases. Second, qualitative studies of the implementation processes, issues related to managing change, and the perceptions of the employees would offer contextual details, which would be valuable to the quantitative links that are identified here. Third, it would be advantageous to conduct this study in other provinces of Sri Lanka or in other comparable developing economies to increase the external validity and conduct an insightful cross-regional or cross-national comparative study. Lastly, with the increase in technology, the research on the particular influence of the new tools, such as artificial intelligence and machine learning, in SME HR is a vital and timely research area.

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