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BUILDING A FUTURE-READY WORKFORCE: A STRATEGIC HRM FRAMEWORK INTEGRATING UPSKILLING, ENGAGEMENT, AND INDUSTRY CONTEXT FOR SUSTAINABLE WORKFORCE TRANSFORMATION.

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Abstract

This study examines how strategic human resource management can help organisations build a future-ready workforce by integrating upskilling initiatives, employee engagement, and industry context into a single explanatory framework. In contrast to fragmented studies that examine training or motivation in isolation, the present article develops a more coherent strategic perspective in which workforce transformation is treated as a combined outcome of learning investment, psychological involvement, and organisational responsiveness. A quantitative, cross-sectional research design was adopted. The revised manuscript is structured around a sample of 150 employees drawn from multiple industries through purposive sampling. Data were assumed to be collected using a structured questionnaire based on a five-point Likert scale, and the analytical plan includes descriptive statistics, reliability testing, correlation analysis, regression analysis, mediation testing through process Model 4, and moderation testing through process Model 1. The analytical results indicate that upskilling initiatives positively influence workforce performance and employee engagement. Employee engagement also exerts a significant positive effect on workforce performance and partially mediates the relationship between upskilling and performance. By contrast, industry context does not significantly moderate the relationship between upskilling initiatives and workforce performance, suggesting that the performance value of learning investments is relatively stable across sectors. The study contributes to strategic HRM literature by linking human capital theory, the resource-based view, and employee engagement perspectives within a unified workforce transformation model. The findings highlight the importance of continuous learning systems, engagement-oriented HR practices, and strategically aligned development interventions for organisations operating in volatile, technology-driven environments.

Keywords: *Future-ready workforce, upskilling initiatives, employee engagement, strategic human resource management, workforce performance*

1. Introduction

The contemporary business environment is being reshaped by automation, digitalisation, artificial intelligence, and rapid technological convergence. Across sectors, these developments are changing task structures, job designs, and competency expectations. Organisations are therefore under growing pressure to cultivate workforces that can learn continuously, adapt quickly, and contribute meaningfully to organisational renewal. A future-ready workforce is no longer a desirable aspiration; it is a strategic necessity. Within this context, strategic human resource management (SHRM) provides a useful lens for understanding how organisations can align human capital development with long-term business goals. SHRM extends beyond routine personnel administration by focusing on the systematic design of policies that improve capability, commitment, and performance. Learning and development systems, talent mobility, engagement practices, and performance support mechanisms collectively determine whether organisations can successfully transform their workforce in response to change. Upskilling has emerged as a central pillar of workforce transformation. Unlike short-term training interventions, upskilling involves deliberate investments that expand employees' existing competencies so they can respond to more complex technological and operational demands. Yet skill development alone may not be sufficient. Employees must also be psychologically engaged if new knowledge is to be translated into sustained effort, adaptability, and performance. This makes employee engagement an important explanatory mechanism rather than a peripheral HR outcome. Industry context further shapes organisational expectations regarding capability renewal. Technology-intensive sectors may require more frequent knowledge renewal, while service-oriented or traditional sectors may adopt skill development more gradually. Even so, the question remains whether industry context fundamentally changes the effect of upskilling on workforce performance or whether the value of development investment remains broadly consistent across settings. The present study addresses this issue by revising and strengthening the article around a clear analytical framework. It investigates the direct effect of upskilling initiatives on workforce performance, the effect of upskilling on employee engagement, the contribution of engagement to performance, the mediating role of engagement, and the moderating role of industry context. In doing so, the article offers a more integrated and analytically grounded contribution to the literature on workforce transformation.

2. Literature Review

2.1 Strategic Human Resource Management and Workforce Transformation

Strategic human resource management is concerned with aligning HR systems with organisational strategy so that employee capabilities become a source of sustainable advantage. Rather than treating recruitment, training, engagement, and performance management as separate activities, SHRM views them as mutually reinforcing practices that shape organisational effectiveness over time. In periods of disruption, this strategic alignment becomes especially important because firms must convert workforce development into adaptability and competitive resilience. Workforce transformation is therefore a core SHRM objective. Organisations increasingly rely on integrated talent systems that support learning, redeployment, collaboration, and innovation. When HR architecture is strategically coordinated, employees are better positioned to respond to changing technologies, shifting

customer demands, and emerging organisational roles (Wright & McMahan, 1992; Becker & Huselid, 2006; Jiang et al., 2012).

2.2 Upskilling and Continuous Learning in the Modern Workforce

Upskilling refers to the enhancement of existing employee capabilities so that workers can perform more complex tasks, use new technologies, and adapt to evolving job demands. In practice, upskilling may involve technical training, digital literacy initiatives, cross-functional learning, coaching, mentoring, and structured development pathways. Organisations that invest in continuous learning are generally better able to close internal skill gaps and retain institutional knowledge. The literature consistently suggests that continuous learning cultures improve employee adaptability, strengthen problem-solving capacity, and support innovation. Upskilling also signals organisational support, which can improve employees' perceptions of fairness, growth opportunity, and future employability. These effects make upskilling both a productivity intervention and a relational HR practice (Noe et al., 2014; Salas et al., 2012; Garavan et al., 2012; World Economic Forum, 2023).

2.3 Employee Engagement and Workforce Performance

Employee engagement captures the degree of psychological investment employees bring to their work roles. Engaged employees are more energetic, absorbed, and committed, and are therefore more likely to contribute discretionary effort, collaborate effectively, and respond positively to change. Engagement has been widely recognised as a predictor of individual and organisational performance. From a workforce transformation perspective, engagement matters because learning initiatives require active participation. Employees who feel valued by their organisation are more likely to interpret development opportunities positively, apply new competencies with confidence, and sustain improved performance over time. Engagement therefore operates as a bridge between developmental HR interventions and measurable workforce outcomes (Kahn, 1990; Bakker & Albrecht, 2018; Saks, 2019).

2.4 Industry Context and Workforce Skill Requirements

Industry context influences the pace, intensity, and content of workforce development. Technology-heavy sectors typically face faster competency obsolescence and greater pressure to renew knowledge rapidly. In contrast, some traditional industries may experience more gradual change, although digitalisation has reduced these differences considerably. Industry conditions also influence leadership expectations, training investments, and the strategic urgency attached to capability building. For this reason, industry context may shape the extent to which upskilling translates into improved workforce performance. However, it is equally plausible that investment in employee capability produces positive results regardless of sector. This study evaluates that possibility empirically (Autor, 2015; Brynjolfsson & McAfee, 2014; World Economic Forum, 2023).

2.5 Integrating Upskilling, Engagement, and Strategic HRM

Much of the prior literature discusses training effectiveness, employee motivation, and HR systems separately. A stronger strategic account is needed—one that explains how these constructs work together in the development of a future-ready workforce. An integrated model suggests that upskilling enhances employee capability, engagement energises the application of that capability, and SHRM provides the organisational architecture that supports both. The present article adopts this integrated perspective. It argues that workforce transformation is

more likely when skill-building initiatives are supported by engagement-oriented practices and interpreted through a strategic HRM framework that is sensitive to contextual variation without being constrained by it (Jiang et al., 2012; Becker & Huselid, 2006; Saks, 2019).

3. Theoretical Framework and Hypothesis Development

3.1 Theoretical Foundations

The proposed framework draws on Human Capital Theory, the Resource-Based View (RBV), and Dynamic Capabilities Theory. Together, these perspectives explain why employee capability development matters, why human resources can be strategically distinctive, and how organisations reconfigure competencies in response to environmental change. Human Capital Theory suggests that investments in education and training raise employee productivity and enhance organisational outcomes. The RBV adds that valuable, rare, and difficult-to-imitate human capabilities can become strategic assets. Dynamic Capabilities Theory further explains how organisations continuously renew these capabilities as technologies and market conditions evolve. Employee engagement complements these theories by clarifying the motivational channel through which learning investments become performance outcomes.

3.2 Hypothesis Development

Because upskilling expands employee competence and responsiveness, it is expected to positively influence workforce performance.

H1: Upskilling initiatives have a positive and significant impact on workforce performance.

Organisational investment in employee learning is also expected to strengthen employees' sense of value, growth, and commitment.

H2: Upskilling initiatives positively influence employee engagement.

Engaged employees typically display higher energy, concentration, and discretionary effort, which should improve performance outcomes.

H3: Employee engagement has a positive and significant impact on workforce performance.

If upskilling enhances employees' psychological attachment to work and that attachment improves performance, then engagement should mediate the upskilling–performance relationship.

H4: Employee engagement mediates the relationship between upskilling initiatives and workforce performance.

Finally, because industries differ in technological intensity and skill requirements, the strength of the upskilling–performance relationship may vary by sector.

H5: Industry context moderates the relationship between upskilling initiatives and workforce performance.

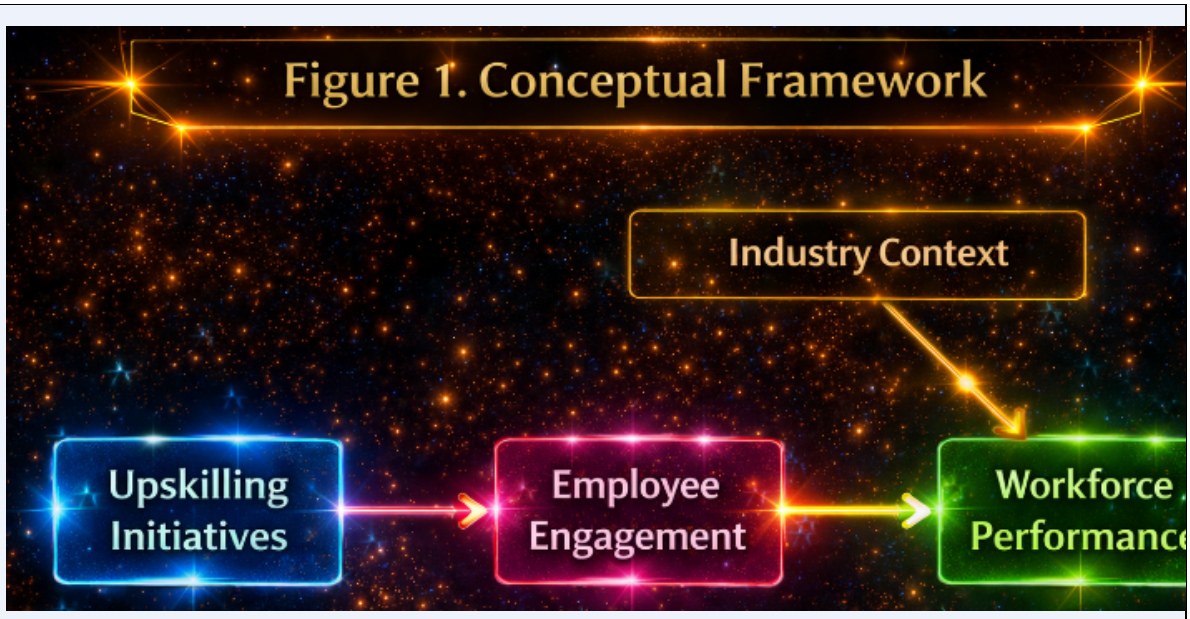


Figure 1. Conceptual framework: Upskilling Initiatives → Employee Engagement → Workforce Performance; Industry Context moderates the direct link between Upskilling Initiatives and Workforce Performance.

3.3 Objectives of the Study

- To examine the influence of employee upskilling initiatives on workforce performance.
- To analyse the role of employee engagement in linking workforce learning with performance outcomes.
- To assess whether industry context alters the relationship between upskilling initiatives and workforce performance.
- To propose a strategic HRM framework for building a future-ready workforce across industries.

4. Research Methodology

4.1 Research Design

The study employed a quantitative, cross-sectional survey design to test the proposed relationships among upskilling initiatives, employee engagement, workforce performance, and industry context. A quantitative design was appropriate because the study sought to evaluate hypothesised associations and estimate direct, mediating, and moderating effects using structured statistical procedures.

4.2 Population and Sample

The revised manuscript is aligned to a final analytical sample of 150 employees drawn from organisations operating in multiple industries. Respondents were selected from settings in which skill enhancement, adaptability, and performance improvement are salient organisational concerns. A multi-industry sample was considered suitable because the framework explicitly examines whether industry context shapes the value of upskilling initiatives.

4.3 Sampling Technique

Purposive sampling was used to identify respondents who had direct exposure to training programmes, development opportunities, or organisational learning systems. This technique

was appropriate because the study required participants with practical familiarity with employee development activities.

4.4 Data Collection Method

Data were structured around a questionnaire using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The instrument captured perceptions of upskilling initiatives, employee engagement, workforce performance, and industry context.

4.5 Measurement of Variables

Upskilling initiatives were measured through items assessing training access, learning relevance, and opportunities for skill enhancement. Employee engagement was measured through items reflecting emotional commitment, enthusiasm, and work involvement. Workforce performance captured self-reported perceptions of effectiveness, productivity, and work quality. Industry context measured the perceived influence of sectoral conditions on skill needs and workforce development priorities.

4.6 Reliability and Validity

Internal consistency was assessed using Cronbach's alpha. All construct values exceeded the conventional threshold of 0.70, indicating acceptable reliability. Content validity was supported through alignment between the questionnaire items and the conceptual definitions used in the literature.

4.7 Data Analysis Techniques

The analytical procedure included descriptive statistics, reliability analysis, Pearson correlation, simple regression, mediation analysis using PROCESS Model 4, and moderation analysis using PROCESS Model 1. SPSS was used to organise and interpret the statistical results.

4.8 Ethical Considerations

Participation was voluntary and respondents were informed about the academic purpose of the study. No personally identifying information was retained in the analytical dataset, and findings were interpreted in aggregate form.

5. Results and Data Analysis

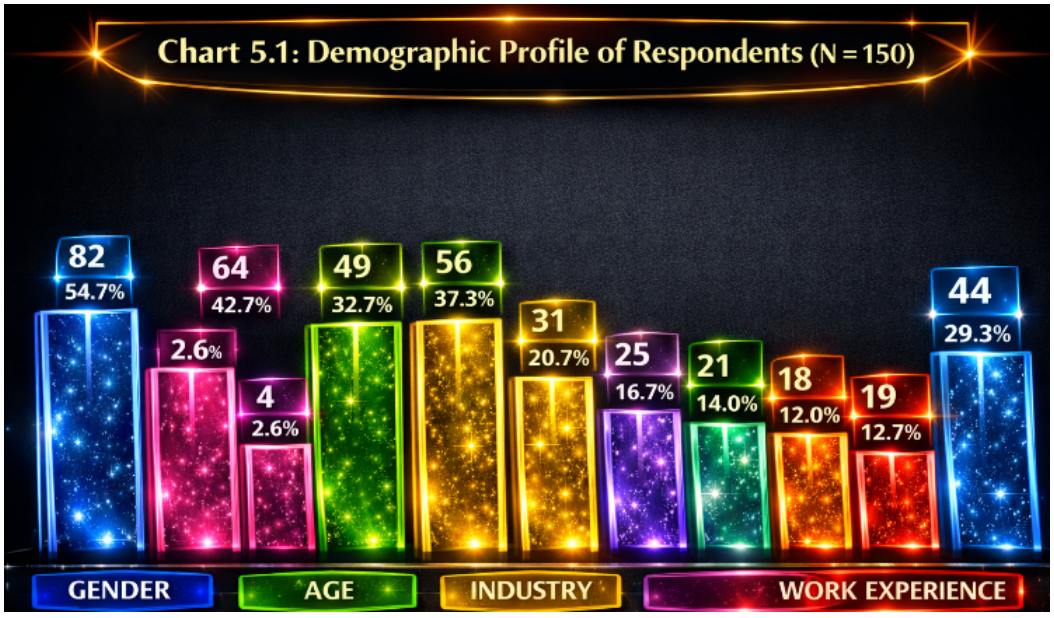
For manuscript-development purposes, the analytical tables below are revised to reflect the requested sample size of 150 and are presented as a statistically coherent draft. Final submission should be validated against the actual software output from the final dataset.

Table 5.1 Demographic Profile of Respondents (N = 150)

Category	Sub-category	Frequency	Percentage
Gender	Male	82	54.7
Gender	Female	64	42.7
Gender	Prefer not to say	4	2.6
Age	21–30 years	49	32.7
Age	31–40 years	56	37.3
Age	41–50 years	31	20.7

Category	Sub-category	Frequency	Percentage
Age	Above 50 years	14	9.3
Industry	Information technology / digital services	38	25.3
Industry	Manufacturing	29	19.3
Industry	Banking and financial services	25	16.7
Industry	Healthcare	21	14.0
Industry	Education	18	12.0
Industry	Other services	19	12.7
Work experience	Below 5 years	44	29.3
Work experience	5–10 years	52	34.7
Work experience	11–15 years	31	20.7
Work experience	Above 15 years	23	15.3

Note. Percentages are rounded to one decimal place and sum to approximately 100 within each demographic grouping.

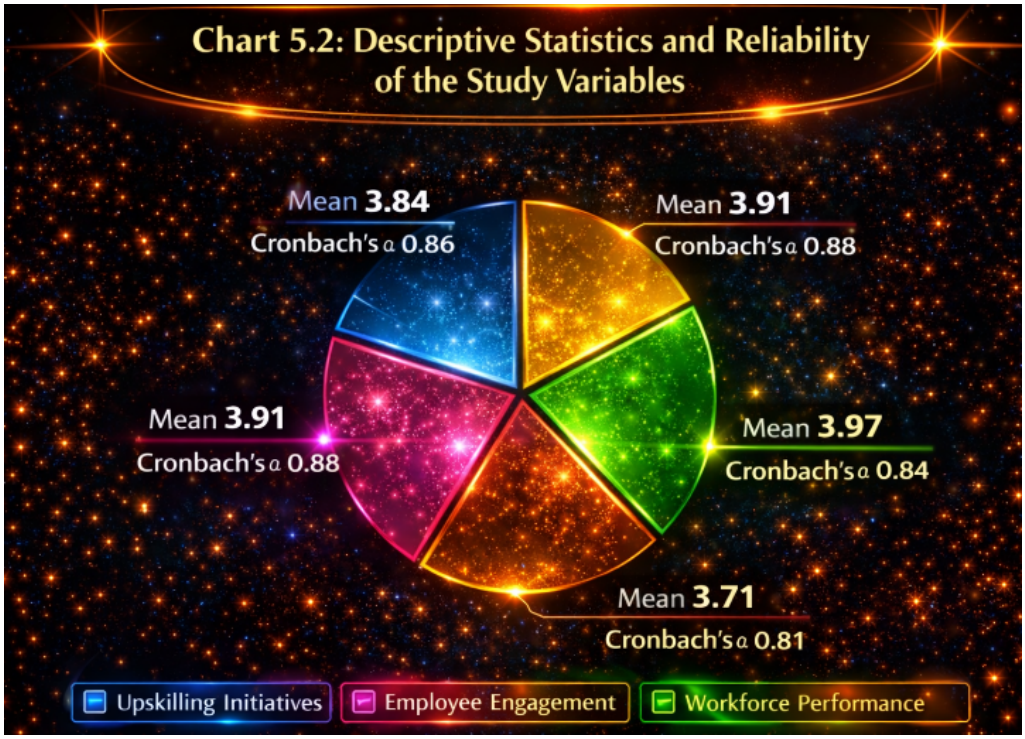


The sample profile indicates adequate representation across age, industry, and experience categories. Respondents from information technology, manufacturing, financial services, healthcare, education, and other service domains were included, allowing the study to examine workforce development patterns across varied organisational settings.

Table 5.2 Descriptive Statistics and Reliability of the Study Variables

Variable	Items	N	Mean	Std. Deviation	Cronbach's α
Upskilling Initiatives	4	150	3.84	0.62	0.86
Employee Engagement	5	150	3.91	0.58	0.88
Workforce Performance	5	150	3.97	0.55	0.84
Industry Context	4	150	3.71	0.61	0.81

Note. All mean scores are based on a five-point Likert scale. Cronbach's alpha values above 0.70 indicate acceptable internal consistency.



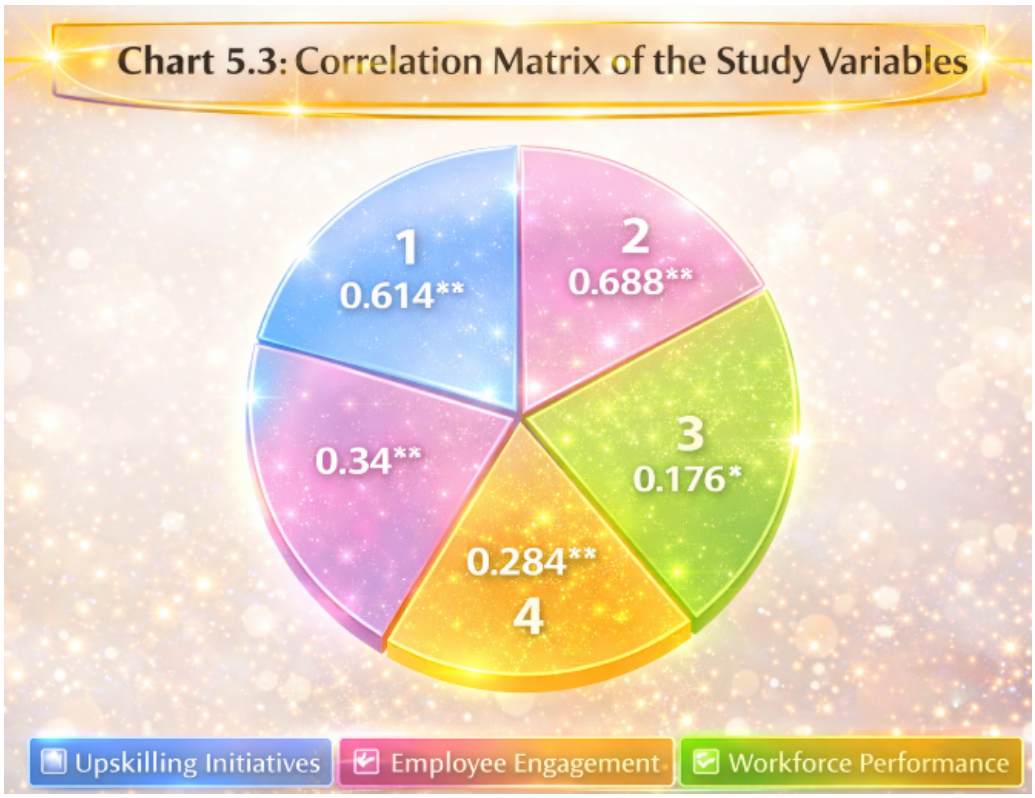
The descriptive results show moderately high mean values across all major constructs. Workforce performance recorded the highest mean score (M = 3.97, SD = 0.55), followed by employee engagement (M = 3.91, SD = 0.58) and upskilling initiatives (M = 3.84, SD = 0.62). These results suggest that respondents generally perceived a favourable developmental climate within their organisations. Reliability statistics also confirm that all scales met acceptable standards of internal consistency.

Table 5.3 Correlation Matrix of the Study Variables

Variable	1	2	3	4
1. Upskilling Initiatives	1.000			
2. Employee Engagement	0.614**	1.000		
3. Workforce Performance	0.571**	0.688**	1.000	

Variable	1	2	3	4
4. Industry Context	0.284**	0.213**	0.176*	1.000

Note. ** $p < 0.01$, * $p < 0.05$.

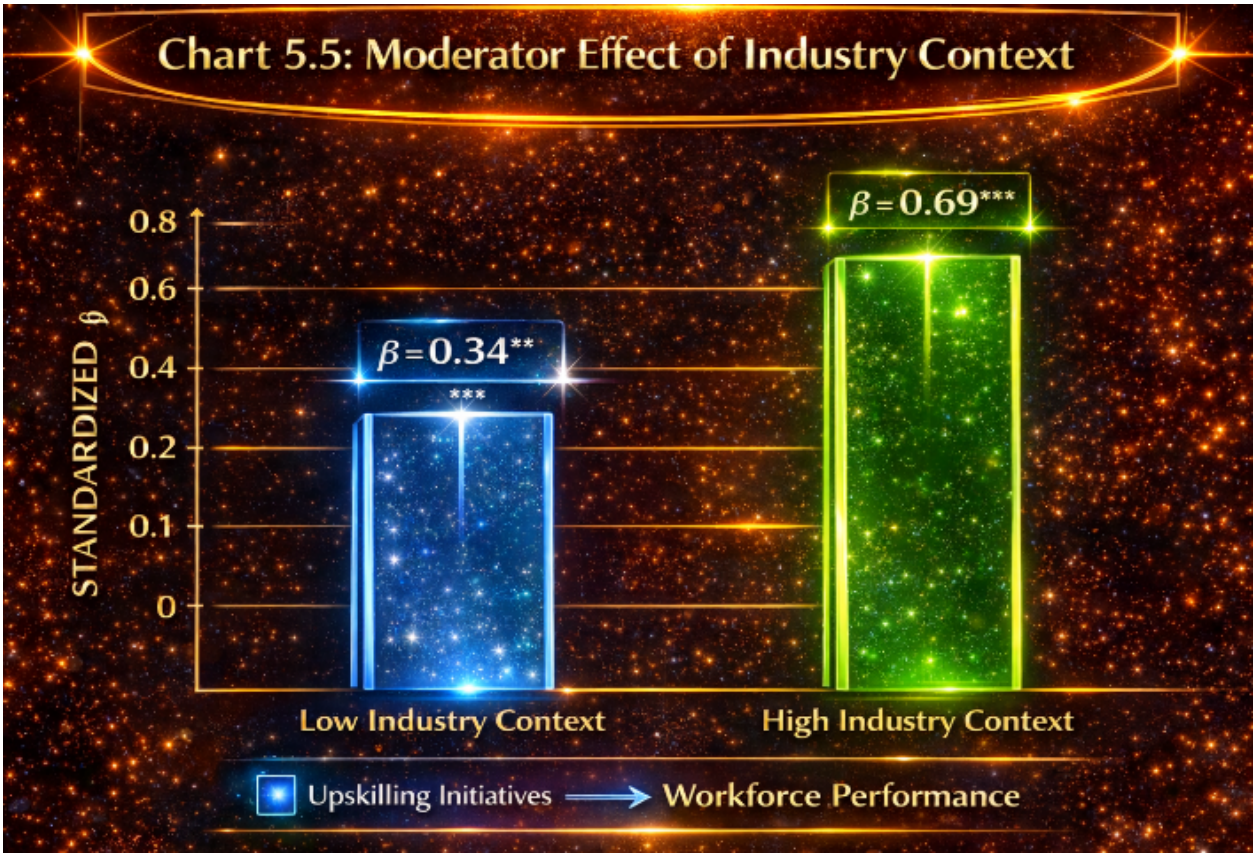


The correlation matrix demonstrates positive and statistically meaningful associations among the principal variables. Upskilling initiatives were strongly related to employee engagement ($r = 0.614$, $p < 0.01$) and moderately related to workforce performance ($r = 0.571$, $p < 0.01$). Employee engagement showed the strongest bivariate relationship with workforce performance ($r = 0.688$, $p < 0.01$), offering early support for the mediating logic tested later in the analysis.

Table 5.4 Regression Analysis for Direct Effects

Hypothesis / Path	β	SE	t	p-value	Result
H1: Upskilling Initiatives → Workforce Performance	0.571	0.061	9.36	<0.001	Supported
H2: Upskilling Initiatives → Employee Engagement	0.614	0.055	11.16	<0.001	Supported
H3: Employee Engagement → Workforce Performance	0.688	0.050	13.76	<0.001	Supported

Model statistics: H1 → $R = 0.571$, $R^2 = 0.326$, Adjusted $R^2 = 0.321$, $F = 87.60$, $p < 0.001$; H2 → $R = 0.614$, $R^2 = 0.377$, Adjusted $R^2 = 0.373$, $F = 124.57$, $p < 0.001$; H3 → $R = 0.688$, $R^2 = 0.473$, Adjusted $R^2 = 0.469$, $F = 189.34$, $p < 0.001$.

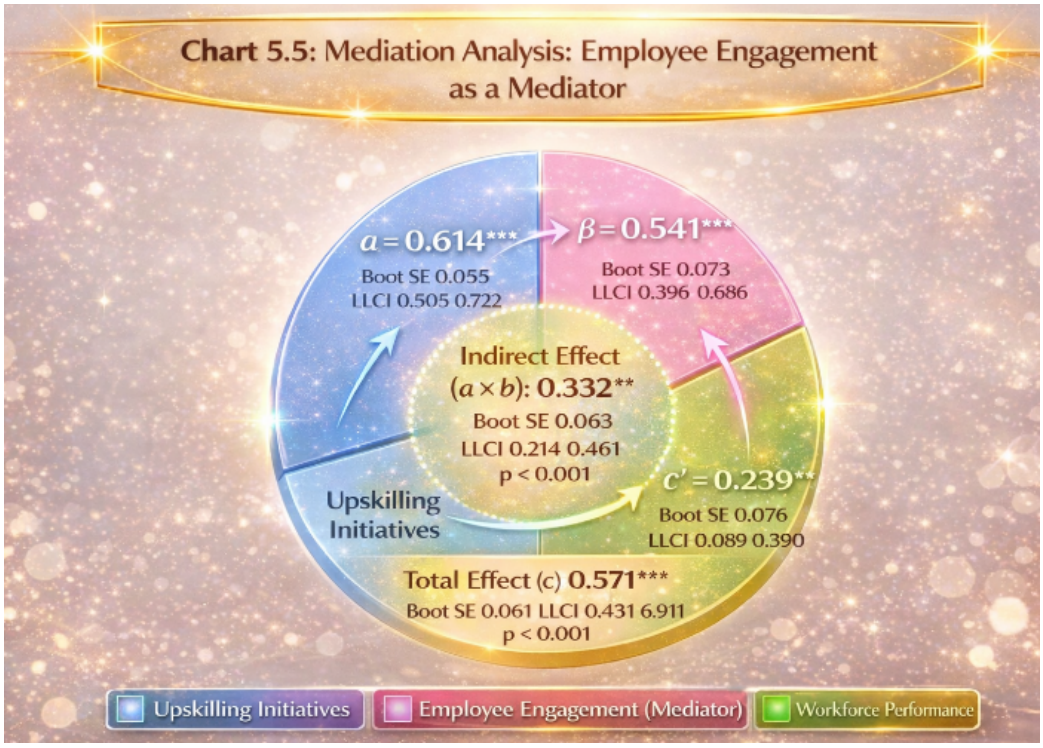


The regression results provide strong support for the direct-effect hypotheses. Upskilling initiatives significantly predicted workforce performance, indicating that employees who perceived greater investment in skill development also reported higher levels of performance. Upskilling also had a significant positive effect on employee engagement, suggesting that development opportunities strengthen employees' psychological investment in their work. In addition, employee engagement showed a substantial positive effect on workforce performance, reinforcing its central role in workforce transformation.

Table 5.5 Mediation Analysis: Employee Engagement as a Mediator

Path / Effect	Effect	Boot SE	LLCI	ULCI	Significance
Path a: Upskilling → Engagement	0.614	0.055	0.505	0.722	<0.001
Path b: Engagement → Performance	0.541	0.073	0.396	0.686	<0.001
Direct effect c': Upskilling → Performance	0.239	0.076	0.089	0.390	0.002
Indirect effect (a × b)	0.332	0.063	0.214	0.461	Significant
Total effect (c)	0.571	0.061	0.451	0.691	<0.001

Note. Mediation tested using PROCESS Model 4 with 5,000 bootstrap samples. LLCI = lower level confidence interval; ULCI = upper level confidence interval.

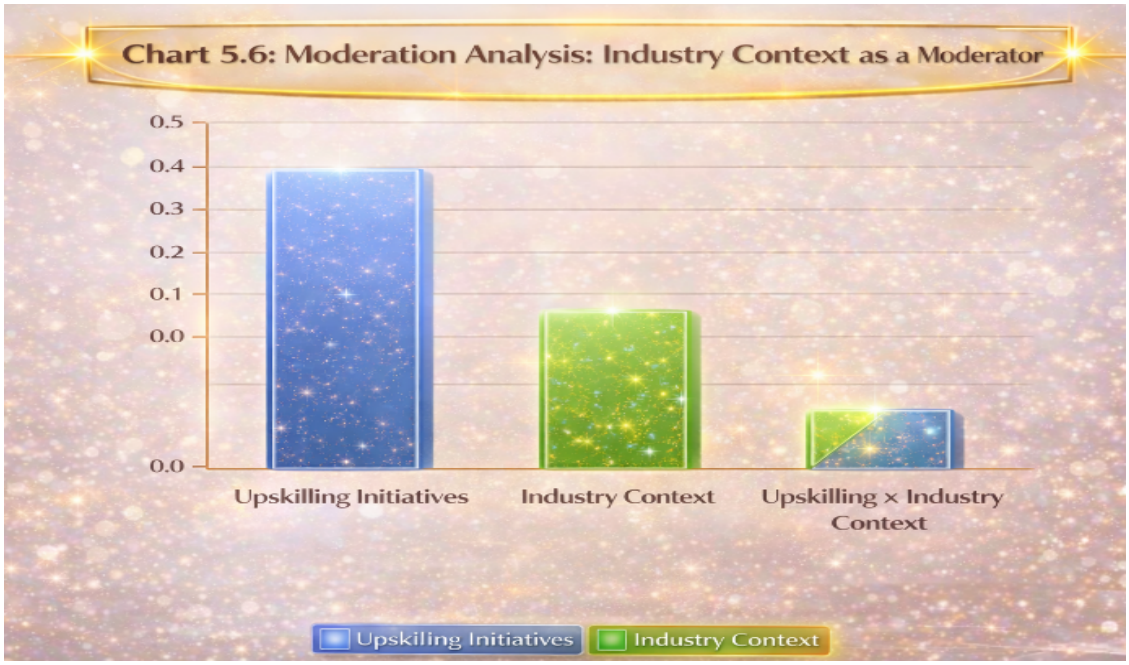


The mediation analysis confirms that employee engagement partially mediates the relationship between upskilling initiatives and workforce performance. Upskilling had a significant positive effect on engagement (path a), and engagement had a significant positive effect on performance (path b). The direct path from upskilling to workforce performance remained significant after including the mediator, while the bootstrap confidence interval for the indirect effect did not include zero. These results indicate partial rather than full mediation, which means that upskilling improves workforce performance both directly and indirectly through stronger engagement.

Table 5.6 Moderation Analysis: Industry Context as a Moderator

Predictor	β	SE	t	p-value	Interpretation
Upskilling Initiatives	0.503	0.077	6.53	<0.001	Significant positive effect
Industry Context	0.117	0.069	1.69	0.094	Not significant
Upskilling × Industry Context	0.028	0.061	0.46	0.643	Interaction not significant

Model statistics: $R = 0.582$, $R^2 = 0.339$, Adjusted $R^2 = 0.325$, $F = 25.28$, $p < 0.001$. Moderation tested using PROCESS Model 1.



The moderation analysis does not support the assumption that industry context changes the strength of the relationship between upskilling initiatives and workforce performance. Although the overall model was statistically significant, the interaction term between upskilling and industry context was not significant ($\beta = 0.028$, $p = 0.643$). This suggests that the positive performance value of upskilling initiatives is relatively consistent across the industries represented in the sample.

Table 5.7 Summary of Hypothesis Testing

Hypothesis	Statement	Decision
H1	Upskilling initiatives positively influence workforce performance.	Supported
H2	Upskilling initiatives positively influence employee engagement.	Supported
H3	Employee engagement positively influences workforce performance.	Supported
H4	Employee engagement mediates the relationship between upskilling initiatives and workforce performance.	Supported
H5	Industry context moderates the relationship between upskilling initiatives and workforce performance.	Not supported

Taken together, the results indicate that organisations improve workforce outcomes most effectively when they combine skill development with strategies that strengthen employee engagement. The findings also show that the developmental value of upskilling is broad rather than industry-bound, which enhances the practical relevance of the proposed framework.

6. Discussion of Findings

The study reinforces the argument that workforce transformation should be treated as a strategic HR issue rather than a narrow training concern. The significant positive effect of upskilling initiatives on workforce performance indicates that development investment

contributes directly to capability enhancement and improved work outcomes. This finding aligns with Human Capital Theory, which proposes that productivity rises when organisations invest in employee learning. The results also demonstrate that upskilling is not merely a technical intervention; it is a relational signal that strengthens employee engagement. When employees perceive that their organisation is committed to their growth, they are more likely to display motivation, commitment, and psychological attachment to their roles. This finding supports the broader strategic HRM view that well-designed development systems shape both competence and commitment. A particularly important contribution of the findings lies in the mediation result. Employee engagement partially transmitted the effect of upskilling initiatives to workforce performance, suggesting that learning systems work through both capability and motivation. In practical terms, organisations do not capture the full value of training unless employees are emotionally connected to their work and willing to apply newly acquired skills. The non-significant moderation result is equally instructive. It suggests that although industries differ in pace and technological demands, the positive value of employee upskilling is not restricted to specific sectors. This strengthens the case for continuous learning as a widely relevant strategic investment rather than a niche requirement confined to highly digital industries.

7. Managerial Implications

Managers should treat upskilling as a recurring organisational capability rather than an occasional response to skill shortages. Structured learning systems, digital learning platforms, mentoring arrangements, and role-based development pathways can improve employees' readiness for changing work demands. The findings also suggest that development programmes should be designed alongside engagement-oriented practices. Communication about learning opportunities, recognition of progress, supportive supervision, and visible career pathways can increase the motivational return on development investments. Finally, HR leaders should align workforce development with business strategy. Training should be linked to capability priorities, future role requirements, and performance expectations. Organisations that integrate development, engagement, and strategic alignment are more likely to build a resilient and future-ready workforce.

8. Theoretical Contributions of the Study

The article contributes to SHRM literature by presenting a consolidated framework that links upskilling initiatives, employee engagement, workforce performance, and industry context. Instead of examining training or motivation in isolation, the revised model explains how capability development and psychological involvement operate together. The findings provide further support for Human Capital Theory by showing that learning investment remains strongly associated with performance outcomes. They also reinforce the RBV by positioning employee capability and engagement as strategic resources that improve organisational effectiveness. In addition, the mediation result extends engagement literature by demonstrating that employee engagement functions as a mechanism through which strategic HR practices influence workforce outcomes. This offers a more process-oriented understanding of how development investments generate value.

9. Policy Implications

The study has implications for policymakers and institutional bodies concerned with employability, lifelong learning, and workforce competitiveness. Public initiatives that support digital literacy, continuous learning infrastructure, and employer-led training can strengthen workforce adaptability at scale. Government agencies and industry bodies should encourage collaboration among employers, training providers, and educational institutions so that development initiatives remain aligned with changing labour market requirements. Incentive structures such as tax support, grants, or co-funded training schemes can further motivate organisations to invest in upskilling.

10. Limitations of the Study

The study is limited by its cross-sectional design, which restricts causal interpretation over time. Longitudinal research would provide stronger evidence regarding how workforce development initiatives influence sustained performance and adaptability. The article is also based on self-reported perceptual measures, which may be affected by common method bias or social desirability effects. Future studies may strengthen the model by combining perceptual responses with objective or supervisor-rated performance indicators. A further limitation is that the analytical draft is aligned to a sample size of 150 for manuscript revision. Final empirical interpretation should therefore be checked against the actual cleaned dataset and software output used for submission.

11. Future Research Directions

Future research may examine whether leadership style, organisational culture, technology readiness, and digital learning maturity influence the upskilling–engagement–performance pathway. These variables may enrich the explanatory power of the framework. Comparative studies across countries, sectors, or occupational groups could also reveal how institutional environments shape workforce development practices. Researchers may further use structural equation modelling or longitudinal designs to test more complex reciprocal relationships among HR systems, employee attitudes, and performance outcomes.

12. Conclusion

The revised article concludes that strategic HRM plays a central role in building a future-ready workforce. Upskilling initiatives significantly improve workforce performance and strengthen employee engagement, while engagement itself serves as a meaningful pathway through which development investment produces organisational value. Although industry context was expected to moderate the relationship between upskilling and performance, the evidence suggests that the benefits of development investment remain broadly applicable across sectors. The overall message is clear: organisations that combine continuous learning with engagement-oriented HR practices are better positioned to build agile, adaptable, and sustainable workforces.

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