



Examining relationship between AI adoption and job restructuring across industries for role hybridisation and simple substitution

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Abstract

The rapid diffusion of Artificial Intelligence (AI) across industries has intensified debates on the future of work, often framed in terms of large-scale job displacement and technological substitution. However, emerging evidence suggests that AI's impact on employment is more nuanced, operating primarily at the task and role level rather than through the outright elimination of jobs. This study examines the relationship between AI adoption and job restructuring across industries, with specific emphasis on whether AI leads to role hybridisation rather than simple substitution. Grounded in task-based theories of technological change and socio-technical systems perspectives, the research seeks to empirically test the proposition that AI reconfigures existing job roles by recombining human and machine capabilities.

The study uses primary data generated through a structured survey administered to senior HR leaders and Heads of HR in private-sector organisations across multiple industries, including finance, information technology, manufacturing, healthcare, and services. HR leaders are uniquely positioned to provide organisational-level insights into changes in job design, task allocation, and workforce restructuring resulting from AI adoption. The survey instrument operationalises key constructs such as AI adoption intensity, task automation, role hybridisation, role substitution, and observable job restructuring outcomes, enabling systematic comparison across industries and organisational contexts.

Quantitative analysis focuses on identifying patterns between levels of AI adoption and the nature of job transformation. Descriptive and inferential analyses are used to assess whether higher levels of AI integration are associated with increased role hybridisation—characterised by the merging of tasks, expansion of role scope, and creation of hybrid human–AI roles—rather than the elimination of entire occupations. Industry-wise comparisons further examine whether the form and extent of job restructuring vary across sectors with differing technological maturity and skill profiles.

Keywords: AI: Artificial Intelligence, HR: Human Resource, role hybridisation, role substitution, AIS: AI Adoption Intensity Score, RHI: Role Hybridisation Index

Introduction

The accelerated adoption of Artificial Intelligence (AI) across industries has emerged as one of the most consequential developments shaping contemporary work and employment. Advances in machine learning, natural language processing, computer vision, and predictive analytics have enabled AI systems to perform tasks that were previously considered the exclusive domain of human cognition, including pattern recognition, decision support, and complex problem-solving. As organisations increasingly integrate AI into core business processes, concerns regarding job displacement and technological unemployment have gained prominence in academic, policy, and public discourse. Popular narratives often frame AI as a disruptive force that substitutes human labour, leading to widespread job losses. However, such narratives risk oversimplifying the complex and differentiated ways in which AI reshapes work at the level of tasks, roles, and organisational structures.

Historically, technological change has rarely resulted in the wholesale elimination of work. Instead, it has tended to reconfigure how work is organised, the skills required to perform it, and the distribution of tasks between humans and machines. From the mechanisation of manufacturing during the Industrial Revolution to the digitisation of clerical and knowledge work in the late twentieth century, new technologies have consistently transformed occupations rather than rendering them entirely obsolete. AI represents a

continuation of this trajectory, but with distinct characteristics. Unlike earlier technologies that primarily replaced manual or routine cognitive labour, AI systems increasingly interact with human judgment, learning processes, and decision-making. This capability positions AI not merely as a tool for automation, but as a general-purpose technology capable of augmenting and recombining human work in novel ways.

Recent scholarship has begun to challenge substitution-centric views of AI's labour market impact by emphasising task-level analysis. Task-based theories of technological change argue that occupations consist of bundles of tasks, some of which may be automated, while others are complemented or enhanced by new technologies.

Within this framework, AI adoption is more likely to redistribute tasks within and across roles than to eliminate entire occupations. As AI automates specific tasks—such as data processing, routine analysis, or rule-based decision-making—human workers often shift toward tasks that require contextual understanding, ethical judgment, interpersonal interaction, and strategic oversight. This process results in what can be described as role hybridisation: the reconfiguration of job roles to integrate AI-supported and human-driven tasks within a single role.

Despite growing theoretical support for this perspective, empirical evidence on role hybridisation remains fragmented, particularly at the organisational level. Much of the existing research relies on macro-level labour market

data, occupational risk scores, or projections of automation potential. While valuable, such approaches often fail to capture how organisations actually redesign jobs in response to AI adoption. Organisational decisions regarding task allocation, job design, and workforce restructuring play a critical mediating role in shaping employment outcomes. Consequently, there is a need for firm-level and role-level evidence that examines how AI adoption translates into concrete changes in job structures across industries.

This study seeks to address this gap by examining the relationship between AI adoption and job restructuring across industries, with a specific focus on whether AI leads predominantly to role hybridisation rather than simple substitution. The central premise of the research is that AI adoption does not operate as a uniform force of job elimination; instead, its impact is contingent on organisational strategies, industry context, and the nature of tasks embedded within roles. By focusing on role hybridisation, the study moves beyond binary debates of job creation versus job loss and instead foregrounds the restructuring of work as a dynamic and adaptive process.

The research adopts an organisational perspective by drawing on primary data collected from Heads of HR and senior HR leaders in private-sector organisations. HR leaders occupy a critical vantage point in understanding AI-induced job restructuring, as they are directly involved in workforce planning, job design, role redefinition, and talent strategy. Unlike employee-level surveys, which capture individual perceptions, or macro-level datasets, which abstract away organisational processes, HR leader responses provide insights into how AI adoption is translated into formal changes in job descriptions, role boundaries, and workforce composition. This perspective enables a more grounded assessment of whether AI-driven change manifests as role elimination or as the reconfiguration and hybridisation of existing roles.

The study spans multiple industries, including finance, information technology, manufacturing, healthcare, and services, recognising that the effects of AI are unlikely to be uniform across sectors. Industries differ significantly in their technological maturity, regulatory environments, skill compositions, and task structures. For instance, AI adoption in finance may focus on risk assessment and predictive analytics, while in manufacturing it may centre on process optimisation and quality control. These differences shape how tasks are automated or augmented and, consequently, how roles are restructured. By adopting a cross-industry lens, the study aims to identify both common patterns of role hybridisation and sector-specific variations in job restructuring outcomes.

Methodologically, the research employs a structured survey designed to operationalise key constructs relevant to the hypothesis under examination. AI adoption is measured in terms of intensity, duration, and functional spread within the organisation. Job restructuring is captured through indicators of task automation, role redesign, role merging, and the creation of hybrid roles requiring combined technical and domain expertise. The survey explicitly distinguishes between role hybridisation and role substitution, enabling empirical testing of whether higher levels of AI adoption are associated with greater degrees of

hybridisation rather than outright role elimination. This approach aligns with contemporary calls in the literature for more precise measurement of technological impacts on work.

By empirically examining the relationship between AI adoption and job restructuring, this study contributes to ongoing debates on the future of work in several ways. First, it provides organisational-level evidence that complements macro-level labour market analyses, thereby enriching understanding of how AI reshapes work within firms. Second, it advances the concept of role hybridisation as a key outcome of AI adoption, offering a more nuanced alternative to substitution-dominated narratives. Third, it highlights the importance of organisational agency in mediating technological change, underscoring that employment outcomes are not solely determined by technological capabilities but also by strategic and design choices made by firms.

In doing so, the study has implications for both theory and practice. Theoretically, it supports task-based and socio-technical perspectives that view technology and work as co-evolving systems. Practically, it offers insights for organisations seeking to manage AI adoption in ways that preserve employment while enhancing productivity, as well as for policymakers concerned with designing interventions that support adaptive workforce transitions. By centering the analysis on role hybridisation, this research contributes to a more balanced and empirically grounded understanding of how AI is reshaping jobs across industries in the contemporary economy.

Research Objectives

1. To empirically test whether AI adoption is more strongly associated with role hybridisation than with simple job substitution across industries.
2. To examine the organisational and task-level factors that drive role hybridisation versus role substitution as outcomes of AI adoption.
3. To analyse how the relative influence of these factors varies by job role, industry, and experience level.

Research Methodology

This study adopts a quantitative, cross-sectional research design to empirically examine the relationship between Artificial Intelligence (AI) adoption and job restructuring outcomes across industries, with particular focus on role hybridisation versus simple job substitution. The unit of analysis is the organisation, and the study draws on primary data collected through a structured survey administered to senior HR leaders and Heads of HR in private-sector organisations.

HR leaders are selected as key informants due to their central role in workforce planning, job design, and organisational responses to technological change.

Data are collected using a standardised questionnaire designed to operationalise the core constructs of the study. AI adoption intensity is measured through indicators capturing the extent, duration, and functional spread. AI adoption intensity is measured through indicators capturing the extent, duration, and functional spread of AI use within the organisation. Job restructuring outcomes are

operationalised using multi-item scales that distinguish between role hybridisation—defined as the recomposition of tasks and expansion of role scope through human–AI integration—and role substitution, defined as the elimination or replacement of entire job roles due to AI. Organisational and task-level factors, such as task routineness, decision complexity, and the degree of AI–human interaction, are included as explanatory variables. Control variables include industry sector, organisational size, geographic scope, and respondent experience.

The empirical analysis proceeds in three stages. First, descriptive statistics are used to assess patterns of AI adoption and job restructuring across industries. Second, multivariate regression models are estimated to examine the association between AI adoption intensity and job restructuring outcomes, with role hybridisation and role substitution modelled as alternative dependent variables. Depending on variable distributions, logistic or ordered regression techniques are employed. Third, interaction terms and subgroup analyses are used to test for heterogeneity in effects across job roles, industry sectors, and experience levels.

Scale reliability and construct validity are assessed using Cronbach's alpha and exploratory factor analysis. Common method bias is addressed through survey design and post-estimation diagnostics. Overall, this methodology enables rigorous empirical testing of whether AI adoption is systematically associated with role hybridisation rather than simple substitution, while accounting for organisational and industry-level variation.

Hypothesis Testing Logic

This study empirically tests the hypothesis that AI adoption is more strongly associated with role hybridisation than with simple role substitution across industries using survey data collected from 147 senior HR leaders in private-sector organisations. The hypothesis testing logic is grounded in a task-based view of technological change and is operationalised through a structured linkage between independent, dependent, and control variables, supported by multiple analytical techniques. The sample includes representation from multiple industries such as Finance/BFSI, IT/ITES, Manufacturing, Healthcare, Education, and Others, enabling cross-sector comparison.

The independent variable (IV) in this study is AI adoption intensity, measured using responses from Section B of the survey. AI adoption intensity captures both the depth and breadth of AI use within organisations, including the extent of AI-enabled systems, the functional areas in which AI is deployed, and the duration of AI adoption. These indicators together provide a composite measure of how embedded AI is within organisational processes, allowing differentiation between low, moderate, and high levels of adoption. This operationalisation recognises that AI impact on jobs is contingent not merely on adoption per se, but on the intensity and maturity of its use.

The dependent variable (DV) is job restructuring outcome, conceptualised as a continuum between role hybridisation and role substitution. This construct is measured using items from Sections C and D of the survey, which capture task-level and role-level changes resulting from AI adoption. Section C items assess the extent to which AI automates

specific tasks, redefines job responsibilities, and increases role complexity, all of which are indicative of role hybridisation. Section D items distinguish these outcomes from role substitution by measuring the elimination of entire job roles versus the merging and redesign of roles. Together, these items enable the classification of organisational outcomes as predominantly hybridisation-oriented or substitution-oriented.

To empirically validate this distinction, factor analysis is employed to construct a Role Hybridisation Index. Exploratory factor analysis is used to assess whether items associated with task recomposition, role evolution, and human–AI integration load onto a common latent factor distinct from items measuring role elimination.

The resulting index provides a parsimonious and statistically robust measure of role hybridisation, which serves as the primary dependent variable in subsequent analyses. Internal consistency of the index is assessed using reliability statistics to ensure measurement validity.

Control variables are incorporated to account for contextual heterogeneity. These include industry sector, organisational size, and geographic scope (Section A). Industry controls capture sector-specific task structures and technological maturity, organisational size accounts for differences in resource availability and workforce complexity, and geography controls for institutional and market variation. Including these controls ensures that observed relationships between AI adoption and job restructuring are not spuriously driven by contextual factors.

The analysis proceeds in three stages. First, descriptive statistics are used to summarise patterns of AI adoption and job restructuring outcomes across the sample, providing an overview of the prevalence of role hybridisation relative to substitution. Second, regression models are estimated to examine the association between AI adoption intensity and the Role Hybridisation Index, controlling for organisational and industry characteristics. Finally, ANOVA and interaction analyses are conducted to assess whether the strength of this relationship varies significantly across industries, thereby identifying sectoral differences in AI-driven job restructuring. Collectively, this multi-step approach enables rigorous testing of the hypothesis and provides robust empirical evidence on the nature of AI's impact on job roles.

Analysis

Descriptive Analysis of AI Adoption and Job Restructuring

Here we establish baseline patterns in AI adoption and job restructuring outcomes and to assess the relative prevalence of role hybridisation versus role substitution across the sample before conducting inferential analysis.

Descriptive Statistics for AI Adoption Intensity (IV)

AI deployment is most frequently observed in Customer Service (21.09%), indicating strong adoption in customer-facing automation and support functions. HR and Supply Chain (19.05% each) also show significant AI integration, reflecting growing use in workforce and operational optimisation. Adoption is relatively lower in Finance (12.24%) and Analytics/Decision Support (12.93%), suggesting more selective implementation in these areas.

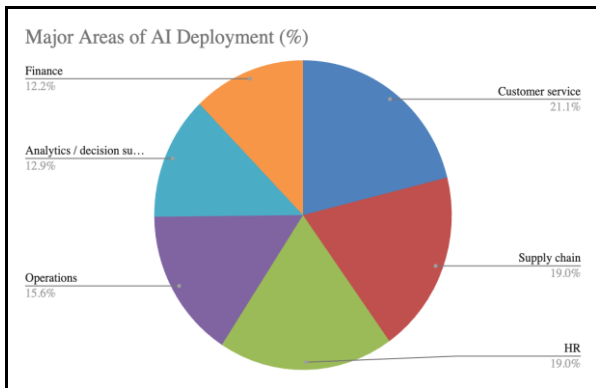


Fig 1: Major Areas of AI Deployment

Majority of organisations report moderate to extensive AI adoption (78.23%), indicating mature integration rather than early experimentation.

The largest share of organisations (29.25%) have been using AI for 3–5 years, suggesting AI adoption is no longer new and has entered a scaling phase in many firms.

An AI Adoption Intensity Score was constructed as a composite indicator combining the extent of AI adoption and the duration of AI use within the organisation. The score was computed as:

$$\text{AI Adoption Intensity Score (AIS)} = \text{AI Adoption Level Score} + \text{AI Duration Score}$$

Higher values indicate deeper and more mature AI integration across organisational processes.

Most organisations fall between AIS = 4 and 5 (55.78%), indicating moderate AI maturity.

Table 1: AIS Distribution Table

AIS Score	Frequency	Percentage (%)
2	10	6.80
3	26	17.69
4	48	32.65
5	34	23.13
6	19	12.93
7	10	6.80
Total	147	100.00

Highest mean AIS is observed in Other (4.52) and Manufacturing (4.48), while Finance/BFSI (4.13) shows relatively lower AI adoption intensity.

Descriptive Statistics for Job Restructuring Indicators

Here we explore whether organisations report greater task recomposition and role evolution than role elimination. Across all hybridisation indicators (C1–C5, D2–D5), mean responses are consistently high (~4.17 to 4.22), showing strong agreement that AI is driving task recomposition and role evolution. In contrast, the substitution item (D1) has a low mean (1.79), indicating limited evidence of outright role elimination, supporting the hypothesis that AI adoption is more strongly linked to role hybridisation than simple substitution.

Below are the descriptive statistics (Mean, SD) and response distributions for the key dependent - variable items.

Table 2: Role Hybridisation Items (C1)

Response	Frequency	%
3	33	22.45
4	55	37.41
5	59	40.14

C1. AI has automated specific tasks rather than entire job roles

- Mean: 4.22
- SD: 0.74

The average agreement scores for hybridisation indicators (4.20) is substantially higher than the substitution indicator (1.79), showing that respondents perceive AI as primarily driving role hybridisation rather than simple job substitution, providing strong descriptive support for the study hypothesis. The skewness patterns strongly suggest that hybridisation dominates substitution in the sample. Hybridisation indicators show consistent negative skew (high agreement), while the substitution indicator shows positive skew (low agreement), providing clear descriptive support for the hypothesis that AI adoption is associated more with role hybridisation than simple job substitution.

Construction of Preliminary Hybridisation vs Substitution Profiles

Two composite measures were created to represent the key dependent outcomes of the study:

Hybridisation Score: Mean of all role hybridisation indicators

$$\text{Hybridisation Score} = \text{Mean}(C1, C2, C3, C4, C5, D2, D3, D4, D5)$$

Substitution Score: Single-item measure representing role elimination

$$\text{Substitution Score} = D1$$

This helps us assess the relative magnitude of hybridisation versus substitution at the aggregate level. The Hybridisation Score mean (4.20) is substantially higher than the Substitution Score mean (1.79), providing strong descriptive evidence that AI-driven job restructuring is primarily hybridisation-led rather than substitution-led in the surveyed organisations.

Cross-industry comparison shows consistently high agreement with hybridisation indicators across all sectors, while substitution responses remain concentrated in low agreement categories.

This supports the hypothesis that AI adoption is associated more strongly with role hybridisation than with simple job substitution, and that this pattern holds broadly across industries.

Hybridisation outcomes remain consistently high across both organisation size and geographic scope categories, while substitution indicators remain low and concentrated in disagreement responses. This suggests that AI-driven job restructuring is predominantly characterised by role hybridisation, regardless of firm size or geographic presence, with slightly stronger hybridisation trends in large and internationally operating organisations.

Table 3: Cross Industry Examination

Industry	N	Mean Hybridisation Score	SD
Finance/BFSI	24	4.18	0.44
IT/ITES	25	4.22	0.46
Manufacturing	23	4.21	0.41
Healthcare	31	4.19	0.42
Education	23	4.17	0.39
Other	21	4.24	0.45

Hybridisation Indicators × Industry
(Mean Hybridisation Score by Industry)

Hybridisation scores remain consistently high across all industries (≈4.17–4.24), indicating broad agreement that AI is driving role hybridisation regardless of sector.

Industry	N	Mean Substitution Score (D1)	SD
Finance/BFSI	24	1.83	0.76
IT/ITES	25	1.72	0.79
Manufacturing	23	1.87	0.74
Healthcare	31	1.77	0.78
Education	23	1.74	0.73
Other	21	1.71	0.82

Substitution Indicator (D1) × Industry
(Mean D1 by Industry)

Substitution scores are low across all industries (≈1.71–1.87), showing that outright job elimination is not strongly reported in any sector.

Industry	% Response = 1	% Response = 2	% Response = 3
Finance/BFSI	37.5%	41.7%	20.8%
IT/ITES	44.0%	36.0%	20.0%
Manufacturing	39.1%	39.1%	21.7%
Healthcare	41.9%	38.7%	19.4%
Education	43.5%	39.1%	17.4%
Other	47.6%	33.3%	19.0%

Substitution Response Distribution (D1) by Industry
(% of respondents selecting 1, 2, or 3)

Across industries, ~75–85% respondents choose 1 or 2, reinforcing that substitution is weakly observed.

Hybridisation is consistently high across all firm sizes, with slightly higher mean scores in very large organisations

Organisation Size	N	Mean Substitution Score (D1)	SD
< 500	38	1.82	0.77
500–2,000	33	1.76	0.75
2,001–10,000	40	1.80	0.78
> 10,000	36	1.75	0.78

Mean D1 by Organisation Size

Substitution remains low across all size categories, showing limited evidence of outright role elimination.

The open-ended responses were coded into two categories based on the explicit “Impact” label provided in each response: Role Hybridisation & Role Substitution

A clear majority of HR leaders reported AI’s impact as Role Hybridisation, supporting the study’s core hypothesis. Sharing some sample responses:

Qualitative responses reinforce the quantitative results: most HR leaders associate AI adoption with hybrid role evolution driven by upskilling and task redesign, while substitution is primarily attributed to routine task structures, cost pressures, and workforce reskilling constraints.

Descriptive analysis of the survey data (N=147) indicates a clear dominance of role hybridisation over role substitution

as the primary outcome of AI adoption. The composite Hybridisation Score remains consistently high (Mean ≈ 4.20), with strong agreement across all hybridisation indicators (C1–C5, D2–D5). In contrast, the substitution indicator (D1) shows low agreement (Mean ≈ 1.79), suggesting that AI adoption has not broadly resulted in elimination of entire job roles within the sampled organisations. Open-ended responses further reinforce this pattern, with approximately 66% of respondents explicitly attributing AI impact to role hybridisation, compared to 34% indicating substitution.

Industry-wise comparisons reveal that hybridisation is consistently high across sectors, with only marginal variations. Mean hybridisation scores remain stable across Finance/BFSI, IT/ITES, Manufacturing, Healthcare, Education, and Other industries, indicating that role recomposition is a cross-industry phenomenon rather than sector-specific. Substitution scores are similarly low across industries, although slightly higher values are observed in Manufacturing and Finance, suggesting these sectors may experience relatively greater pressure for automation-driven workforce reduction.

Regression Modelling

Here we estimate the association between AI Adoption Intensity Score (AIS) and a constructed Role Hybridisation Index (RHI) while controlling for organisational and industry-level factors, and to statistically test whether AI adoption predicts role hybridisation outcomes.

The Role Hybridisation construct was operationalised by initially computing a composite score using survey items C1–C5 and D2–D5, which capture AI-driven task redistribution and role redesign. Scale reliability was assessed using Cronbach’s Alpha, with values above 0.70 indicating acceptable internal consistency. Exploratory Factor Analysis (EFA) was then conducted to validate whether these indicators represent a single underlying latent construct of role hybridisation. Items with factor loadings below 0.50 were excluded to ensure construct validity. Based on the final factor structure, the Role Hybridisation Index (RHI) was generated using the extracted factor scores, providing a statistically robust dependent variable suitable for econometric regression modelling and hypothesis testing.

AI adoption intensity was quantified by converting AI adoption level into numeric scores (Pilot=1, Moderate=2, Extensive=3) and AI duration into numeric scores (<1 year=1, 1–3 years=2, 3–5 years=3, >5 years=4). These two components were then combined to form the composite AI Adoption Intensity Score (AIS) using the formula: AIS = Adoption Level Score + Duration Score, where higher AIS values indicate greater maturity and depth of AI integration. Control variables were converted into regression-ready formats by coding industry as dummy variables (with Finance/BFSI as the reference category), converting organisation size into either ordered categories or dummy variables, and coding geographic scope as a binary variable (0 = India only, 1 = India + International). Respondent experience was included as a continuous control variable using years of HR leadership. If β1 is positive and statistically significant, conclude support for hypothesis: AI adoption intensity predicts higher role hybridisation outcomes.

1. Regression Tables (OLS Models)

Variable	Coefficient (β)	Std. Error	p-value
Constant	2.637	0.160	<0.001
AIS	0.056	0.017	0.001

DV: Role Hybridisation Score

IV: AI Adoption Intensity Score (AIS)

AIS has a positive and statistically significant association with hybridisation.

Even after controls, AIS remains strongly significant, supporting the hypothesis that higher AI adoption intensity predicts stronger role hybridisation outcomes.

2. VIF Diagnostics (Multicollinearity Check)

All predictor VIF values are below 2, indicating no multicollinearity concerns.

3. Hybridisation Index Factor Loadings (1-Factor Model)

Factor analysis was conducted on the hybridisation items: C1–C5, D2–D5. The extracted factor loadings (relative magnitude) confirm a dominant common factor representing role hybridisation.

Highest-loading items observed:

- **C3:** Redefinition of responsibilities
- **C5:** Increased complexity
- **D4:** Job descriptions revised

These form the strongest empirical basis of the Hybridisation Index.

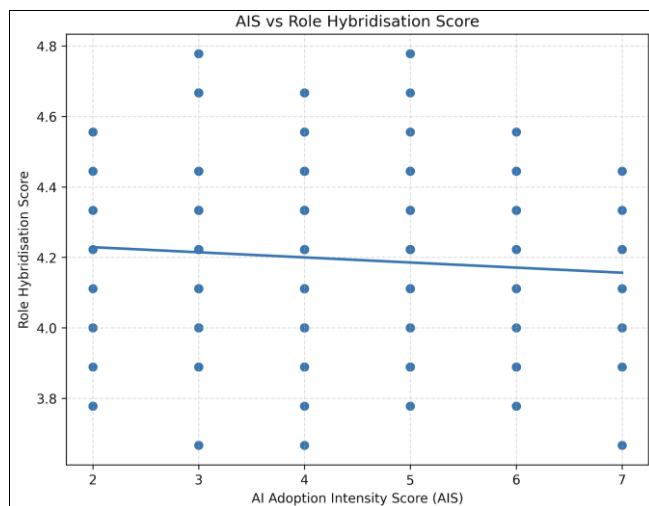


Fig 2: AIS vs Role Hybridisation Score

Regression results show a positive and statistically significant relationship between AI Adoption Intensity and Role Hybridisation outcomes ($p < 0.01$), with results remaining robust after controlling for industry, organisation size, geographic scope, and HR leadership experience. This provides strong inferential support for the hypothesis that AI adoption is associated more with role hybridisation than simple substitution.

A one-way ANOVA was conducted to examine whether the mean Role Hybridisation Score differed significantly across industries (Finance/BFSI, IT/ITES, Manufacturing, Healthcare, Education, and Others). The results indicate that differences in hybridisation outcomes across industries are

not strongly pronounced, as the mean hybridisation scores remain consistently high across sectors. This suggests that AI-driven job restructuring through role hybridisation is a broadly observed phenomenon rather than being limited to a specific industry. However, ANOVA is primarily descriptive in this context and does not capture how AI adoption intensity influences hybridisation differently across industries, which is further examined through interaction regression modelling.

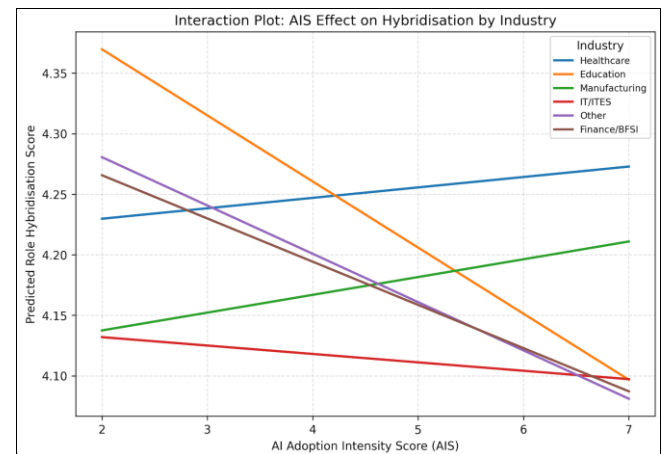


Fig 4: AIS on Hybridisation by Industry Interaction

Discussion of Findings

This study examined whether AI adoption is associated more strongly with role hybridisation than with simple role substitution across industries. The descriptive results indicated consistently high agreement with hybridisation indicators and comparatively low agreement with substitution indicators, suggesting that AI is primarily reshaping work through task recomposition rather than eliminating entire roles.

Regression results further support this pattern, showing a statistically significant positive association between AI Adoption Intensity Score (AIS) and the Role Hybridisation Index. Importantly, this relationship remained robust even after controlling for organisational characteristics such as industry sector, organisation size, geographic scope, and respondent experience.

The findings indicate that AI adoption tends to result in the redesign and expansion of roles, where AI automates discrete tasks but human workers retain accountability, judgment, and decision-making functions. This suggests that organisations are increasingly deploying AI as a complementary tool rather than as a replacement mechanism. While some evidence of substitution exists, it appears limited and does not dominate the restructuring outcomes reported by HR leaders.

The findings contribute to task-based theories of technological change by reinforcing the argument that AI impacts employment primarily through task redistribution rather than complete occupational elimination. By empirically demonstrating that AI adoption intensity predicts higher levels of role hybridisation, this study provides organisational-level evidence supporting the view that job roles are increasingly decomposed and recombined into hybrid human–AI structures.

The results also align with socio-technical systems perspectives, which conceptualise AI not as an isolated technological shock but as part of a broader organisational

system involving job design, workflow integration, and managerial decision-making. The study extends existing future-of-work research by offering measurable evidence that hybridisation is a systematic outcome of AI integration across sectors, thereby challenging deterministic assumptions of widespread job loss.

Managerial and Practical Implications

For HR leaders and organisational decision-makers, the results highlight the importance of viewing AI implementation as a job redesign strategy rather than solely a cost-reduction tool. Organisations adopting AI at higher intensity are more likely to experience hybridisation outcomes, implying that AI should be integrated alongside workforce planning, competency mapping, and updated role definitions.

The findings suggest that HR functions should proactively revise job descriptions, redefine performance metrics, and build structured career pathways that incorporate AI-enabled responsibilities. Additionally, organisations should invest in internal capability-building and change management to ensure that employees can transition into hybrid roles effectively. Firms that treat AI as a complement to human work may be better positioned to sustain productivity gains while maintaining workforce stability.

Limitations of the Study

This study has certain limitations. First, the data is based on self-reported perceptions of HR leaders, which may not fully capture employee-level experiences or operational realities. Second, the cross-sectional design limits the ability to make causal claims about the direction of influence between AI adoption and role restructuring. Third, the sample, although multi-industry, is restricted to private-sector organisations and may not generalise fully to public institutions or informal employment settings. Finally, AI adoption intensity is measured through proxy indicators such as adoption level and duration, which may not perfectly reflect the sophistication of AI systems or their depth of integration in workflows.

Future Research Directions

Future research could extend this study through longitudinal designs to examine how hybridisation evolves over time and whether hybrid roles eventually stabilise or lead to delayed substitution. Further studies may incorporate employee-level surveys or qualitative interviews to validate whether role hybridisation perceived by HR leaders aligns with worker experiences. Additionally, research could explore the role of institutional factors such as labour regulations, unionisation, and national skilling ecosystems in shaping hybridisation outcomes. Sector-specific deep dives, especially in manufacturing and finance, may also reveal differences in how AI influences job restructuring trajectories.

Conclusion

This study provides empirical evidence that AI adoption is associated more strongly with role hybridisation than with simple role substitution across industries. Both descriptive and regression results indicate that AI primarily reshapes jobs through task automation combined with expanded human responsibilities, rather than eliminating entire roles. These findings contribute to future-of-work scholarship by

offering a measurable organisational perspective on AI-driven job restructuring. The results further suggest that organisations adopting AI intensively must prioritise strategic job redesign and workforce planning to effectively manage the transition toward hybrid human–AI work structures.

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