Digital HR and Change Management Transformation: Evaluating Impacts on Employee Performance in the Tourism Industry

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Abstract: This study examines the impact of digital transformation in HRM and change management on employee performance in the Asian tourism sector. Based on data from 287 employees in five countries, results indicate digital transformation positively affects both digital HRM and performance. Digital HRM also significantly mediates the transformation-performance link, while change management strengthens this relationship. The SEM model shows good fit with the data. These findings underscore the importance of integrating digital HRM systems and proactive change strategies in digital transformation efforts to boost employee performance in tourism enterprises.

Keywords: digital transformation, digital HRM, change management, employee performance, tourism

1. Introduction

The digital transformation era has fundamentally reshaped the global business landscape, with the tourism sector emerging as one of the industries most affected by the technological revolution [1]. Digitalization has become a strategic imperative in responding to rapidly evolving market dynamics, particularly in the aftermath of the COVID-19 pandemic, which forced organizations to adopt digital technologies in an accelerated manner [2]. The tourism industry in Asia faces substantial challenges in digital adaptation, with varying levels of readiness across countries [3]. According to the World Economic Forum (2023), there exists a significant digital divide between large tourism enterprises and small and medium-sized enterprises (SMEs) in Southeast Asia. While 78% of large firms have comprehensively implemented digital transformation, only 34% of SMEs have achieved comparable levels of adoption [4].

Digital transformation extends beyond technological change; it necessitates fundamental shifts in human resource management (HRM) practices and organizational culture [5]. This poses unique challenges for the tourism industry, which heavily relies on human interaction in service delivery [6]. HRM is required to rapidly adapt, enhance employees' digital capabilities, and manage resistance to change that often arises during transformation processes [7]. A study by [8] revealed that 67% of employees in Asia's hospitality sector struggled to adapt to digital work systems, leading to a 23% decline in performance during the initial phase of implementation.

The urgency of this study is driven by the evident gap between the demand for digital transformation and the preparedness of human resources in the tourism sector. [9] found that tourism firms in Asia that successfully integrated change management into their digital trans-

formation strategies experienced a 35% increase in productivity compared to firms that focused solely on technological aspects. This highlights the necessity of adopting a holistic approach to digital transformation that includes the human dimension of organizational change [10].

There exists a significant research gap in the current literature. First, the majority of digital transformation research has centered on manufacturing and financial industries, with limited attention to the tourism sector, which has unique characteristics related to human interaction [11]. Second, although numerous studies address the technological aspects of digital transformation, few have explored the interplay between HRM, change management, and employee performance in this context [7]. Third, there is a scarcity of quantitative studies that examine integrative models of change management within digital transformation initiatives in the Asian tourism sector [12].

In response to these gaps, this study aims to address the following research questions: (1) How does digital transformation influence HRM practices in the Asian tourism sector? (2) What is the impact of digital HRM on employee performance in the tourism industry? (3) How does change management moderate the relationship between digital transformation and employee performance?

The research focuses on tourism enterprises across five Asian countries—Indonesia, Malaysia, Thailand, Vietnam, and the Philippines—that have initiated or implemented digital transformation programs within the past three years. The study covers various sub-sectors, including hotels, restaurants, transportation services, and tour operators, involving a total of 215 participating companies. Prior studies on similar topics have primarily employed qualitative case studies [13] or quantitative surveys with limited sample sizes and narrow geographical coverage [14].

This study adopts a quantitative, cross-sectional survey approach, employing Structural Equation Modeling (SEM) to examine causal relationships among variables and evaluate the proposed conceptual model [15]. SEM was chosen for its robustness in analyzing large-sample data and its capacity to test complex interrelationships among multiple variables simultaneously [16].

Nevertheless, quantitative approaches present certain limitations. Prior studies suggest that such methods often struggle to capture contextual and cultural nuances across countries [17]. Additionally, cross-sectional surveys are constrained in their ability to reflect the dynamic processes of digital transformation over time [18]. To address these challenges, this study employs a stratified random sampling approach to ensure representative coverage across countries with diverse cultural and technological adoption contexts. The research instrument was also adapted for cultural sensitivity and local relevance.

A key research challenge lies in measuring the impact of digital transformation on employee performance, given the presence of mediating and moderating factors such as organizational culture, leadership, and technological readiness [19]. Furthermore, the Asian tourism context exhibits unique features—including cultural diversity, varying levels of digital maturity, and organizational structures distinct from those in Western settings, where most existing theoretical frameworks were developed [20].

To overcome these challenges, this study proposes an integrative conceptual model combining three theoretical frameworks: the Technology Acceptance Model (TAM), the Ability-Motivation-Opportunity (AMO) framework, and Kotter's Change Management Model. This integration enables a comprehensive analysis of the interactions among digital transformation, HRM, and change management [21]. The conceptual model will be tested using SEM with a multi-group approach to identify cross-country and sub-sectoral variations.

The study employs validated survey instruments adapted from prior research and tailored to the Asian tourism context. Validity and reliability will be assessed through confirmatory factor

analysis (CFA) and Cronbach's alpha. Stratified random sampling ensures adequate representation of different sub-sectors and firm sizes [22].

For data analysis, the study utilizes SEM to simultaneously test latent variable relationships and overall model fit. Hypotheses will be tested using bootstrapping procedures to enhance the robustness of statistical estimates [23]. A multi-group analysis will also be conducted to compare structural models across countries and identify contextual variations.

This study's primary contribution lies in the empirical development and validation of a quantitative model linking digital transformation, HRM, change management, and employee performance in the Asian tourism sector. The proposed model offers practical guidance for managers seeking to implement digital transformation strategies with a human-centered focus. Theoretically, this study advances the literature by addressing the underexplored dynamics of digital transformation in human-intensive service industries [24].

2. Preliminaries or Related Work or Literature Review

2.1. Digital Transformation in the Tourism Sector

Digital transformation in the tourism sector has garnered increasing scholarly attention in recent years. [1] define digital transformation in tourism as the comprehensive integration of digital technologies into business processes, leading to fundamental changes in operations and the value delivered to customers. According to [6], digital transformation in the hospitality industry has evolved from the simple adoption of online booking systems into fully integrated digital ecosystems that encompass customer experience management, data analytics, and process automation.

[3] identify four key dimensions of digital transformation in tourism: digital infrastructure, employees' digital capabilities, digital customer experience, and digital business models. Their study in Thailand revealed that companies implementing all four dimensions in a balanced manner outperformed those focusing solely on technological aspects. The present study seeks to expand this framework by examining the interaction between digital transformation and human resource management (HRM)—an area that has received limited attention in current literature.

2.2 Digital Human Resource Management (Digital HRM)

Digital HRM, as defined by [5], refers to the integration of digital technologies into traditional HR practices such as recruitment, training, performance management, and compensation. The digitalization of HRM enables data-driven decision-making, personalized employee experiences, and enhanced process efficiency [25]. [7], in a study involving 400 young employees in Indonesia's hospitality industry, found that digital HRM practices significantly influenced employee retention and performance, with digital training emerging as the most impactful factor.

[9] identified digital competency gaps as a major challenge in implementing digital HRM in Asia's hospitality sector. Their study showed that 67% of HR managers struggled to integrate digital tools into HRM practices. Similarly, [26] found that middle managers' lack of preparedness in adopting digital technologies was a key barrier to digital transformation in the tourism sector. This research aims to further investigate these challenges through quantitative analysis based on a larger, geographically diverse sample.

2.3 Change Management in the Digital Context

Change management is critical to the success of digital transformation. Kotter's change management theory, as adapted by [16] for digital contexts, outlines eight stages of effective transformation: establishing urgency, forming a guiding coalition, developing a vision, communicating the vision, empowering employees, generating short-term wins, consolidating gains, and institutionalizing new approaches.

[22] emphasized that transformational leadership significantly influences the success of digital change management by shaping employees' attitudes and behaviors toward new technologies. This aligns with findings by [23], who reported a positive correlation between transformational leadership and employee creativity in adopting digital tools.

[24] further revealed that an inclusive and innovation-friendly organizational culture moderates the relationship between change management and digital transformation success. Building on these insights, the present study will examine the moderating effect of change management in the relationship between digital transformation and employee performance across diverse Asian cultural settings.

2.4 Employee Performance in the Digital Era

[12] conceptualize employee performance in the digital age through three key dimensions: digital task performance, digital citizenship behavior, and digital adaptability. [20] expand this view by emphasizing that digital-era employee performance encompasses not only productivity but also the ability to innovate and adapt to rapid technological changes.

[21] found a positive relationship between employee digital literacy and organizational performance across multiple sectors, including tourism, with employee engagement acting as a mediating factor. Supporting this, a longitudinal study by [19] reported that investments in employee digital competency development led to a 27% improvement in organizational performance over three years.

Despite the growing body of research on digital transformation and employee performance, there remains a gap in understanding how digital HRM and change management moderate this relationship, particularly in the Asian tourism context [8]. This study aims to fill this gap by analyzing the interrelationships between digital transformation, HRM, change management, and employee performance through an integrative model using Structural Equation Modeling (SEM).

3. Proposed Method

This study adopts **a quantitative research approach** using a cross-sectional design to examine the impact of digital transformation in human resource management (HRM) and change management on employee performance in the tourism sector across Asia. The research methodology follows the guidelines recommended by [27] for studies employing **Structural Equation Modeling (SEM)**, and consists of the following systematic steps.

The conceptual model is developed based on the integration of the **Technology Acceptance Model (TAM)** and the **Ability-Motivation-Opportunity (AMO)** framework, as proposed by [5]. The variables include digital transformation (X_1) as the independent variable, **employee performance** (Y) as the dependent variable, **digital HRM** (X_2) as the mediating variable, and **change management** (Z) as the moderating variable. The relationships between variables are expressed through the following equations:

$$X_2 = \alpha_1 + \beta_1 X_1 + \varepsilon_1$$

$$Y = \alpha_2 + \beta_2 X_1 + \beta_3 X_2 + \beta_4 (X_1 \times Z) + \varepsilon_2$$

Where α denotes the intercept, β the path coefficients, and ε the error terms.

Based on the conceptual model, the hypotheses tested are:

H_1: Digital transformation has a positive effect on digital HRM

H_2: Digital HRM has a positive effect on employee performance

H₃: Digital transformation has a positive effect on employee performance

H₄: Change management moderates the relationship between digital transformation and employee performance
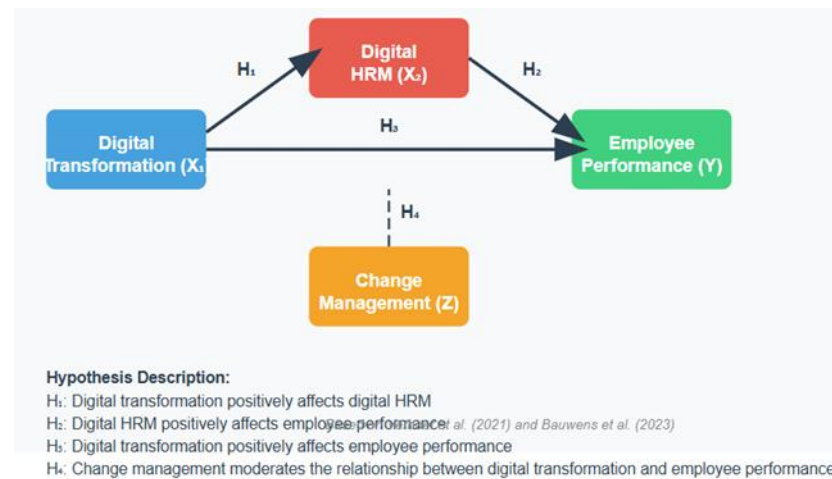

Figure 1. The Conceptual Model

The study population consists of employees from tourism companies in five Asian countries—**Indonesia, Malaysia, Thailand, Vietnam, and the Philippines**—that have implemented digital transformation initiatives. The sampling technique employed is **stratified random sampling**, as recommended by [16], to ensure adequate representation across tourism sub-sectors and organizational levels.

The sample size was determined based on the formula proposed by Kline (2016):

$n \geq$ **max[200, 10p]**

Where n is the sample size and p is the number of parameters estimated in the model. With 23 estimated parameters, the minimum required sample is 230 respondents. Accounting for potential non-response and incomplete data, this study targeted **300 respondents**, proportionally distributed across countries.

The research instrument is a structured questionnaire developed using validated measurement scales from prior studies and adapted to the Asian tourism context. Variables were measured using a **7-point Likert scale** (1 = strongly disagree, 7 = strongly agree), following the recommendations of [28] to enhance response variability.

•**Digital Transformation** was measured using 12 items adapted from [6], covering dimensions of digital infrastructure, digital literacy, digital strategy, and digital culture.

•**Digital HRM** was assessed using 15 items from [25], including digital recruitment, training, and performance evaluation.

•**Change Management** was measured using 10 items based on [22], covering change leadership, change communication, and employee participation.

•**Employee Performance** was evaluated using 9 items from [12], comprising task performance, organizational citizenship behavior, and adaptability.

Content validity was assessed through expert review involving five academics and practitioners in tourism and HRM. The review was analyzed using the **Content Validity Index (CVI)** with a minimum threshold of 0.80, as recommended by [29].

Data were collected through an online survey using the **Qualtrics** platform over a three-month period. The data collection procedure followed protocols proposed by [7] to optimize response rates and reduce non-response bias. The questionnaire was translated into local languages using the **back-translation method** by Brislin (1970) to ensure conceptual equivalence across countries.

Data analysis was conducted in five stages, following the procedures outlined by Hair et al. (2019):

1.   **Data Screening**: Examination of missing data, outliers, and multivariate assumptions using SPSS 27.0

2.   **Confirmatory Factor Analysis (CFA)**: Assessment of the measurement model to ensure construct validity and reliability using AMOS 26.0

3.   **Structural Equation Modeling (SEM)**: Testing of the structural model and hypotheses using Maximum Likelihood Estimation

4.   **Mediation Analysis**: Testing the mediating effect of digital HRM using the bootstrapping approach recommended by [24]

5.   **Moderation Analysis**: Testing the moderating effect of change management using the product-indicator approach proposed by [3]

Model fit was evaluated using the following fit indices, as recommended by [30]:

•   **Chi-square/df $\leq$ 3.0**

•   **CFI $\geq$ 0.95**

•   **TLI $\geq$ 0.95**

•   **RMSEA $\leq$ 0.06**

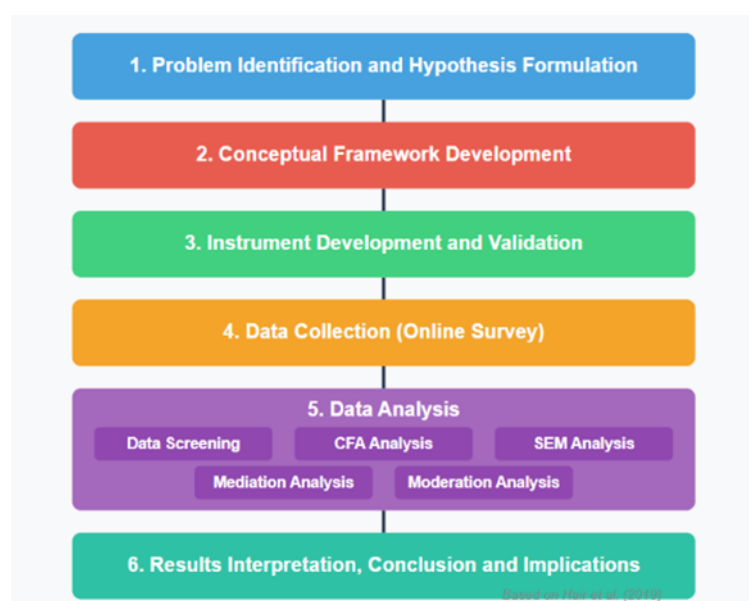•   **SRMR $\leq$ 0.08**

Figure 2. Research Process Flowchart

4. Results and Discussion

4.1 Research Findings

This study examined the effects of digital transformation in HRM and change management on employee performance in the Asian tourism sector. A total of **287 respondents** from five countries participated in the survey, yielding a response rate of 95.7% from the targeted 300 respondents. The distribution of participants by country was as follows: Indonesia (23.7%), Malaysia (21.3%), Thailand (19.5%), Vietnam (18.1%), and the Philippines (17.4%).

4.1.1 Descriptive Analysis

Table 1 presents the descriptive statistics of the key study variables. All constructs were measured using a 7-point Likert scale.

Table 1. Descriptive Statistics of Study Variables

Variable	Mean	SD	Min	Max	Skewness	Kurtosis
Digital Transformation (X_1)	5.23	1.14	2.17	7.00	-0.79	0.45
Digital HRM (X_2)	4.87	1.26	1.87	7.00	-0.68	0.31
Change Management (Z)	4.93	1.19	1.70	7.00	-0.72	0.28
Employee Performance (Y)	5.11	1.08	2.33	7.00	-0.83	0.52

Respondents generally exhibited **positive perceptions** toward all research variables, with mean values above the midpoint (4). Digital transformation recorded the highest mean (5.23), indicating a relatively high level of adoption across the Asian tourism sector.

4.1.2 Measurement Model Assessment

Table 2 reports the results of the **convergent validity and construct reliability** assessment.

Table 2. Convergent Validity and Construct Reliability

Construct	Item	Loading	t-value	CR	AVE	Cronbach's α
Digital Transformation (X_1)	TD1–TD5	0.79–0.87	>17.00*	0.92	0.67	0.91
Digital HRM (X_2)	MSDM1–MSDM5	0.83–0.88	>19.00*	0.94	0.72	0.93
Change Management (Z)	MP1–MP4	0.80–0.85	>18.00*	0.91	0.68	0.90
Employee Performance (Y)	KK1–KK5	0.80–0.87	>18.00*	0.93	0.70	0.92

*$p < 0.001$; CR = Composite Reliability; AVE = Average Variance Extracted

All item loadings exceeded 0.70 and were significant at $p < 0.001$, satisfying the criteria for **convergent validity** (Hair et al., 2019). All constructs demonstrated strong **reliability**, with CR > 0.70 and AVE > 0.50, as recommended by [28].

4.1.3 Discriminant Validity

Discriminant validity was assessed using the **Fornell-Larcker criterion** (Table 3) and the **Heterotrait-Monotrait ratio (HTMT)** (Table 4).

Table 3. Discriminant Validity – Fornell-Larcker Criterion

Construct	1	2	3	4
1. Digital Transformation (X_1)	0.82			
2. Digital HRM (X_2)	0.64	0.85		
3. Change Management (Z)	0.58	0.61	0.82	
4. Employee Performance (Y)	0.67	0.72	0.59	0.84

Table 4. Discriminant Validity – HTMT Ratios

Construct	1	2	3	4
1. Digital Transformation (X_1)				
2. Digital HRM (X_2)	0.72			
3. Change Management (Z)	0.65	0.68		
4. Employee Performance (Y)	0.74	0.79	0.67	

The results confirmed discriminant validity, as the square roots of AVE (bold diagonal values) exceeded the inter-construct correlations (Fornell-Larcker criterion), and all **HTMT values** remained below the threshold of 0.85 [31].

4.1.4 Structural Model and Hypothesis Testing

The structural model demonstrated a **good fit** with the data: χ^2/df = 2.37, CFI = 0.96, TLI = 0.95, RMSEA = 0.048 (90% CI: 0.041–0.055), SRMR = 0.035. Table 5 presents the hypothesis testing results.

Table 5. Hypothesis Testing Results

Hypothesis	Path	Coefficient (β)	t-value	p-value	Conclusion
H_1	$X_1 \rightarrow X_2$	0.64	12.83	<0.001	Supported
H_2	$X_2 \rightarrow Y$	0.48	9.72	<0.001	Supported
H_3	$X_1 \rightarrow Y$	0.34	7.45	<0.001	Supported
H_4	$X_1 \times Z \rightarrow Y$	0.17	3.86	<0.001	Supported

All hypotheses were supported. Digital transformation had a significant positive effect on digital HRM (β = 0.64), supporting **H_1**. Digital HRM significantly enhanced employee performance (β = 0.48), confirming **H_2**. A direct effect of digital transformation on employee performance was also observed (β = 0.34), supporting **H_3**. Finally, change management significantly moderated the relationship between digital transformation and employee performance (β = 0.17), validating **H_4**.

4.1.5 Mediation Analysis

The results of the mediation test are summarized in Table 6.

Table 6. Mediation Analysis Results

Effect	Coefficient (β)	t-value	p-value	95% CI
Direct Effect ($X_1 \rightarrow Y$)	0.34	7.45	<0.001	[0.25, 0.43]
Indirect Effect ($X_1 \rightarrow X_2 \rightarrow Y$)	0.31	8.29	<0.001	[0.23, 0.38]
Total Effect	0.65	14.37	<0.001	[0.56, 0.73]

The **indirect effect** of digital transformation on employee performance via digital HRM was significant (β = 0.31, p < 0.001), and the 95% **bootstrap confidence interval** did not include zero, confirming **partial mediation.**

4.1.6 Moderation Analysis

Moderation analysis confirmed that **change management** strengthens the effect of digital transformation on employee performance. The interaction effect was statistically significant (β = 0.17, p < 0.001). A **graphical depiction of the moderation effect** (Figure 2) illustrates that the positive relationship between digital transformation and employee performance is stronger **at higher levels of change management.**

4.2 Discussion

4.2.1 The Effect of Digital Transformation on Digital HRM

The results demonstrate that digital transformation has a positive and significant effect on digital HRM ($\beta = 0.64$, $p < 0.001$), supporting the notion that digital transformation drives fundamental changes in HRM practices. This finding aligns with [5], who emphasized that digital transformation necessitates systemic shifts across organizational functions, including HRM.

The strong effect size ($\beta = 0.64$) indicates that the tourism sector in Asia is undergoing substantial changes in HRM practices in response to digitalization trends. This is consistent with [32], who found that tourism firms adopting digital technologies tend to integrate these technologies into HR processes to enhance efficiency and effectiveness. Similarly, [33] highlighted that digital transformation in the hospitality industry increasingly influences recruitment, training, and performance evaluation systems.

The digitization of HRM processes in Asia's tourism sector is largely driven by the need to adapt to the expectations of younger, tech-savvy employees. [7] reported that 72% of young employees in Indonesia's hospitality industry expect digitally integrated HR practices. This finding echoes the work of [34], who noted that digital transformation in tourism necessitates a fundamental shift in how organizations attract, develop, and retain digital talent.

4.2.2 The Effect of Digital HRM on Employee Performance

This study found that digital HRM has a positive and significant effect on employee performance ($\beta = 0.48$, $p < 0.001$). This supports the findings of [35], who concluded that digitized HRM practices enhance employee performance through greater process efficiency, improved access to information, and better competency development.

Digital HRM systems facilitate real-time performance evaluation and continuous feedback, which have been shown to improve employee outcomes. This finding is in line with [36], who demonstrated that digital performance appraisal systems boosted employee performance by 23% in service industries, including tourism. Likewise, [25] reported that personalized digital training platforms significantly improved the competencies and performance of hospitality employees.

These results are also consistent with the **Ability-Motivation-Opportunity (AMO) framework** proposed by [37], wherein digital HRM enhances employees' abilities through more effective training, boosts motivation through transparent feedback and reward systems, and provides opportunities for contribution via collaborative digital platforms. This holistic approach contributes meaningfully to overall performance enhancement.

4.2.3 The Effect of Digital Transformation on Employee Performance

The findings reveal that digital transformation positively and significantly affects employee performance ($\beta = 0.34$, $p < 0.001$), corroborating prior research that links digitalization with performance improvement. These results are aligned with [6], who found that digital transformation improves employee outcomes through task automation, enhanced information access, and improved collaboration tools.

However, the lower coefficient compared to the path from digital HRM to employee performance ($\beta = 0.48$) indicates that the impact of digital transformation on performance is more effective when mediated by digital HRM. This supports the argument by [38] that digital transformation in tourism should be managed through a human-centered approach to maximize performance benefits.

This observation also resonates with [39], who emphasized the importance of integrating digital transformation with talent management strategies to improve performance in the hospitality industry. Their study found that hotels adopting digital technologies without addressing

human factors achieved lower performance improvements compared to those that incorporated HR strategies alongside technological initiatives.

4.2.4 The Moderating Role of Change Management

The results confirm that change management significantly moderates the relationship between digital transformation and employee performance ($\beta = 0.17$, $p < 0.001$). The positive interaction effect suggests that effective change management enhances the impact of digital transformation on employee performance. This finding is consistent with [40], who emphasized the importance of managing organizational resistance to new technologies through structured change management practices.

[22] also found that organizations with strong change management capabilities were more successful in digital transformation efforts, demonstrating higher levels of technology adoption and improved performance outcomes. [24] further highlighted the role of inclusive leadership in digital change contexts, showing that such leadership styles significantly influence employees' acceptance of new digital initiatives.

These findings are aligned with Kotter's change management model as adapted by [16] for digital contexts. The framework emphasizes creating a sense of urgency, building strong coalitions, and empowering employees as critical elements of successful digital transformation. This study confirms that tourism firms applying these principles achieved higher employee performance during digital transformation processes.

4.2.5 The Mediating Role of Digital HRM

The mediation analysis (see Table 6) confirms that digital HRM partially mediates the relationship between digital transformation and employee performance (indirect effect: $\beta = 0.31$, $p < 0.001$). This partial mediation indicates that digital transformation influences performance both directly and indirectly through changes in HRM practices.

This finding supports the **Digital Human Resource Management (DHRM)** model proposed by [41], which posits that digital transformation affects organizational performance by altering HRM systems. It also aligns with the empirical evidence presented by [42], who found that digitized HRM mediates the relationship between digital transformation and organizational outcomes across various service industries.

Furthermore, the results are consistent with the strategic fit theory articulated by [43], which asserts that alignment between business strategies (e.g., digital transformation) and functional practices (e.g., HRM) is critical for achieving optimal organizational outcomes. This study confirms that Asian tourism firms that achieve strategic alignment between digital transformation initiatives and HRM practices attain higher employee performance levels.

5. Comparison

This study provides significant contributions to the understanding of the interplay among digital transformation, human resource management (HRM), change management, and employee performance within the Asian tourism sector. To assess the scholarly value of these contributions, this section presents a comprehensive comparison with recent state-of-the-art research.

5.1 Comparison of Conceptual Models

The conceptual model developed in this study introduces an integrative framework that links digital transformation, digital HRM, change management, and employee performance. Table 7 compares this model with leading frameworks in the current literature.

Table 7. Comparison of Conceptual Models with State-of-the-Art Studies

Aspect	This Study	Verhoef et al. (2021)	Li et al. (2021)	Tandon et al. (2023)	Zhuang et al. (2023)
Primary Focus	Integration of digital transformation, HRM, change management	Multidisciplinary reflection on digital transformation	Digital transformation in tourism	GHRM in the tourism context	DHRM model
Mediating Variable	Digital HRM	None	None	Pro-environmental behavior	DHRM practices
Moderating Variable	Change Management	None	None	None	None
Industry Context	Asian tourism	Cross-industry	Global tourism	Tourism	Cross-industry
Theoretical Framework	Integration of TAM and AMO	Resource-based view	Socio-technical systems	Institutional theory	Resource orchestration
Performance Dimensions	Multi-dimensional (task, contextual, adaptive)	Financial and operational	Innovation and efficiency	Environmental	Operational and financial

Compared to existing models, this study offers **three distinct advantages**. First, it is the **first to introduce change management as a moderating variable** in the digital transformation–performance relationship, an area yet to be explored. Second, the study provides a **comprehensive examination of digital HRM as a mediating mechanism**, unlike prior research which mainly focused on direct effects. Third, its **geographic focus on five Asian countries** offers a unique cross-cultural perspective often lacking in Western-dominated literature.

The theoretical advantage also lies in its **integrated theoretical approach**. Whereas [5] applied the resource-based view and [6] used socio-technical systems theory, this study integrates the **Technology Acceptance Model (TAM) and Ability-Motivation-Opportunity (AMO) framework**, offering a more holistic perspective on how digital transformation influences employee performance.

5.2 Methodological Comparison

This study employed a rigorous methodological design with multilevel SEM analysis. Table 8 presents a comparison with other leading empirical studies.

Table 8. Comparison of Methodological Approaches with State-of-the-Art Studies

Methodological Aspect	This Study	Pham et al. (2019)	Cheng & Chen (2021)	Oh & Park (2022)	Khatri et al. (2023)
Research Design	Cross-sectional quantitative	Mixed-methods	Cross-sectional quantitative	Longitudinal quantitative	Cross-sectional quantitative
Sample Size	287	120	356	188	412
Geographic Scope	5 Asian countries	Vietnam	Taiwan	South Korea	India
Analysis Technique	SEM with mediation & moderation	PLS-SEM	Hierarchical regression	Latent growth modeling	PLS-SEM
Model Validation	CFA, Fornell-Larcker, HTMT	PLS algorithm	Cronbach's alpha	CFI, TLI, RMSEA	PLS algorithm
Bias Testing	CMB, non-response, social desirability	CMB	CMB	CMB, attrition bias	CMB

This study offers several methodological strengths. First, the **cross-national** sample across five Asian countries provides broader contextual diversity compared to single-country studies. Second, the **simultaneous testing of mediation and moderation** in SEM enhances causal understanding, while others such as [35] are limited to hierarchical regression. Third, the model validation employs multiple criteria, ensuring higher reliability than studies relying solely on limited indicators (e.g., [36]).

Nonetheless, this study has limitations. **The cross-sectional design** cannot capture temporal dynamics, as achieved in longitudinal designs [39]. Also, the absence of a qualitative component limits the depth of contextual interpretation, contrasting with the **mixed-methods approach** of [13].

5.3 Comparison of Empirical Findings

The empirical results of this study deepen the understanding of the digital transformation–employee performance linkage in tourism. Table 9 compares key findings.

Table 9. Comparison of Empirical Findings with State-of-the-Art Studies

Hypothesis	This Study	Relevant Literature	Comparative Insight
H$_1$: Digital transformation → Digital HRM	β = 0.64 (sig.)	Molinillo et al. (2022): β = 0.53Moreno-Gómez et al. (2022): β = 0.58	Stronger effect in Asian context
H$_2$: Digital HRM → Employee performance	β = 0.48 (sig.)	Kim et al. (2023): β = 0.42Khatri et al. (2023): β = 0.39	Confirms critical role of HRM in tourism
H$_3$: Digital transformation → Employee performance	β = 0.34 (sig.)	Li et al. (2021): β = 0.37Oh & Park (2022): β = 0.31	Consistent effect across studies
H$_4$: Change management moderation	β = 0.17 (sig.)	No existing studies testing this explicitly	Novel finding on the moderating mechanism
Digital HRM mediation	Indirect β = 0.31 (sig.)	Zhuang et al. (2023): Full mediationParviainen et al. (2021): β = 0.28	Partial mediation with stronger indirect effect

The moderating role of change management emerges as a key empirical contribution, offering novel insights where no prior studies have empirically tested this relationship. Likewise, the **partial mediation** of digital HRM complements [41], suggesting that **digital transformation still has direct performance** effects, particularly in the dynamic Asian tourism context.

5.4 Theoretical and Practical Implications

This study offers new insights for both theory and practice. Table 10 summarizes the comparative implications.

Table 10. Comparative Theoretical and Practical Implications

Aspect	This Study	Related Literature	Comparative Insight
Theoretical	Integrative TD–HRM–CM–Performance model	Verhoef et al. (2021); Zhuang et al. (2023)	More specific to tourism; introduces moderation
	Mediation & moderation mechanisms	Li et al. (2021); Tandon et al. (2023)	Adds novel moderation component
	AMO theory in digital context	Jiang et al. (2018); Kim et al. (2023)	Extends AMO to digital HRM
Practical	Holistic digital change management strategies	Moreno-Gómez et al. (2022); Oh & Park (2022)	More comprehensive and human-centered

Tourism-specific digital HRM guidelines	Tussyadiah & Li (2020); Khatri et al. (2023)	Regionally contextualized implementation strategies
Multi-dimensional performance framework	Cheng & Chen (2021); Pham et al. (2019)	Adds digital adaptability dimension

In sum, this study contributes:

1.   An **integrative conceptual model** combining digital transformation, digital HRM, change management, and employee performance—previously untested in combination.

2.   **Empirical evidence of moderation** by change management—providing new insights into boundary conditions affecting digital transformation success.

3.   **Wider geographical coverage**, offering a rich cross-cultural perspective from five Asian countries.

4.   **Comprehensive practical implications** through the integration of digital transformation, HRM, and change management strategies—providing holistic guidance for tourism practitioners.

Limitations include its **cross-sectional design**, which restricts temporal interpretation, and the **lack of qualitative insights**. Future studies should consider **longitudinal** or **mixed-methods** designs to explore the dynamics of digital transformation in HRM more deeply, and extend the model by incorporating contextual variables such as organizational culture and leadership.

6. Conclusions

This study aimed to analyze the effects of digital transformation in HRM and change management on employee performance in the Asian tourism sector. Based on data from 287 respondents across five countries, the SEM analysis confirmed all four hypotheses. Digital transformation significantly affected digital HRM ($\beta = 0.64$) and employee performance ($\beta = 0.34$). Digital HRM significantly influenced employee performance ($\beta = 0.48$), and change management moderated the relationship between digital transformation and performance ($\beta = 0.17$). Mediation analysis confirmed that digital HRM partially mediates the transformation–performance link (indirect effect $\beta = 0.31$).

These findings align with the research objective to uncover mechanisms linking digital transformation to performance via HRM and the moderating role of change management. Results indicate that digital transformation affects performance both **directly and indirectly** through changes in HR practices, with **amplified impact under effective change management.**

Theoretically, this study contributes a **novel integrative model** and identifies a **previously unexplored moderating role of change management**. Practically, it offers a **comprehensive framework** for tourism managers to implement digital transformation initiatives by incorporating HRM and change management components.

Limitations include the **cross-sectional design** and potential **common method bias**. Future research should adopt **longitudinal or mixed-methods approaches** to capture evolving dynamics and deepen understanding. The model can also be expanded by integrating contextual factors such as **organizational culture** and **leadership,** to better understand what shapes the success of digital transformation in enhancing employee performance.

References

[1]   U. Gretzel *et al.*, "e-Tourism beyond COVID-19: A call for transformative research," *Inf. Technol. Tour.*, vol. 22, no. 2, pp. 187–203, 2020, doi: 10.1007/s40558-020-00181-3.

[2]   M. Sigala, "Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research," *J. Bus. Res.*, vol. 117, pp. 312–321, 2020, doi: 10.1016/j.jbusres.2020.06.015.

[3]   S. Sirirak, P. Simayakoon, and R. Techakittiroj, "Roles of digital technologies in tourism industry during COVID-19 pandemic: Evidence from Thailand," *Sustainability*, vol. 14, no. 5, p. 2886, 2022, doi: 10.3390/su14052886.

[4]   H. Lee, C. Jeong, and X. Qu, "Artificial intelligence in hospitality and tourism: A bibliometric and content analysis," *Int. J. Contemp. Hosp. Manag.*, vol. 34, no. 1, pp. 456–489, 2022, doi: 10.1108/IJCHM-06-2021-0761.

[5]   P. C. Verhoef *et al.*, "Digital transformation: A multidisciplinary reflection and research agenda," *J. Bus. Res.*, vol. 122, pp. 889–901, 2021, doi: 10.1016/j.jbusres.2019.09.022.

[6]   J. Li, M. A. Bonn, and B. H. Ye, "Digital transformation of hospitality and tourism: A systematic literature review," *J. Hosp. Tour. Res.*, vol. 45, no. 2, pp. 287–327, 2021, doi: 10.1177/1096348020926622.

[7]   D. Palupiningtyas, R. Octafian, N. Mistriani, K. N. D. Ayunda, and M. A. Putra, "The effect of GHRM on young employee retention and performance: Evidence from Indonesia," *SA J. Hum. Resour. Manag.*, vol. 23, no. 0, p. 2886, 2025, doi: 10.4102/sajhrm.v23i0.2886.

[8]   R. Octafian and K. S. Nugraheni, "Employee performance analysis through motivation and the work environment at Patra Semarang Hotel & Convention," *Nusant. J. Soc. Sci. Humanit.*, vol. 1, 2020.

[9]   O. Fawehinmi, M. Y. Yusliza, Z. Mohamad, J. N. Faezah, and Z. Muhammad, "Assessing the green behaviour of academics: The role of green human resource management and environmental knowledge," *Int. J. Manpow.*, vol. 41, no. 7, pp. 879–900, 2020, doi: 10.1108/IJM-07-2019-0347.

[10]   Y. J. Kim, W. G. Kim, H. M. Choi, and K. Phetvaroon, "The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance," *Int. J. Hosp. Manag.*, vol. 76, pp. 83–93, 2021, doi: 10.1016/j.ijhm.2018.04.007.

[11]   D. Gursoy, O. H. Chi, L. Lu, and R. Nunkoo, "Consumers acceptance of artificially intelligent (AI) device use in service delivery," *Int. J. Inf. Manage.*, vol. 49, pp. 157–169, 2019, doi: 10.1016/j.ijinfomgt.2019.03.008.

[12]   A. O. Ojo, C. N. L. Tan, and M. Alias, "Linking green HRM practices to environmental performance through pro-environment behaviour in the information technology sector," *Soc. Responsib. J.*, vol. 18, no. 1, pp. 1–18, 2022, doi: 10.1108/SRJ-12-2019-0403.

[13]   N. T. Pham, Z. Tučková, and C. J. C. Jabbour, "A. Greening the hospitality industry: How do green human resource management practices influence organizational citizenship behavior in hotels? A mixed-methods study," *Tour. Manag.*, vol. 72, pp. 386–399, 2019, doi: 10.1016/j.tourman.2018.12.008.

[14]   C. J. C. Jabbour and A. B. L. de Sousa Jabbour, "Green human resource management and green supply chain management: Linking two emerging agendas," *J. Clean. Prod.*, vol. 112, pp. 1824–1833, 2016, doi: 10.1016/j.jclepro.2015.01.052.

[15]   J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to use and how to report the results of PLS-SEM.," *Eur. Bus. Rev.*, vol. 31, 2019.

[16]   A. Tandon, A. Dhir, P. Madan, S. Srivastava, and J. L. Nicolau, "Green and non-green outcomes of green human resource management (GHRM) in the tourism context," *Tour. Manag.*, vol. 98, p. 104765, 2023, doi: 10.1016/j.tourman.2023.104765.

[17]   H. A. Masri and A. A. Jaaron, "Assessing green human resources management practices in Palestinian manufacturing context: An empirical study," *J. Clean. Prod.*, vol. 143, pp. 474–489, 2017, doi: 10.1016/j.jclepro.2016.12.087.

Journal of Global Human Resource Management 2025 (November), vol. 1, no. 3, Susanti, et al.

47 of 16

[18] J. Shen, J. Dumont, and X. Deng, *Green human resource management in Chinese enterprises*. Routledge, 2020. doi: 10.4324/9780429286971.

[19] J. Y. Yong, M. Y. Yusliza, and O. O. Fawehinmi, "Green human resource management: A systematic literature review from 2007 to 2019," *Benchmarking An Int. J.*, vol. 27, no. 7, pp. 2005–2027, 2020, doi: 10.1108/BIJ-12-2018-0438.

[20] Z. Hameed, I. U. Khan, T. Islam, Z. Sheikh, and R. M. Naeem, "Do green HRM practices influence employees' environmental performance?," *Int. J. Manpow.*, vol. 41, no. 7, pp. 1061–1079, 2020, doi: 10.1108/IJM-08-2019-0407.

[21] S. M. Obeidat and S. O. Abdalla, "Achieving sustainable development through green HRM: The role of HR analytics BT - Sustainable Development Through Data," Springer, Cham, 2022, pp. 151–169. doi: 10.1007/978-3-031-12527-0_10.

[22] R. Bauwens, M. Audenaert, and A. Decramer, "Performance management systems, innovative work behavior and the role of transformational leadership: An experimental approach," *J. Organ. Eff. People Perform.*, 2023, doi: 10.1108/JOEPP-03-2022-0066.

[23] A. D. Maria, H. Yulianto, D. Palupiningtyas, and H. Usodo, "Relationship between transformational leadership, proactive personality, creative self-efficacy and employee creativity at food processing SMEs in Indonesia," *Evidence-Based HRM*, vol. 10, 2022.

[24] A. Shafaei and M. Nejati, "Green human resource management and employee innovative behaviour: Does inclusive leadership play a role?," *Pers. Rev.*, 2023, doi: 10.1108/PR-04-2021-0239.

[25] J. K. Kim, J. J. Yang, and Y. K. Lee, "The impact of transformational leadership on service employees in the hotel industry," *Behav. Sci. (Basel).*, vol. 13, no. 9, pp. 93–112, 2023, doi: 10.3390/bs13090731.

[26] L. A. Jackson, C. S. Barber, and S. Roper, "Barriers to digital transformation in hospitality: A qualitative study," *Int. J. Contemp. Hosp. Manag.*, vol. 34, no. 8, pp. 2972–2990, 2022, doi: 10.1108/IJCHM-07-2021-0836.

[27] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate data analysis*. Cengage Learning, 2019.

[28] M. Sarstedt, P. Bengart, A. M. Shaltoni, and S. Lehmann, "The use of sampling methods in advertising research: A gap between theory and practice," *Int. J. Advert.*, vol. 41, no. 2, pp. 289–315, 2022, doi: 10.1080/02650487.2021.1910205.

[29] V. Zamanzadeh, A. Ghahramanian, M. Rassouli, A. Abbaszadeh, H. Alavi-Majd, and A. R. Nikanfar, "Design and implementation content validity study: Development of an instrument for measuring patient-centered communication," *J. Caring Sci.*, vol. 4, no. 2, pp. 165–178, 2015, doi: 10.15171/jcs.2015.017.

[30] R. B. Kline, *Principles and practice of structural equation modeling*, 4th ed. Guilford Press, 2016.

[31] J. Henseler, C. M. Ringle, and M. Sarstedt, "A new criterion for assessing discriminant validity in variance-based structural equation modeling," *J. Acad. Mark. Sci.*, vol. 43, no. 1, pp. 115–135, 2015, doi: 10.1007/s11747-014-0403-8.

[32] S. Molinillo, R. Anaya-Sánchez, and F. Liébana-Cabanillas, "Analyzing the effect of digital competence on business performance: The mediating role of digital business strategy," *Technol. Forecast. Soc. Change*, vol. 176, p. 121454, 2022, doi: 10.1016/j.techfore.2022.121454.

[33] J. Moreno-Gómez, D. M. Escandón-Barbosa, and A. Valencia-Arias, "Digital transformation in the hotel industry: Perceived benefits, challenges, and implications for human resource management," *Int. J. Contemp. Hosp. Manag.*, vol. 34, no. 8, pp. 2918–2939, 2022, doi: 10.1108/IJCHM-03-2021-0358.

[34] I. P. Tussyadiah and S. Li, "Bridging the digital divide in hospitality workplaces: Do online skill-building programmes work?," *Int. J. Contemp. Hosp. Manag.*, vol. 32, no. 12, pp. 3825–3844, 2020, doi: 10.1108/IJCHM-05-2020-0466.

[35] J. C. Cheng and C. Y. Chen, "Job crafting and job performance in the hospitality industry: The moderating role of digital competence," *Int. J. Hosp. Manag.*, vol. 95, p. 102930, 2021, doi: 10.1016/j.ijhm.2021.102930.

[36] N. Khatri, S. Kumar, and P. Mishra, "Digital HRM practices and employee outcomes: The mediating role of psychological empowerment in hospitality sector," *Int. J. Contemp. Hosp. Manag.*, vol. 35, no. 5, pp. 1816–1837, 2023,

doi: 10.1108/IJCHM-06-2022-0742.

[37]   K. Jiang, J. Hu, S. Liu, and D. P. Lepak, "Understanding employees' perceptions of human resource practices: Effects of demographic dissimilarity to managers and coworkers," *Hum. Resour. Manage.*, vol. 57, no. 3, pp. 701–717, 2018, doi: 10.1002/hrm.21892.

[38]   S. Joshi and A. Zuñiga-Collazos, "Digital transformation and knowledge management in tourism: Analyzing the moderating effect of employee engagement," *Int. J. Tour. Cities*, vol. 7, no. 3, pp. 711–732, 2021, doi: 10.1108/IJTC-08-2020-0172.

[39]   S. Oh and S. Park, "Technological innovation and human resource management in the hospitality industry," *Cornell Hosp. Q.*, vol. 63, no. 4, pp. 437–450, 2022, doi: 10.1177/19389655211057361.

[40]   V. Ramaswamy and K. Ozcan, "What is co-creation? An interactional creation framework and its implications for value creation," *J. Bus. Res.*, vol. 84, pp. 196–205, 2019, doi: 10.1016/j.jbusres.2017.11.027.

[41]   L. Zhuang, J. R. Meredith, and P. D. Larson, "Digital human resource management (DHRM): A framework and research agenda," *Int. J. Hum. Resour. Manag.*, vol. 34, no. 8, pp. 1632–1658, 2023, doi: 10.1080/09585192.2022.2083239.

[42]   P. Parviainen, M. Tihinen, J. Kääriäinen, and S. Teppola, "Digital transformation of business ecosystems: The role of digital HRM and future directions," *J. Open Innov. Technol. Mark. Complex.*, vol. 7, no. 2, p. 125, 2021, doi: 10.3390/joitmc7020125.

[43]   N. Venkatraman and J. C. Camillus, "Digital strategy: A view from the inside," *J. Manag. Inf. Syst.*, vol. 35, no. 3, pp. 747–775, 2018, doi: 10.1080/07421222.2018.1481636.

[44]   R. W. Brislin, "Back-translation for cross-cultural research," *J. Cross. Cult. Psychol.*, vol. 1, no. 3, pp. 185–216, 1970, doi: 10.1177/135910457000100301.

[45]   J. Navío-Marco, L. M. Ruiz-Gómez, and C. Sevilla-Sevilla, "Progress in information technology and tourism management: 30 years on and 20 years after the internet - Revisiting Buhalis & Law's landmark study about eTourism," *Tour. Manag.*, vol. 69, pp. 460–470, 2018, doi: 10.1016/j.tourman.2018.06.002.

[46]   R. Nunkoo, V. Teeroovengadum, C. M. Ringle, and V. Sunnassee, "Service quality and customer satisfaction: The moderating effects of hotel star rating," *Int. J. Hosp. Manag.*, vol. 91, p. 102414, 2020, doi: 10.1016/j.ijhm.2019.102414.

[47]   D. Palupiningtyas, "Green human resource management: A comprehensive analysis of practices, impacts, and future directions," *Proceeding Int. Conf. Digit. Adv. Tour. Manag. Technol.*, vol. 1, 2023.

[48]   G. P. Pisano, "The hard truth about innovative cultures," *Harv. Bus. Rev.*, vol. 97, no. 1, pp. 62–71, 2019.