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Phygital HR: Leveraging Digital Transformation For Organizational Resilience, Employee Well-Being, And Sustainable Work Cultures In Viksit Bharat

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Abstract: *The integration between physical and digital technologies - phygital HR – is revolutionizing organisational behavior (OB) and human resources management (HRM). As India moves towards Viksit Bharat 2047, digital HR tools like AI in recruitment, HR analytics and automation are re-imagining work design, wellbeing of employees and resilience of the organization. We focus on the effects of phygital HR practices on employee engagement, job satisfaction, and psychological well-being in hybrid workplaces by using socio-technical systems theory and Job Demands–Resources (JD -R) model.*

A mixed-method research design was followed and data were gathered through 450 employee-survey respondents across education-IT-service sectors in West Bengal, India, and 20 qualitative interviews. Structural equation modeling results show that organizational culture is a significant mediating mechanism between digital HR practices and the employee outcomes. These effects are furthermore moderated by demographic factors (age, gender, work type) with hybrid employees benefitting the most.

The findings progress OB theory into the phygital era while offering organizations a road map to reconcile efficiency, inclusivity and well-being-in all, indispensable for creating sustainable work cultures consistent with India's Viksit Bharat vision.

Keywords: *Phygital HR, Digital Transformation, Organizational Resilience, Employee Well-being, Viksit Bharat*

1. INTRODUCTION

The digital revolution is changing every industry in the economy and forcing companies to reimagine how they govern people, processes and performance. The proponents of this transformation are the field of human resource management (HRM). On the other hand, the emergence of phygital HR – a blending of physical and digital workplace activity ~ provides opportunities for greater agility, data-informed decision making and employee flexibility. But it also brings with it a set of risks that we didn't have in earlier times – techno-stress, algorithmic bias, as well as the risk to human connection.

The stakes are particularly high for India. As India moves towards Viksit Bharat 2047, inclusive digital transformation stands out as a key enabler of national competitiveness. However, organizations struggle to guarantee that digital HR systems will have a positive effect on employees' well-being and not further inequality, especially with the urban–rural digital divide in India. Although research at the global level recognizes both the potential and pot-holes of digital HR (Chuang et al., 2025; Marsh et al., 2024), Indian context - specific empirical evidence is rare.

To the best of our knowledge, the present work is one of the first in combining JD–R model and socio-technical system theory to form an inclusive Phygital HR–OB framework. It explores the impact of digital HRM on employee engagement, well-being and satisfaction, considers the mediating role of organizational culture, and analyses demographic moderators. For the past two decades, OB scholars and practitioners have been vocal about perils faced by domains such as work-life balance and organizational

trust in a highly dynamic, tech-enabled age.40–42 By endorsing these concerns for 'well-being', this research makes pertinent contributions to OB theory22 but also provides practical recommendations to organizations aiming to foster resilience, inclusivity, and sustainable growth in the phygital era.

2. LITERATURE REVIEW

2.1 Digital HR Practices: Practice and Transformation

Over the past decade, digital HR has evolved from an administrative tool into a **strategic capability** that enables organizations to secure competitive advantage (Bondarouk & Brewster, 2022). Artificial intelligence (AI)-powered recruitment systems are increasingly used to reduce unconscious bias and streamline candidate selection, although concerns remain around transparency and algorithmic fairness (Chuang et al., 2025; Dastin, 2018). Beyond recruitment, HR analytics is transforming decision-making by providing predictive insights on turnover, performance, and engagement. Yet, adoption depends not only on technological sophistication but also on management's ability to interpret data and employees' trust in the process (Sharma & Singh, 2023). Empirical studies show that organizations using analytics are up to 40% more accurate in their decisions (Strohmeier & Parry, 2021). Furthermore, research highlights that digital HR can reinforce employee voice when designed inclusively (Marler & Boudreau, 2017), but it may also risk reducing the human aspect of HR if used merely for surveillance.

2.2 Phygital Workplaces and Organizational Behavior

Phygital workplaces—those that combine physical and digital interaction—have introduced new forms of the **psychological contract** between employees and employers. European and Asian studies indicate that phygital models foster collaboration, innovation, and agility, but they also expose employees to digital fatigue and technostress if boundaries are not managed (Marsh et al., 2024; Nguyen & Do, 2023). In the Indian context, hybrid models have been shown to improve inclusivity for women and caregivers, especially in metropolitan areas (Mehrotra & Bhatnagar, 2022). However, without cultural validation, reliance on digital systems may generate perceptions of unfairness and exclusion, leading to disidentification from organizational goals (Farooq & Sultana, 2022). This reflects broader findings that hybrid and phygital models succeed only when supported by **trust-based cultures** (Bailey & Breslin, 2021; Caligiuri et al., 2020).

2.3 The JD–R Model in Digital Environments

The **Job Demands–Resources (JD–R) model** remains a dominant framework for explaining employee well-being in digitally transformed contexts. Studies consistently show that digital overload, constant connectivity, and role ambiguity act as **demands**, while autonomy, flexibility, and analytics-driven support serve as **resources** (Huang & Su, 2022; Day et al., 2019). Meta-analyses confirm the robustness of this framework: Lesener, Pleiss, and Gusy (2021) estimate that as much as 40% of variance in engagement can be attributed to JD–R factors, underscoring the model's relevance in phygital HR research. Recent scholarship has also highlighted how JD–R dynamics differ across digital versus traditional work settings, with digital environments amplifying both the risks of exhaustion and the opportunities for resilience (Bakker & Demerouti, 2017; O'Connor & Crowley-Henry, 2019).

2.4 Socio-Technical Systems and the Mediation of Culture

Socio-technical systems theory argues that organizations must strike a balance between **human and technical subsystems** to achieve optimal performance (Trist & Bamforth, 1951). Contemporary studies reaffirm that organizational culture acts as a mediator in shaping whether digital HR tools enhance well-being and performance (Virmani, 2025; Farooq & Sultana, 2022). In emerging economies, participative and flexible cultures are found to accelerate digital HR adoption, while hierarchical and rigid ones tend to inhibit it (Kumar & Arora, 2023). Research in Western contexts further suggests that the cultural framing of HR analytics—whether as a tool for empowerment or control—determines employee acceptance (Strohmeier, 2020; Marler & Boudreau, 2017). Thus, culture is not merely an enabler but a **filter** that determines how employees perceive and experience digital transformation.

2.5 Demographic Factors as Moderators in Phygital HR

Demographic differences play an increasingly important role in explaining varied responses to digital HR practices. Younger employees—digital natives—are more comfortable with AI-based tools, while older employees often report higher levels of techno-stress and resistance (Shiferaw, 2025; Califf, Sarker, & Sarker, 2020). Gender differences have also been documented: women, particularly in hybrid contexts, experience a "double shift" balancing professional and domestic demands, intensifying work–life spillover

(Nguyen & Do, 2023; Chesley, 2016). In contrast, men report fewer disruptions but greater concerns over job security in automation-heavy workplaces (Nguyen & Do, 2023). Work type also matters. Hybrid employees benefit from both autonomy and belonging, while fully remote workers risk cultural isolation unless organizations deliberately reinforce shared values (Chuang et al., 2025; Kaushik & Guleria, 2020). These findings highlight the importance of **contextualized HR strategies** that account for generational, gendered, and structural differences in the workforce.

2.6 **Gaps in the Literature**

Three gaps stand out:

a) Lack of adequate India-focused empirical research on phygital HR and implications for Viksit Bharat objectives

b) Manifold studies combining JD-R and socio-technical systems in an integrated empirical model.

c) Sparse investigation of demographic moderators in hybrid and phygital work arrangements.

In this context, this article attempts to fill these gaps by proposing and empirically validating a Phygital HR-OB framework in an Indian setting.

Research Objectives and Hypotheses

Objectives

a) To explore the impact of digital HR practices on employee engagement, job satisfaction and well-being.

b) To examine the mediating role of organizational culture.

c) To examine the moderating role of age, gender and type of work.

Hypotheses

H1: Digital HR practices have a positive prediction on employees' outcomes.

H2: Organizational culture is an intermediary of digital HR practices and employee outcomes.

H3: Job demands diminish and job resources enhance the positive impact of digital HRM practices.

H4: Hypotheses H4: Demographic variables will moderate the relationships of the proposed model.

4.METHODOLOGY

4.1 Research Design

This research employed a mixed method, using quantitative surveys and qualitative in-depth interviews. The quantitative strand allowed statistical examination of the Phygital HR–OB framework, while the qualitative one facilitated deeper understanding of employees' experiences in hybrid and digital work circumstances. Concurrent triangulation was applied to ensure the validity.

4.2 Sample and Context

The sample was built from employees in West Bengal, India working in education, IT and services sectors, the fastest sector that witnessed digital transformation. Businesses were invited through professional networks and HR associations. A number of 720 questionnaires were distributed (online and offline) and returned with 450 usable responses yielding a response rate of 62.5%. Such a sample is well above the minimum requirement for SEM analysis (Hair et al., 2019).

Demographic breakdown: – 52% male vs. 48% female – Age groups: 21-30 (40%), 31-40 (35%) and 41+ YO This facilitated representation with respect to sex, age and work position.

4.3 Instruments

a) Reliability was increased by applying validated measuring scales:

b) Digital HR Practices: Modified 5-item scale (Shiferaw, 2025).

c) Organizational Culture: Denison Organizational Culture Survey (12 items).

d) Engagement at work: Utrecht Work Engagement Scale (UWES-9).

e) Well-being: WHO-5 Index.

f) Job Satisfaction: There is a job satisfaction index (JSI).

g) Job Demands–Resources: Scales of techno-overload, workload, autonomy and support.

All scale scores were rated on a 5-point Likert-type (1 = strongly disagree to 5 = strongly agree). The clarity and internal consistency was confirmed by a pre-testing with 30 participants.

4.4 Data Collection

Both online (Google Forms) and offline (paper form distribution) quantitative survey was used to reduce urban–rural bias. Participation was not compulsory, and anonymity was guaranteed. To attenuate common method variance (CMV), procedural remedies such as confidentiality, item randomization, and

splitting of predictor/construction were utilized. Post-hoc Harman' s single-factor test showed that a single factor did not account for over 30% of variance, indicating CMB was not a severe issue.

4.5 Qualitative Component

For quantitative insights, 20 semi-structured interviews were held with organizational members from the three sectors. The participants were purposefully selected in order to ensure diversity with respect to age, gender and type of work. Interviews took 30–45 minutes and were guided by topics such as trust, digital access, work–life boundaries and acculturation.

The interviews were transcribed and subjected to thematic analysis. Intercoder reliability was tested for Cohen's $\kappa = 0.82$, reflecting high consistency between two independent coders by identifying recurrent themes. Coding and themes were generated using NVivo Software.

4.6 Data Analysis

a) Quantitative analysis was carried out with SPSS 27 and AMOS 24:

b) Reliability and validity checks, Cronbach's α, Construct Reliability (CR), Average Variance Extracted (AVE).

c) CFA: to confirm constructs and the goodness of fit model (χ^2gl/df, CFI, TLI, RMSEA y SRMR).

d) Correlation and regression analyses: to confirm preliminary relationships.

e) The mediation model was investigated using SEM with bootstrapping (5,000 samples).

f) Moderation and moderated mediation: examinations facilitated by Hayes' PROCESS macro (Model 7) for age, gender, and work type.

g) Sensitivity analyses: VIF values were checked for multicollinearity.

h) This literature-based qualitative analysis was enriched by complementing quantitative findings to triangulate the insight into the impact of phygital HRM practices on employee experiences.

5. RESULTS

5.1 Descriptive Statistics and Correlations

Table 1. Descriptive Statistics and Correlations

Variable	Mean	SD	1	2	3	4	5
1. Digital HR Practices	4.28	0.74	—				
2. Organizational Culture	4.05	0.82	.52**	—			
3. Job Demands	3.65	0.88	-.28**	-.33**	—		
4. Job Resources	4.12	0.77	.48**	.55**	-.40**	—	
5. Employee Outcomes	4.18	0.70	.56**	.63**	-.42**	.61**	—

Note: p < .01

5.2 Reliability and CFA

Table 2. Reliability and Validity

Construct	A	CR	AVE
Digital HR	.86	.88	.54
Org. Culture	.90	.92	.64
Employee Engagement	.89	.91	.63
Well-being	.87	.89	.61
Job Satisfaction	.85	.88	.57

Model fit: $\chi^2/df = 2.7$, CFI = .95, TLI = .94, RMSEA = .062, SRMR = .041

5.3 Mediation

Table 3. Mediation (Culture as Mediator)

Path	B	SE	T	P
Digital HR → Culture	.52	.06	8.67	<.001
Culture → Employee Outcomes	.61	.05	12.20	<.001
Digital HR → Employee Outcomes (direct)	.24	.07	3.43	.001
Indirect Effect	.32	.05	Sobel = 6.40	<.001

5.4 Moderation

Table 4. Moderation by Work Type

Work Type	β (Digital HR → Culture)	P
Hybrid	.56	<.001
In-person	.42	<.001
Remote	.30	.004

5.5 Moderated Mediation

Table 5. Conditional Indirect Effects

Condition	Indirect Effect	95% CI
Hybrid	.36	[.25, .47]
In-person	.27	[.16, .39]
Remote	.18	[.06, .30]

5.6 Qualitative Themes

Virtual Trust: "We don't see each another much, but I have regular check-ins with my team members and it makes me feel that we are connected."
Digital Divide: "In my hometown, slow internet makes remote work a daily trial."
Work-Life Spillover: "I stay late often because there's never an off button for notifications."
Cultural Glue: "An emphasis on openness within our organization continues to hold us together through hybrid work."

6. DISCUSSION

The results from this study point to something quite clear: when digital HR practices are supported by the right kind of organizational culture, employees respond positively. Engagement levels rise, people feel more resilient, and job satisfaction improves. This finding resonates strongly with the socio-technical systems tradition, which has long argued that technology cannot work in isolation—it only becomes effective when there are social and cultural structures that support interaction (Trist & Bamforth, 1951; Virmani, 2025). Similar arguments have been made in contemporary HRM studies emphasizing that cultural readiness is often the missing link in digital transformation (Strohmeier & Parry, 2021; Bondarouk & Brewster, 2016).

6.1 JD–R Model in Action

Looking at the findings through the lens of the JD–R model, digital HR practices play a dual role. On the one hand, they can add to the load—too many digital demands, constant notifications, and new systems often result in techno-overload or role ambiguity (Marsh, Pérez Vallejos, & Spence, 2024). This aligns with earlier studies showing that constant digital connectivity can increase burnout and strain when left unmanaged (Day et al., 2019). On the other hand, the same practices free employees from repetitive

work and allow them more independence, thanks to automation and AI (Chuang et al., 2025). In our data, the latter seems to dominate: the extra resources created by digital HR appear to outweigh the strain, leaving employees more engaged rather than drained. This supports findings by Bakker and Demerouti (2017) and later by Lesener, Pleiss, and Gusy (2019), who found that when resources are amplified, their positive effects often overshadow the negative impact of job demands.

6.2 Organizational Culture as the Bridge

The mediating role of culture came through strongly. Where the organizational environment was open, inclusive, and responsive, employees tended to see digital HR as an enabler of value rather than as a controlling mechanism. This mirrors Bindra's (2025) argument that cultural alignment determines whether technology is viewed as empowering or alienating. The interviews reinforced this—several participants emphasized how trust and transparency shaped the way they experienced hybrid and digital work. Similar insights were found in research on digital transformation in Asia, where organizational culture was found to mediate adoption success across industries (Farooq & Sultana, 2022; Huang & Su, 2022). Moreover, prior work in European contexts found that inclusive cultures mitigate resistance to HR analytics and AI-based decision-making (Strohmeier, 2020).

6.3 Demographic Differences

Not all groups responded the same way. Younger workers (21–30 years) adapted quickly, consistent with the idea that digital natives cope better with change (Shiferaw, 2025). This echoes previous findings showing that younger employees tend to display higher self-efficacy and openness to technology adoption (Califf, Sarker, & Sarker, 2020). Older employees, however, often mentioned increased techno-stress, echoing earlier research linking digital literacy to age-related differences in adoption. Gender patterns were less pronounced, though many women described greater work–life spillover—suggesting that hybrid models can reproduce gendered pressures (Marsh et al., 2024). Prior studies similarly report that women in digital-intensive roles often experience a "double shift," balancing professional and domestic responsibilities (Chesley, 2016). Work type was also critical: hybrid workers seemed to benefit the most, while those who were fully remote spoke about feeling culturally isolated. This aligns with Chuang et al. (2025), who suggest that hybrid setups balance flexibility with cultural connection, unlike fully remote contexts. Recent cross-national research has also confirmed that hybrid models promote both productivity and employee well-being compared to extreme remote setups (Bailey & Breslin, 2021).

6.5 Practical and National Implications

For practitioners, the implications are straightforward. First, culture change must be prioritized alongside digital transformation—technology alone is not enough. Second, hybrid models offer the most balanced outcomes, delivering flexibility without eroding culture. Third, the persistent digital divide in India requires attention, through investment in both infrastructure and literacy, especially in rural areas. These points fit neatly with India's broader *Viksit Bharat* agenda, which emphasizes digital empowerment and inclusive growth. This also aligns with global HRM insights that highlight the need for inclusive strategies in digital adoption to avoid widening inequality (Bondarouk & Brewster, 2016; Parry & Battista, 2019).

6.6 Unique Contributions

What sets this study apart is the finding that automation, often thought to reduce the human touch, can actually encourage new forms of trust and collaboration. This flips the usual narrative on its head. Rather than alienating employees, digital systems—when supported by culture—can bring people together in different, often virtual, ways. This observation complements recent findings that technology-driven HRM can enhance "virtual social capital" if organizational norms actively reinforce collaboration (Kaushik & Guleria, 2020).

Implications

7.1 Theoretical Implications

This study contributes to organizational behavior and HRM literature in several ways. First, by extending the **JD–R model** into phygital contexts, it demonstrates that digital HR practices can function both as *job demands* (e.g., technostress, role ambiguity) and as *job resources* that enhance engagement and resilience (Chuang et al., 2025). This duality is consistent with earlier research showing that digital technologies often impose extra demands but, when supported by organizational resources, yield higher motivation and well-being (Day et al., 2019; Lesener, Pleiss, & Gusy, 2019). Second, the confirmation of **organizational culture as a mediator** provides empirical validation of socio-technical systems theory,

underscoring that sustainable digital transformation requires the alignment of social and technical subsystems (Virmani, 2025; Bondarouk & Brewster, 2016). Finally, the recognition of demographic moderators adds contextual nuance, answering calls for more **localized and boundary-sensitive OB research** (Shiferaw, 2025; Parry & Battista, 2019).

7.2 Managerial Implications

The findings offer several actionable lessons for HR leaders and organizational managers.

a) **Culture Investment:** Managers must devote equal effort to cultural development as they do to technological implementation. In the absence of supportive norms, digital HR may be perceived as surveillance rather than empowerment (Bindra, 2025; Strohmeier, 2020).

b) **Embrace Hybrid Models:** Hybrid work appears to provide the most balanced approach, allowing for flexibility while preserving opportunities for social and cultural grounding (Bailey & Breslin, 2021). Policies should intentionally promote both autonomy and collaboration.

c) **Customize Training and Support:** Bridging the digital literacy divide is crucial. Ongoing training, reverse mentoring, and "digital champions" drawn from younger employees can help older cohorts adapt to phygital systems (Califf, Sarker, & Sarker, 2020).

d) **Monitor Well-being:** While digital HR improves efficiency, it can blur boundaries. Organizations should routinely assess workload, digital fatigue, and work–life balance, as these factors strongly shape long-term resilience (Chesley, 2016).

7.3 Policy Implications

At the policy level, this research ties directly into India's *Viksit Bharat* vision.

a) **Closing the Digital Divide:** Equal access to digital infrastructure in both urban and rural areas is essential to prevent exclusion of employees in under-connected regions (Marsh, Pérez Vallejos, & Spence, 2024).

b) **Driving Inclusive HR Innovation:** National programs should encourage organizations to adopt HR technologies that embed fairness and inclusivity, especially in talent acquisition and performance evaluation (Farooq & Sultana, 2022).

c) **Ethical HR Tech:** Policymakers must establish regulatory frameworks to counter algorithmic bias, safeguard employee data, and mitigate risks of over-automation (Strohmeier & Parry, 2021).

d) **Enhancing Skills for the Digital Future:** Government initiatives must prioritize digital literacy and HR analytics training, ensuring the workforce is future-ready (Kaushik & Guleria, 2020).

7.4 Societal Implications

Beyond organizational and policy arenas, phygital HR has profound societal relevance. It can help India balance efficiency with empathy, creating inclusive and sustainable workplaces that serve as microcosms of the nation's developmental vision. Prior research suggests that when workplaces embed inclusivity and well-being, the benefits spill over into communities, fostering broader social equity (Mehrotra & Bhatnagar, 2022). As India navigates its transition toward a developed economy, phygital HR can act as both a management strategy and a **social instrument of nation-building**.

CONCLUSION

This research set out to examine phygital HR practices—AI-driven recruitment, HR analytics, and automation—in the context of India's evolving workplace. By integrating the JD–R model with socio-technical systems theory, and empirically testing a new Phygital HR–OB framework, it establishes that digital transformation alone is insufficient; supportive organizational culture is the key to unlocking its benefits.

The findings are timely. They show that digital HR does not displace human interaction but reshapes it into new forms of trust and collaboration. This challenges the common assumption that automation erodes the human touch. They also highlight the strength of **hybrid models** in sustaining culture compared to purely remote contexts, while pointing to digital divides that risk creating a two-speed workforce.

For India's *Viksit Bharat 2047* ambitions, the lessons are clear. Achieving developed-nation status will require inclusive HR strategies that address infrastructure gaps, democratize digital adoption, and prioritize employee well-being alongside productivity. In this sense, phygital HR is not merely an

organizational lever—it is a **national strategy that aligns efficiency with equity, innovation with inclusion, and digital progress with human sustainability**.

In sum, this study contributes theoretically by extending the JD–R model into the phygital era, practically by offering HR leaders a roadmap for sustainable hybrid workplaces, and societally by emphasizing the role of HR innovation in nation-building. As India advances toward *Viksit Bharat*, phygital HR can serve as a cornerstone for resilience, well-being, and sustainable work cultures—ensuring digital transformation uplifts not just organizations but Indian society at large.

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