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An Analysis On Employee Engagement Towards Hybrid Work Culture and Ai Enabled Working Environment

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ABSTRACT

The research focuses on the changing dynamics of employee engagement in organizations that are embracing hybrid work patterns and artificial intelligence (AI) in the workplace. As companies are preoccupied with balancing on-site and off-site work, AI-powered tools have come into prominence for the optimization of communication, collaboration, and productivity. Through utilization of qualitative survey data and routine IT assessments, this research investigates the way such technical and organizational transformations impact employees' motivation, commitment, and sense of belonging. Flexibility, autonomy of digital work, perceptions of justice, and readiness for new technologies are some of the most significant factors that influence engagement in such environments. Findings identify both prime stimulants and most likely impedimental factors of engagement in AI-accompanied hybrid environments. From the research, it provides HR practitioners and managers with practical advice on how to sustain and stimulate engagement via ongoing digital transformation. It underlines the necessity to apply digital means of employee well-being and organization culture, in a bid to construct a resilient, flexible, and engaged workforce via a more technologically centered work environment.

Keywords: Employee Engagement, Hybrid Work Culture, Artificial Intelligence (AI).

1. INTRODUCTION

The modern workplace is changing in the 21st century with the integration of hybrid work styles and AI technologies, reshaping traditional thinking about employee engagement. Though providing flexibility, autonomy, and better work-life balance, hybrid work creates communications issues, isolation threats, and opportunities disparities. Simultaneously, AI technologies simplify routine work, improve decision-making, and remake interaction among workers, managers, and work—introducing concerns over job security, equity, and human interaction. This study seeks to explore how such evolving dynamics affect worker motivation, commitment, and organizational performance through investigating key drivers such as flexibility, virtual teams, AI support systems, leadership communication, and employee well-being. This study aims to offer prescriptive recommendations to organizations about how they can build engagement and resilience in increasingly digital and blended work environments.

2. LITERATURE REVIEW

Dr.T.Prabaharan , (2023) , It explores AI's role in hybrid work environments, emphasizing its impact on communication, collaboration, flexibility, and employee satisfaction.

Dr.G.Balamurugan ,(2023),It discusses the impact of hybrid work on virtual employees, emphasizing work-life balance, technology integration, and challenges such as moonlighting.

Verma & Singh,(2024),It examines the integration of Co-bots in workplaces, analyzing both positive and negative impacts on employee engagement.

Nikita Yelkar,(2022),It identifies key engagement drivers like transparency, feedback, recognition, and collaboration in a hybrid setting

Ziomek,(2024),They studies the differences in sustainable consumption behaviors between remote and hybrid workers.

3. RESEARCH METHODOLOGHY

The study employs a descriptive study design in methodically analyzing workers' perceptions and participation in hybrid work cultures over a longer period using AI-mediated technologies. The study mainly utilized a quantitative data collection method with structured questionnaires to obtain numerical data as well as qualitative information acquired from open-ended questions. The sample shall consist of 162 participants collected through snowball sampling to ascertain varied experiences of workers within the organization. Data will be collected using primary sources in the form of structured questionnaires and semi-structured interviews with managers and employees and secondary data in the form of organizational case studies, industry reports, and academic journals. Statistical techniques like percentage analysis, factor analysis, chi-square tests, and SEM models will be applied to analyze the data and establish insights into hybrid work cultures and AI-enabled workplaces.

3.1 RELIABILITY TEST

Cronbach's Alpha	No of Items
0.81	27

The Cronbach's alpha value is 0.81 which means the questionnaire is highly reliable.

4. DATA ANALYSIS AND INTERPRETATION

4.1 FACTOR ANALYSIS

Factor analysis of all variables from the questionnaire

Table No:4.1.1

Table Name: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.841
Bartlett's Test of Sphericity	Approx. Chi-Square	2.1153
	Df	630
	Sig.	.001

Table No:4.1.2

Table Name: Communalities

	Initial	Extraction
Age	1.00	.92
Gender	1.00	.77
Marital status	1.00	.59
Education	1.00	.87
Working Schedule	1.00	.87
Income	1.00	.88
I can frequently interact with AI-driven tools (e.g., chat bots, resume screening, predictive analytics) at work.	1.00	.80
.I am comfortable with using AI-driven HR tools.	1.00	.88
AI tools usage in organization	1.00	.74
My organization provides flexible work options that suit my needs.	1.00	.84
Remote work policies in my organization enhance my productivity.	1.00	.81
The hybrid work model helps me maintain a better work-life balance.	1.00	.94
Chat bots reduce the need for direct communication with HR for routine tasks.	1.00	.93
Chat bots provide quick and accurate responses to my questions.	1.00	.92

AI chat bots help troubleshoot common IT issues while working remotely.	1.00	.95
The AI resume screening process is transparent and understandable.	1.00	.90
Predictive analytics helps identify potential career growth opportunities for employees.	1.00	.95
My organization uses predictive data to make better HR decisions.	1.00	.88
My company uses predictive data to improve employee retention strategies.	1.00	.93
I find digital communication tools user-friendly and efficient.	1.00	.93
The collaboration tools used in my organization enhance work coordination.	1.00	.82
I receive timely updates and announcements through digital communication tools.	1.00	.89
AI-driven performance evaluations help me improve my skills.	1.00	.91
AI-driven monitoring is more effective than traditional performance reviews.	1.00	.94
AI-based performance tracking provides fair and objective feedback.	1.00	.88
AI-enabled systems contribute to a better work-life balance.	1.00	.98
Digital tools at work sometimes increase my stress levels.	1.00	.95
I feel supported by my organization in managing work-related stress.	1.00	.93
AI-powered recognition systems ensure fair acknowledgment of employees' efforts.	1.00	.91
AI-driven reward systems enhance motivation among employees.	1.00	.95
I receive timely recognition for my contributions.	1.00	.89
The company culture aligns with my personal values and beliefs.	1.00	.84
I believe cultural differences are valued and leveraged for innovation.	1.00	.93

Leadership actively supports employee career development.	1.00	.87
My organization provides clear career progression paths.	1.00	.91

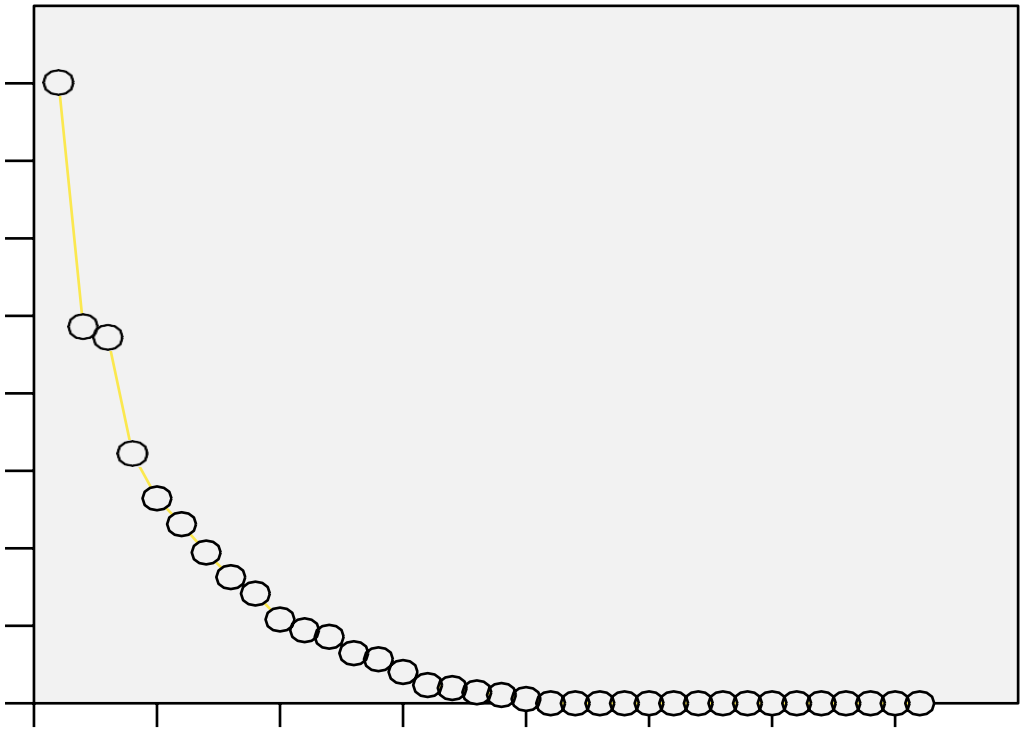
Table No:4.1.3

Table Name: Rotated Component Matrix

	Component				
	1	2	3	4	5
Digital & AI Literacy	.12	.12	.13	.08	.03
Digital & AI Literacy	.23	-.24	-.18	.44	.06
Digital & AI Literacy	.11	.03	.04	-.02	.00
Analytical Thinking	.23	-.07	.20	-.39	-.03
Analytical Thinking	.58	.06	-.13	.39	-.01
Empathy	.37	-.25	-.14	-.41	.61
Digital & AI Literacy	-.18	.70	-.28	-.15	.04
Digital & AI Literacy	.05	.35	.29	.35	.32
Digital & AI Literacy	-.04	-.02	.21	-.89	.13
Ethical Awareness	.89	-.11	-.10	-.07	.20
Digital & AI Literacy	-.11	-.19	.12	-.15	.02
Digital & AI Literacy	.01	.91	.14	-.01	.00
Digital & AI Literacy	.72	.34	.19	.10	.13
Digital Tool Proficiency	.38	.30	.23	.19	.62
Digital Tool Proficiency	.65	.12	-.08	-.05	.57
Digital Tool Proficiency	.00	-.02	.23	.23	.25
Digital & AI Literacy	.14	-.15	-.04	.04	.89
Digital & AI Literacy	.58	.43	.06	.36	.40
Ethical Awareness	-.26	.37	.53	-.01	-.48
Analytical Thinking	.41	.50	.58	-.21	.03
Empathy	.83	-.02	.31	-.29	.00
Empathy	.11	-.06	.21	-.03	.01
Ethical Awareness	.02	.91	.19	.23	.00

Analytical Thinking	.54	.55	-.18	-.23	.15
Empathy	-.03	-.20	.61	-.01	.19
Emotional Intelligence	.59	-.18	.56	.28	.10
Cultural Sensitivity	-.12	.13	.74	.08	-.28
Communication Skills	.62	.40	.16	.06	.47
Communication Skills	-.06	.36	.29	.71	.22
Communication Skills	.29	.03	.85	-.19	.20

SCREE PLOT



Interpretation

From the table 4.1.1 The KMO value of 0.841 suggests that the sampling is very adequate for factor analysis. Bartlett's Test of Sphericity is significant (p =.001), indicating that the data is appropriate for determining underlying factor structures.

From the table 4.1.2 it is inferred that the extraction value is ranging from 0.74 to 0.98 which shows that minimum variance share of items after extraction is % and maximum variance share of item is 74% to 98%.

From the table 4.1.3 it is inferred that the high loading factor be Digital & AI Literacy (.89)followed by Empathy (.83) further followed by Digital & AI Literacy (.72) followed by Digital Tool Proficiency (.65) followed by Communication Skills (.62).

4.2 CHI SQUARE

Table No:4.2.1

Table Name: Age and I am comfortable with using AI-driven HR tools

H_0: There is no significant association between Age and I am comfortable with using AI-driven HR tools

H_1: There is a significant association between Age and I am comfortable with using AI-driven HR tools

	Value	df	Asymptotic Sig. (2-tailed)
Pearson Chi-Square	9.08	6	.169
Likelihood Ratio	9.15	6	.166
Linear-by-Linear Association	.13	1	.721
N of Valid Cases	30		

Interpretation

Thus the value of χ^2 is smaller than the table value; we do not reject the null hypothesis. So, no significant relationship exists between age and ease of use of AI-based HR tools.

Table No:4.2.2

Table Name: Gender and Chat bots provide quick and accurate responses to my questions.

H_0: There is no significant association between Gender and Chat bots provide quick and accurate responses to my questions.

H_1: There is a significant association between Gender and Chat bots provide quick and accurate responses to my questions.

	Value	df	Asymptotic Sig. (2-tailed)
Pearson Chi-Square	8.94	4	.063
Likelihood Ratio	9.60	4	.048

Linear-by-Linear Association	5.67	1	.017
N of Valid Cases	30		

Interpretation

Thus the χ^2 value is smaller than the table value; we do not reject the null hypothesis. Thus, there is no significant correlation between gender and the belief that chat bots offer rapid and correct answers to queries.

5. MAJOR FINDINGS

1. **Suitability of Data for Factor Analysis**
   The sample was extremely suitable for factor analysis (KMO = 0.841) and Bartlett's Test of Sphericity was significant (p = 0.001), indicating that the data was suitable for the detection of underlying factor structures.
2. **Explained Variance and Key Components**
   Factor analysis yielded five dominant components accounting for a cumulative variance, with contributions of 22.3%, 13.5%, 13.1%, 9.0%, and 7.3%, and communalities between 74% and 98%, demonstrating strong variable representation in the model.
3. **Most Influential Variables**
   The most influential variables were Digital & AI Literacy (.89), Empathy (.83), Digital & AI Literacy (secondary item:.72), Digital Tool Proficiency (.65), and Communication Skills (.62), demonstrating these competencies as the leading factors.
4. **No Significant Correlation with Demographics**
   No significant correlation between age and ease of use of AI-based HR tools, and no significant correlation between gender and perception that chat bots offer quick and accurate answers was shown by chi-square tests.

6. SUGGESTIONS AND RECOMMENDATION

- Foster Digital & AI Literacy through ongoing training.
- Foster Empathy and Communications Skills in addition to technical skills.
- Develop Digital Tool Mastery through practical workshops.
- Implement Inclusive AI Strategies that accommodate all demographics.
- Gather Ongoing Feedback to enhance AI tool usability and engagement.

7. CONCLUSION

This research proposes that the engagement of employees in AI-ful and hybrid environments is most impacted by skills like Digital & AI Literacy, Empathy, and Communication Skills. Analysis of data verified the factor structure reliability and did not find any considerable relationship between demographic variables and the perception of usability of AI tools. In order to sustain the engagement in technologically mixed-up workspaces, firms need to spend on digital literacy, coordinate hard and soft

skill development, and implement inclusive practices that allow all employees to learn to thrive under AI-based HR processes.

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