

## Organizational Climate and Motivation: A Correlational Study of Personnel Working with Artificial Intelligence

Shubhangi Gharote<sup>1</sup>, Sumedha Wankhede<sup>2</sup>

<sup>1</sup> Research Scholar, PG Department of Psychology, RTM Nagpur University.

Email: [shubhangisingh000@gmail.com](mailto:shubhangisingh000@gmail.com)

<sup>2</sup> Assistant Professor, Kumbhalkar College of Social Work, RTM Nagpur University.

Email: [wankhedesumedha@gmail.com](mailto:wankhedesumedha@gmail.com)

### Abstract

The study examined the correlation between organizational climate and employee motivation and the effect of organizational climate on employee motivation of personnel working in artificially intelligent (AI) workplaces. The study used a descriptive correlational research design using two research questionnaires namely the Perceived Work Environment Scale (PWES) and Work Motivation Questionnaire (WMQ). Through purposive sampling data was gathered from 100 male employees working in the IT industry in India. The correlational analysis found a significant, moderate and positive relationship between organizational climate and motivation ( $r = 0.67$ ). Further investigation through regression analysis, it was found that organizational climate does not significantly affect employee motivation ( $R^2 = 0.46$ ). Further studies are needed to significantly measure the influence of organizational climate on employee motivation of personnel in an artificially intelligent workplace.

**Keywords:** Artificial Intelligence Workplace, Correlation, Motivation, Organizational Climate.

### I. INTRODUCTION

Artificial intelligence (AI) is driving transformation in businesses and organizations as it continues to advance and augment operational connectivity. It appears to enhance human intelligence, resulting in enrichments in the quality, precision, and accuracy of employees' work (Wilkins, 2020). It supports companies in optimizing manufacturing, improving decision-making, and boosting operational efficiency in the business (Wright and Schultz, 2018). Measures can be developed to optimize AI according to workers' needs, abilities, and professional identity, ensuring that AI complements human skills instead of replacing them (Jarrahi, M. 2018). AI acceptance is increasingly crucial for both workers and businesses, providing them with a competitive edge (Oliveira and Martins, 2011) and focusing on people allows for the discovery of synergies and the achievement of positive results for both individuals and organizations.

Organizational climate refers to members' shared perceptions about their organizations and work environment, (Parker, et al., 2003). These perceptions are directed at the policies, practices, and procedures experienced by the employees. One meta-analysis study found that psychological climate was strongly related to individuals' level of job satisfaction, involvement, commitment and motivation. A positive workplace climate has been linked to higher customer satisfaction and organizational financial performance as well. Appraisal theory (Bandura, 1986) suggests that employees who perceive their work environment as functional and favourable will be more likely to feel a state of well-being, and, according to self-determination theory (Ryan & Deci, 2017), will be more likely to have their basic psychological needs met (i.e., they would experience higher levels of autonomous motivation). Organizational climate plays a crucial role in the acceptance of AI as it provides insight into the broader context in which AI technologies are introduced and adopted in a workplace. For instance, organizational climates fostering innovation and a willingness to explore new ideas are more likely to embrace AI technologies (Mikalef and Gupta, 2021), and enable employees to identify novel AI application opportunities (Vinchon, F., et al., 2023).

Encouragement and support are necessary when running an activity to reach a goal, and this requires motivation. According to the expectation theory, the likelihood that a particular outcome will follow and how appealing that outcome is to the individual determine how strong a tendency to act in a particular way will be. Employees engage to meet their material and psychological requirements. Their views toward pay, relaxation, benefits, and the desire to work, all affect how much time and effort they put into their employment. (Douglas & Morris, 2006). Measuring job performance and satisfaction can help assess work motivation. In these situations, managers should concentrate on learning about the

demands and wishes of the staff regarding the features of the workplace to create an inspiring work environment. (Seiler, Lent, Pinkowska, & Pinazza, 2012). As AI systems take over repetitive, monotonous tasks, there is more time for humans to turn to identity-forming tasks (Jarrahi, M. 2018) Consequently, motivation and competencies within the human part can be promoted (Hughes, L., et al., 2019). Determining the elements of the work environment that motivate personnel to meet objectives is vital if one is to enhance employee motivation. Employees within an organization can be motivated to excel in their job responsibilities by fostering an organizational atmosphere that fuels their motivation to perform tasks effectively and meet their needs while achieving the organization's objectives. In such context, it appears as important to identify the correlation between organizational climate and motivation as this directs employees towards adopting a positive attitude regarding their daily work activity in an AI work environment.

## **II. REVIEW OF LITERATURE**

Forsberg, K., Jama Hussein, W., & Tolis, J. (2024), by using a quantitative approach found that white-collar workers perceive that AI will enhance their sense of autonomy and competence, which in turn will increase their expected work motivation. Blagoev, V, Shustova, E., & Protas, N., (2022,) established that AI application had a positive impact on bank employees' work motivation. Acosta- Prado, J.C. (2020), indicated that the organizational climate positively and directly influences the innovation capability (organizational ambidexterity, exploration, and exploitation. As per Li, J., Bonn, M., and Ye, H. (2019), AI and robotics awareness were found to be significantly associated with employee turnover intention which was moderated by perceived organizational support and a competitive psychological climate.

## **III. OBJECTIVE OF THE STUDY**

This research aims to investigate the relationship between organizational climate and work motivation, whether a correlation exists and whether future trends can be predicted between organizational climate and employee motivation in an AI workplace.

## **IV. RESEARCH METHODOLOGY**

The research is quantitative and utilized correlational and regression analysis research design to establish the correlation between dependent and independent variables, namely motivation and organizational climate of personnel in an AI workplace, as well as to predict its significance. The study's focus was on 100 male workers in the IT industry in India, across various job levels, who use AI technology at work. The respondents were between 23 and 58 years old. The Researcher employed purposive sampling to gather data. Survey questionnaires were distributed and collected during regular working hours in groups over 30 days. The study adopted two validated questionnaires using a five-point Likert scale. 1. Work Motivation Questionnaire (WMQ) by K.G. Agrawal (26-item scale) which measured six factors namely: dependence, organizational orientation, workgroup relations, psychological incentives, material incentives, and job situation.

2. Perceived Work Environment Scale (PWES, 46 item scale) by S. M. Khan measured eleven factors namely- effectiveness of supervision/ management, working conditions, confidence in management, monetary gains, sociability & cooperation, opportunity for growth and development, sense of belonging, citizenship behaviour and recognition, work relations, employee benefit program, and job stress.

## **V. HYPOTHESES TESTING**

While correlational studies do not show causality, the relationships revealed through the correlations become a first step to showing a relationship between the variables (Waters, N. 1996). Descriptive statistics gave a statistical picture of the sample. Pearson's Correlation Coefficient was used to find the relationship between the two variables. Regression analysis was used to further the analysis and predict the relationship between them. This was done using the Data Analysis Tool Pack.

### **H 1 There is a significant and predictive relation between Work Motivation and the organisational Climate**

Coefficient of Correlation (r)	R Square	Adjusted R Square	F value	Significant P value	Y-intercept

0.679	0.461	0.456	84.013	p = 0	36.97
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The combined factors of Organizational Climate (PWES) and Work Motivation (WMQ) demonstrate a positive, moderate, and significant relationship. The correlation coefficient (r) is 0.67, with a p-value of less than 0.05. The F-value is 84.01, the Y-intercept is 36.97, and the R square is 0.46, indicating a predictive relationship close to a moderate level of 0.50. Consequently, even slight changes in organizational climate can result in moderate changes in employee motivation.

Table I Mean and SD of various factors of PWES and WMQ

Sr. No	Factors of PWES and WMQ	Mean	SD	Sr. No	Factors of PWES and	Mean	SD
1	Effectiveness of supervision	50.12	8.55	11	Job Stress	6.14	1.9
2	Working Condition	24.15	4.41	12	Dependence	22.3	3.28
3	Confidence in Management	16.64	3.09	13	Organization Orientation	23.03	4.34
4	Monetary Gains	17.32	3.01	14	Work Group Relations	25.29	2.54
5	Sociability and Cooperation	19.87	3.47	15	Psychological Work Incentives	16.31	2.67
6	Opportunity for growth and development	7.92	1.63	16	Material Incentives	11.84	2.22
7	Sense of Belonging	8.01	1.5	17	Job Situation	12.1	2.12
8	Citizenship Behavior & Recognition	7.88	1.45				
9	Work Relations	8.21	1.47		WMQ Total	100.78	13.62
10	Employee Benefit Program	7.33	1.39		PWES Total	173.21	25.13

Table II Pearson Coefficient of Correlation (r) values of various factors of Motivation (WMQ) and Organizational Climate (PWES)

			Work Motivation Questionnaire				
	Perceived Work Environment Scale	Dependence	Organization Orientation	Work Group Relations	Psychological Work Incentives	Material Incentives	Job Situation
1	Effectiveness of supervision	0.34	0.53	0.49	0.53	0.4	0.44
2	Working Condition	0.44	0.56	0.48	0.57	0.45	0.52
3	Confidence in Management	0.35	0.48	0.36	0.49	0.39	0.45
4	Monetary Gains	0.18	0.5	0.37	0.35	0.4	0.44
5	Sociability and Cooperation	0.49	0.5	0.5	0.56	0.41	0.55
6	Opportunity for growth and development	0.3	0.57	0.44	0.53	0.3	0.54
7	Sense of Belonging	0.16	0.38	0.32	0.42	0.19	0.32
8	Citizenship Beha. & Recognition	0.35	0.39	0.32	0.42	0.23	0.35
9	Work Relations	0.28	0.53	0.43	0.56	0.37	0.52
10	Employee Benefit Program	0.24	0.25	0.31	0.31	0.3	0.26
11	Job Stress	0.19	0.16	0.18	0.3	0.26	0.15

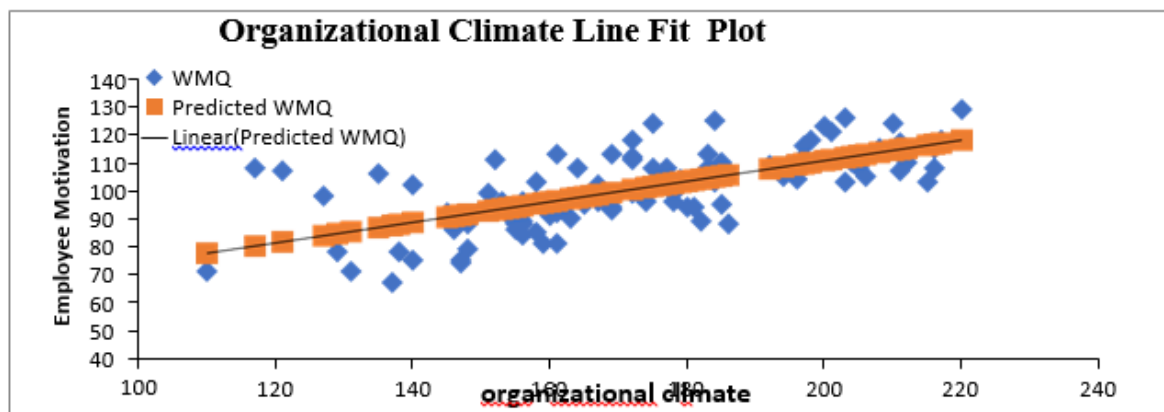


Fig. 1 Organizational Climate (PWES)and Employee Motivation (WMQ) Trend Line

## H2 There is a significant relationship between Work Relations and Psychological Incentives

When Work Relations and Psychological Incentives were correlated it was found that -

Coefficient of Correlation r	R Square	Adjusted Square	R	F value	SignificantP value	Y-intercept
0.562	0.316	0.309		45.373	p = 0	7.912

With  $r = 0.56$  and  $p=0$  ( $p<0.05$ ), show a positive, moderate and significant relationship between work relations and psychological incentives. With an R square of 0.31 and a Y-intercept of 7.91, it suggests that 31% of the variations in psychological incentives can be attributed to work relations. Therefore, the predictive relationship between work relations and psychological incentives is modest, and it should not be relied upon for making predictions.

## H3 There is a significant and positive relationship between Sociability and cooperation and Psychological Incentives.

Coefficient of Correlation r	R Square	Adjusted Square	R	F value	SignificantP value	Y-intercept
0.563	0.312	0.305		44.58	p=0	7.73

With  $r = 0.56$  and  $p=0$  ( $p<0.05$ ), show a positive, moderate and significant relationship between psychological incentives and sociability and cooperation. With an R square of 0.31 and Y-intercept of 7.73, psychological incentives are affected by sociability and cooperation by 31% thus, the predictive relationship between psychological incentives and sociability and cooperation is mild and it cannot be taken as an indicator for prediction.

## H4 There is a significant relation between Effective Supervision and Organization Orientation

Coefficient of Correlation r	R Square	Adjusted Square	R	F value	SignificantP value	Y-intercept
0.534	0.283	0.277		38.93	p=0	9.46

With  $r = 0.53$  and  $p=0$  ( $p<0.05$ ), show a positive, moderate and significant relationship between effective supervision and organization orientation. With an R square of 0.28 and Y-intercept of 9.46 means organization orientation is affected by

effective supervision by 28% thus, the predictive relationship between effective supervision and organization orientation is quite weak, so it cannot be relied upon as an indicator for prediction.

**H5 There is a significant and predictive relationship between Opportunity for Growth and Development and organizational orientation**

Coefficient of Correlation r	R Square	Adjusted Square	R	F value	SignificantP value	Y-intercept
0.574	0.324	0.317		47.08	p=0	2.989

When  $r = 0.57$  and  $p = 0$  ( $p < 0.05$ ), it indicates a significant, moderate, and positive correlation between opportunity for growth and development and organizational orientation. With an R-squared value of 0.31 and a Y-intercept of 2.98, this suggests that 32% of the variance in opportunity for growth and development can be explained by organizational orientation. Therefore, the predictive relationship between opportunity for growth and development and organizational orientation is weak, and it should not be relied upon for prediction.

## VI. DATA ANALYSIS & INTERPRETATION

The study found that factors affecting the organizational climate in AI workplaces in the Indian IT sector have a significant, moderate, positive relationship with employee motivation factors ( $r = 0.67$ ). Accordingly, employees from these organizations consider work-group relations, supervisor feedback and support, working conditions, cooperation and sociability between employees, and opportunities for growth and development, to be the most important factors in performing their activities at the workplace. The correlation between motivation and organizational climate and its various factors was established (table 2) by using Pearson's coefficient of correlation ( $r$ ) to establish the influence of which climatic factors influence employee motivation the most. The study findings emphasize the significant and, positive correlation between psychological incentives and work relations ( $r=0.56$ ,  $p=0$ ), and the relationship between sociability, cooperation, and psychological incentives ( $r=0.56$ ,  $p=0$ ). The connection between effective supervision and organizational orientation is both positive and substantial, with a moderate strength ( $r=0.53$ ,  $p=0$ ). Similarly, the correlation between the opportunity for growth and development and organizational orientation is also positive and significant, with a somewhat stronger strength ( $r=0.57$ ,  $p=0$ ). Analysing these connections leads to the conclusion that effective teamwork with colleagues impacts how much value employees place on psychological rewards, opportunities for personal and professional growth, in alignment with the organization's goals.

Regression analysis was conducted to predict the relationship between different factors, and it revealed a modest predictive association between organizational climate and employee motivation ( $R \text{ square}=0.46$ ). Whereas the predictive relationship between psychological incentives and work relation ( $R \text{ square}=0.31$ ), psychological incentive and sociability& cooperation ( $R \text{ square}=0.31$ ), effective supervision and organization orientation ( $R \text{ square}=0.28$ ) as well as the opportunity for growth and development ( $R \text{ square}=0.32$ ) is weak and should not be considered as a reliable predictor for the future.

## VII. CONCLUSION

This study emphasizes the significance of certain critical elements in the workplace when integrating AI technology. In a collaborative workplace between humans and AI, the behaviours of AI and humans have a mutual influence on each other (Endacott, K. 2021). The interaction between humans and AI involves humans using the results of AI's work, or AI completing tasks on behalf of humans. Thus, the workplace's technological integrations place a strong emphasis on technology. (Kopp, R., et al., 2016), human-centred approaches are becoming increasingly important in the context of AI technologies. Addressing the organizational climate and factors that promote motivation in the workplace is essential when implementing intelligent technologies. This ensures that the needs and capabilities of the employees are met, and allows the organization to benefit from the synergies of cooperation (Kluge et al., 2021). Hence, it can be inferred that establishing effective teamwork with coworkers has a positive impact and the value they place on receiving positive feedback from colleagues and supervisors for their work performance, results in effective management, and improves the working conditions. Managers need to establish a favourable organizational environment by

prioritizing the enhancement of the organization's financial situation, obtaining equipment and machinery to streamline employee tasks, creating a conducive physical workspace, and implementing policies and procedures that empower employees to take on work responsibilities which can have a direct influence on increasing their motivation.

However, additional research is required to determine if similar outcomes are observed. Future efforts should focus on consolidating these various techniques encompassing diverse analytical methods contributing to technology implementation, centring around human needs.

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