

Employee Engagement And Organizational Productivity: An Empirical Study Of The Attitudes Of The Employees Of It Sector

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Abstract

In the rapidly evolving business environment, organizations increasingly recognize the strategic value of employee engagement in driving organizational productivity. This study explores the intricate relationship between employee engagement and productivity within the IT sector, emphasizing the psychological, cultural, and structural factors influencing workforce motivation and performance. Drawing upon theoretical frameworks such as the Job Demands-Resources Model, Self-Determination Theory, and Social Exchange Theory, the research investigates how leadership, organizational culture, technological advancements, work-life balance, and psychological safety contribute to engagement levels. The study utilized quantitative methods to assess engagement and productivity across managerial, non-managerial, and technical cadres. Findings reveal that employee engagement has a significant positive correlation ($r = 0.902$) with organizational productivity. Technical employees recorded the highest engagement and productivity levels, while managerial staff scored the lowest. Key engagement dimensions—job satisfaction, growth, communication, and workplace environment—were found equally important in enhancing performance outcomes. The study concludes that employee engagement is a critical driver of organizational success, warranting continued investment in leadership development, positive work culture, and adaptive HR strategies. Future research should expand across different sectors and management levels to further validate these findings and support engagement-focused organizational strategies.

Keywords: Employee Engagement, Organizational Productivity, Leadership, Work Culture, IT Sector

INTRODUCTION

In today's business environment, organizations are coming to realize the central role of human capital in sustaining success. Despite of technological change and change in demographic of workforce, employee engagement came as a important aspects to improve in organisational productivity and performance. Employee engagement is defined as emotional attachment and time investment of an employee in the organizational goals and involvement in organizational work with full encouragement. (Schaufeli & Bakker, 2004). Employee engagement is found as important element of organizational outcome. The employee who are fully engaged in the organization are likely to have high level of motivation, commitment towards the organization and high level job satisfaction which help the organization in improving the organization productivity, and reduce the employee turnover rate, and lead to better customer satisfaction. (Harter, Schmidt, & Hayes, 2002). Whereas, disengaged employees, employees, move towards the high rate of absenteeism, lower productivity, lower morale level and somehow having negative impact on the organizational performance. According to Gallup (2024), "State of the Global Workplace" report alter that only 23% of worldwide employees are found properly engaged in their work and role fully, and highlight it is as a major concern element to scale up the organization towards the growth. Such type of situations can be covered with the help of modifying the nature of work, provide the current workforce strategy like remote and hybrid work policy, motivate the employee to perform the task with more creativity and innovation. This will lead to promote employee engagement. Conceptual framework encompasses the changing employee engagement scenario and its effect on the organization productivity, which require a development of new applicable conceptual models.

Comprehending the dynamics of employee engagement and its impact on organizational productivity requires a perusal of applicable theoretical models. The Job Demands-Resources (JD-R) model suggests that employee engagement is determined by the interaction of job demands and accessible resources, implying that sufficient resources have the capacity to cushion the effect of job demands towards burnout and disengagement (Bakker & Demerouti, 2007).

In the same way, Self-Determination Theory underscores the necessity of satisfying fundamental psychological needs—autonomy, competence, and relatedness—to establish intrinsic motivation and engagement (Deci & Ryan, 2000). Social Exchange theory also provides a viewpoint, suggesting that organizational support and fairness perceived by the employees will have an effect on their levels of engagement (Cropanzano & Mitchell, 2005).

Global Trends and Challenges, even with increasing focus on employee engagement, worldwide engagement levels are still below par. Gallup's 2024 report shows that just 23% of employees globally are engaged at work, while 62% are not engaged and 15% are actively disengaged (Gallup, 2024). This disengagement has serious economic consequences, with Gallup estimating that low employee engagement costs the world economy \$8.9 trillion, or 9% of global GDP (Gallup, 2024).

In India, the situation is especially alarming. A new Gallup report identifies the fact that 14% of employees in India feel they are "thriving" in their lives and 86% are struggling or suffering (India Today, 2024). In spite of the difficulties, the employee engagement rate in India remains reasonably high at 32%, which is far higher than the world average rate of 23% (India Today, 2024). This implies that although most Indian workers are confronting serious challenges, a large percentage are still active in their occupations.

Leadership and organizational culture impact employee engagement is significantly influenced by leadership. Transformational leadership, where leaders inspire and motivate employees, has been associated with improved engagement levels (Bass & Riggio, 2006). Organizational culture also has a significant impact on engagement. Positive company culture, encompassing norms, values, and behavior shared within an organization, can boost productivity and profitability for firms (The Times, 2024). But few managers have formal training, and common practices such as micromanaging caused bag organizational culture, worsening productivity problems. Investing in effective management training and emphasis on key competencies—role clarity, communication, and accountability—can turn these negative trends around (The Times, 2024). Companies that focus on leadership development and a positive culture are likely to build an engaged workforce.

Technological Advancements and Employee Engagement:- The use of Artificial Intelligence (AI) in Human Resources has revolutionized the management of recruitment, performance appraisal, and employee engagement within organizations.

Although AI provides various benefits, including better efficiency and less bias, it poses critical concerns regarding the well-being of employees, job security, equity, and transparency (Sadeghi, 2024). Transparency in AI systems presents the key element in building trust and encouraging positive attitudes among employees. Organizational approaches, including open communication, upskilling initiatives, and worker participation in AI adoption, are essential to prevent adverse effects and maximize positive impacts (Sadeghi, 2024).

Work-Life Balance and Employee Well-being:- Work-life balance is a critical determinant of worker engagement and productivity. The presence and actual availability of varied work-family policies, including flexible working times and places, have an indirect beneficial effect on job performance with well-being generated as the mediating factor (Medina-Garrido et al., 2023). Companies which works on new family-friendly HRM practices and policies will lead to effective organizational performance and high level employee well-being. (Biedma Ferrer & Medina Garrido, 2023)

Psychological Safety and Engagement:- Leadership plays a very important role in employee engagement. Leaders who work on "participatory and collaborative" management philosophy can strengthen the psychological safety of the employee and build the team spirit. Psychological safety is found as mutual perspective element which create a safe environment between employees and leads towards the high employee

engagement. Team who have clear structure and healthy relationship among team member, it will lead to build a positive psychological safety, which in turn enhanced the productivity and employee engagement. "Leadership, organisational culture, technology, work-life balance and psychological safety" considered as essential component for forming a culture of employee engagement. Organization that work on such component are going towards building a motivated workforce which develops the improved organizational productivity and organizational performance.

LITERATURE REVIEW

Employee Engagement has considered as most important component in organization research and good practice and widely known for its effect on a various outcomes, but most importantly on organizational productivity. From last two decades researchers, trying to find out the relationship of employee engagement with organizational productivity and to elaborate the new key innovation in the area of employee and organisational productivity.

Conceptualizing Employee Engagement

The term "employee engagement" was made well-known by Kahn (1990), who introduced it as "the harnessing of organization members' selves to their work roles," which states that engaged workers show themselves physically, mentally, and emotionally at work during role performances. Since then, numerous scholars have built on this basis. Saks (2006), tried to differentiate between the job engagement and organizational engagement and states that engagement is considered as a multi dimensional component which shaped by various factors. More contemporary models, like the Job Demands-Resources (JD-R) framework (Bakker & Demerouti, 2017), define engagement as a positive, satisfying, work-related state that is marked by vigour, dedication, and absorption.

This conceptual foundation has been essential in examining the influence of engagement on employee of behaviours, such as productivity. Employee engagement has been associated with discretionary effort, creativity, lower absenteeism, and improved job performance (Schaufeli, 2017). Engagement is there fore no longer a soft HR problem but a strategic priority.

Engagement and Productivity: Empirical Evidence there is an increasing body of empirical research that underlines the argument that employee engagement influences organizational productivity. Harter et al. (2020), in a meta-analysis of more than 100,000 business units, reported that employees who are highly engaged account for 21% greater profitability and 17% greater productivity than their disengaged peers. This is also supported by Gallup's (2023) State of the Global Workplace report, which reports that business units ranked in the top quartile for engagement perform better on key performance indicators than those in the bottom quartile.

In a cross-sectional analysis of the manufacturing industry, Kim et al. (2022) also established that engagement and quality of output had a high positive correlation, reaffirming that employees who are engaged are more attentive and devoted to excellence. Akhtar et al. (2021), similarly report that employee engagement significantly forecasts innovation and process efficiency, both of which are critical ingredients in productivity for contemporary organizations, in knowledge-intensive sectors.

In addition, longitudinal studies by Christian et al. (2021) imply that long-term involvement results in persistent high performance, especially within changing and competitive settings. The above studies combined imply that engagement not only impacts short-term performance but also to long-term company development.

Drivers of engagement and their link to productivity

A number of engagement antecedents have been noted, many of which have direct effects on productivity. Leadership, for instance, is important. Transformational leadership has been seen to promote more engagement empowerment, trust development and praise (Buil et al., 2019). Leaders giving clear objectives and independence increase workers' intrinsic motivation, which directly enhances their productivity (Macey & Schneider, 2008). Organiza

Organizational culture is another major driver. A culture of inclusivity, supportiveness, and a culture of learning boosts psychological safety, which is essential for long-term engagement (Edmondson,

2019). The more employees feel secure and appreciated, the more likely they will initiate and contribute to their full potential, and therefore contribute to increased individual and collective productivity.

Job design and value congruence are also important. Bakker & Albrecht (2018), states that autonomy, feedback, and task significance are the job resources positively linked with engagement. These job resources enhance work meaningfulness and, as such, drive proactive behaviours and productivity improvement. This is in congruence with Deci and Ryan's (2000) Self-Determination Theory, where autonomy, competence, and relatedness are posited to be critical for motivation and engagement.

Well-being initiatives and work-life balance have also appeared as key drivers of engagement. The COVID-19 pandemic has made of mental health at work more pertinent. A Deloitte (2023) study shows that companies focusing on employee well-being record higher employee engagement scores and greater productivity. This indicates that the overall employee experiences are now integral to organizational performance strategies.

Engagement in the Digital Age the emergence of remote and hybrid work patterns has necessitates a rethinking of engagement mechanisms. While conventional engagement techniques had their roots in physical interaction, modern approaches rely on digital platforms and tools to foster connectivity and motivation. A study by Nguyen et al. (2023) suggests that digital engagement platforms providing feedback loops, recognition, and social connectivity can replace in-person engagement effectively, thus sustaining productivity. Nevertheless, technology engagement comes with its challenges. Digital over reliance can contribute to digital fatigue and disengagement if not carefully managed (Choudhury et al., 2021). Therefore, organizations need to balance technology use across engagement and people oriented work practices.

The Mediating and Moderating Mechanisms

Recent scholarship has viewed more and more attention towards the mediating and moderating processes that affect the relationship between engagement and productivity.

Psychological empowerment, for instance, has been viewed as a key mediator. Empowered employees who are engaged are likely to be more prone to display ownership behaviour, leading to higher productivity (Spritzers et al., 2022). Organizational commitment and job satisfaction also usually mediate this relationship in such a way that engaged employees from stronger organizational attachments that end up producing performance improvement Yalabik et al., 2017).

Conversely, work stress and role ambiguity can be the moderators of the efficacy of engagement. In stressful work environments, even engaged workers can be unproductive if they have a lack of clarity or resources (Karatepe, 2013). This indicates the significance of contextual conditions and the requirement for a facilitative infrastructure. Critiques and Emerging Debates Although most research confirms the positive relationship between engagement and productivity, some researchers warn of overgeneralization. Bailey et al. (2017) contend that engagement is no magic pill and that its effect differs depending on the context, industry, and worker demographics. As an example, what motivates a technologist may be very different from what motivates a front-line employee in a manufacturing facility.

Another criticism is about measurement. Despite the existence of various engagement measures, there still is no generally accepted scale to measure engagement, and research results are inconsistent. Although the Utrecht Work Engagement Scale (UWES) is commonly employed it could be insufficient in capturing the total complexity of engagement particularly when applied across different cultures (Schaufeli et al., 2019). In addition, researchers such as Ghosh et al. (2022) caution against the instrumentalization of engagement only as a productivity-boosting tool. They promote a more humane perspective emphasizing the value of engagement as an end in itself, connected with workers' welfare and satisfaction, instead of merely organizational performance.

The literature is decidedly in favour of the positive link between employee engagement and organizational performance. Engagement has a direct correlation with performance outputs through a workforce that is more motivated, committed, and active. The relation is mediated by mediating and moderating

variables such as leadership, job design culture, and well-being. For the digital age, engagement measures need to cope with technological innovation and changing employees' expectations.

Hypotheses

On the basis of the survey of literature, the researchers could develop the following broader hypotheses:

1. All the dimensions and parameters of Employee Engagement and Organizational productivity are very prominent and vital.
2. All the dimensions and parameters of Employee Engagement and Organizational productivity do not differ substantially in general as also in terms of cross sections of the employees.
3. There is positive relationship between Employee Engagement and Organizational productivity for all the employees.

Objectives

In the context of the hypotheses mentioned, the objectives of the study are as under:

1. To calculate the average scores of the aspects/parameters of Employee Engagement and Organizational productivity and to pinpoint their prominence. In other words, whether their prominence is different or is equally prominent for all the employees as also for the cross sections of the employees.
2. To measure the average nature and degree of co-relationship between Employee Engagement and Organizational productivity for all the employees as a whole.
- 3.

RESEARCH METHODOLOGY

The title of the problem is “: An Empirical Study of the Employee Engagement and Organizational productivity”. The nature of the study is sample based on descriptive research. The population covers employees working at middle level in IT Sector of Delhi-NCR region.

Primary data are collected from the sampled middle-level managers of IT Sector in Delhi NCR by administering a well and a pre-tested structured questionnaire on 5-point Likert scale. The instruments of Employee Engagement contains 25 and Organizational productivity instrument contains 25 items. The size of the sample is 513 middle-level employees. The sample size was determined on the basis of the following formula:

$$n = Z^2 \sigma_p^2 / e^2,$$

Where the researchers have accepted the error term 0.058 and the S.D of the population (σ_p) as the proxy figure is 0.66.

$$n = (1.96)^2 \times (0.66)^2 / (.058)^2$$

$$n = 496$$

By rounding the figure, the sample size is of 513. The sampled middle-level managers have been identified by using a stratified random sampling technique so that sample represents the whole population.

To check the significance and to test the hypotheses, Non- Parametric tests like one sample sign test, chi-square test and Kruskal-Wallis tests and parametric test like Z test and t-test were applied at 5% level of significance. For studying the relationship between EE and TL, Karl Pearson's Correlation Coefficient and Linear Regression Analysis are used. Moreover, the average scores of all the aspects/parameters in the form of percentage of total spectrum represents as follows:

Criteria Percentage	Remarks
Up to 60	Normal
>60 <75	Highly Satisfactory
>75	Vital or prominent

As indicated in table 4, departments were divided into three categories: technical, non-management, and management. The Kruskal-Wallis H test was used to examine the variation in the average score of the respondents' three categories according to department.

Kruskal-Wallis H test:

H₀: There is no difference in the average score of attitudes of aspects of Organizational Productivity.

H_a: There is significant difference in the average score of department attitude of aspects of Organizational Productivity.

RESULT & DISCUSSION

The data collected for this study relate to 513 middle-level employees which have been processes as depicted in Table 1.

Measurement of the overall aspects of Transformational Leadership

Table: 1

Average Score of Attitude Measurement on a 5-point scale for the aspects and Dimensions/Parameters of Employee Engagement of the Sampled Respondents

Dimension	Aspects of Employee Engagement Pertaining to each Dimension	Average Score	
JSM	I am satisfied with my current job in the organization.	3.500975	3.878709
	I feel motivated to give my best effort at work every day.	3.920078	
	I feel a sense of ownership and pride in the projects I work on.	4.025341	
	My work aligns with my personal values and goals.	3.847953	
	I would recommend this organization as a great place to work.	3.783626	
	I am satisfied with the overall work environment and culture.	3.781676	
	The organization provides opportunities for my professional development and growth.	4.025341	
	My skills and expertise are utilized effectively in my role.	4.011696	
	I have meaningful conversations with my superiors about my career progression.	4.011696	
PDG	The organization fosters a culture of innovation and creativity.	4.046784	3.971039
	I am committed to the long-term goals and vision of the organization.	3.996101	
	I receive constructive feedback to help improve my performance.	3.894737	
	The organization invests in employee well-being programs to support our health and happiness.	3.931774	
	My supervisor communicates clear goals and expectations for my role.	3.890838	
	My opinions and suggestions are valued by my superiors.	4.093567	
	I receive recognition and feedback for my contributions to the organization.	3.94347	
LC	Employee contributions are recognized and appreciated in the organization.	4.011696	4
	I have autonomy and independence in how I carry out my tasks.	4.126706	
	Employees are involved in decision-making processes related to our work.	3.988304	
	I feel supported by my colleagues and team members.	4.038986	
	The organization promotes a healthy work-life balance for employees.	3.834308	
WES	I have access to the necessary resources and tools to perform my job efficiently.	3.994152	3.811891
	The organization encourages collaboration and idea-sharing among employees.	3.504873	
	Conflicts or issues within the team are addressed and resolved effectively.	3.976608	
	The organization encourages employees to take breaks and recharge when needed.	3.77193	
Total average		3.918129	3.91541

The average attitude measurement score on a 5-point scale for the elements and parameters/dimensions of employee engagement for 513 samples is included in the summarised tables based on the table formation.

According to table 1, the average score for all the employee engagement dimensions and aspects is 3.918, or 76% of the whole spectrum. Based on the previously mentioned criteria, all the employee engagement dimensions are crucial. Additionally, Job Satisfaction and Motivation scored 75%, Professional Development and Growth scored 77%, Leadership and Communication scored 77%, and Workplace Environment and Support scored 74% of the overall spectrum, indicating the critical importance of the employee engagement dimension.

The researcher used the following sample sign test to investigate the relevance of overall average results.

One sample sign test

Null Hypothesis $H_0: \mu = 3.918129$, Alternate Hypothesis $H_a \neq 3.918129$,

Total Number of Signs (n) = 25: 16 plus sign and 9 minus sign,

Number of less frequent signs (s) = 9

Critical value for two-tailed test at 5% level of significance (k)

$K = (n-1)/2 - 0.98 \sqrt{n} = 24/2 - 0.98 \sqrt{24} = 12 - 4.80 = 7.19$

Since $S(9) > K(7.19)$, Null hypothesis is accepted

As per the test the null hypothesis is accepted, hence the average score of the dimensions is not different and whatever difference came it came just because of sample fluctuations.

Table: 2 Average Scores of Attitudes Measurement on a 5-point Scale for the Aspects of Employee Engagement of Sampled Respondents

Aspects of Employee Engagement Pertaining to each dimension	Mean Score of Cross Sections			
	Management	Non-Management	Technical	OVERALL
I am satisfied with my current job in the organization.	3.408	3.947	3.572	3.501
I feel motivated to give my best effort at work every day.	3.800	4.053	4.048	3.920
I feel a sense of ownership and pride in the projects I work on.	3.808	4.105	3.873	3.848
My work aligns with my personal values and goals.	3.887	3.842	4.201	4.025
I would recommend this organization as a great place to work.	3.830	4.211	3.934	3.891
I am satisfied with the overall work environment and culture.	3.989	4.316	4.197	4.094
The organization provides opportunities for my professional development and growth.	3.932	3.895	3.961	3.943
My skills and expertise are utilized effectively in my role.	3.902	4.211	4.183	4.039
I have meaningful conversations with my superiors about my career progression.	3.664	4.105	4.009	3.834
The organization fosters a culture of innovation and creativity.	3.955	3.842	4.092	4.012
I am committed to the long-term goals and vision of the organization.	3.928	4.158	4.057	3.994
I receive constructive feedback to help improve my performance.	3.985	4.105	4.066	4.025
The organization invests in employee well-being programs to support our health and happiness.	3.962	3.895	4.026	3.988
My supervisor communicates clear goals and expectations for my role.	3.355	3.842	3.651	3.505
My opinions and suggestions are valued by my superiors.	3.853	4.053	4.192	4.012
I receive recognition and feedback for my contributions to the organization.	3.804	4.105	3.983	3.895
Employee contributions are recognized and appreciated in the organization.	4.011	4.053	4.266	4.127
I have autonomy and independence in how I carry out my tasks.	3.913	4.474	4.087	4.012
Employees are involved in decision-making processes related to our work.	3.925	4.211	4.175	4.047
I feel supported by my colleagues and team members.	3.962	4.000	4.035	3.996
The organization promotes a healthy work-life balance for employees.	3.396	3.789	3.638	3.519
I have access to the necessary resources and tools to perform my job efficiently.	3.834	4.105	4.131	3.977
The organization encourages collaboration and idea-sharing among employees.	3.657	3.842	3.900	3.772
Conflicts or issues within the team are addressed and resolved effectively.	3.721	3.947	4.175	3.932
The organization encourages employees to take breaks and recharge when needed.	3.668	3.737	3.917	3.782
	3.806	4.034	4.015	3.908

As indicated in table 2, departments were separated into three groups: technical, non-technical, and management. The Kruskal-Wallis H test was used to examine the variation in the average score of the respondents' three categories according to department.

Kruskal-Wallis H test:

H_0 : There is no difference in the average score of attitudes of aspects of employee engagement.

H_a : There is significant difference in the average score of department attitude of aspects of employee engagement.

$$H = \frac{12}{n(n+1)} \sum_i \frac{R_i^2}{n_i} - 3(n+1)$$

As per average score given in the table 4.14, rank was assigned to each score and H value was calculated.

Total Rank (N) = 75

Total Rank of Management= 561.5.5: N= 25

Total Rank of Non-Management= 1353.5: N= 25

Total Rank of Technical = 1149: N= 25

The Kruskal-Wallis's test yielded an H value of 63.75, which exceeds the critical chi-square value of 5.991 at the 5% significance level with 2 degrees of freedom (K-1). Therefore, since the calculated H value is greater than the tabulated value, the null hypothesis is rejected. This indicates that the average scores across departments differ significantly. Specifically, the technical department has higher average scores for employee engagement aspects compared to both the non-management and management departments. This suggests that departmental differences do have an impact on employee engagement levels.

Measurement of Overall Aspects of Organizational Productivity

For quantifying the overall aspects of Organizational Productivity of the sampled 510 respondents, the collected data of various dimensions of Organizational Productivity on 5-point Likert scale and their equivalent average scores have been shown in table 3.

Table: 3 Average Score of Attitude Measurement on the 5-point Scale for the Aspects and Parameters of Organizational Productivity for the Sampled Respondents

Dimension	Aspects of Organization Productivity pertaining to each dimension	Average Score	
GAPE	The organization effectively achieves its stated goals and objectives.	4.170	4.027
	I believe that the organization operates efficiently in its day-to-day processes.	3.953	
	I feel that the organization makes effective use of its resources.	3.990	
	I find that the organization's performance metrics are well-defined and measurable.	3.885	
	The organization effectively delegates tasks and responsibilities to appropriate team members.	4.094	
	The organization adapts well to changes in the business environment.	4.076	
AI	I feel that the organization encourages innovation and creativity.	3.984	4.035
	The organization supports employee well-being and offers relevant wellness programs.	4.039	
	The organization regularly reviews and assesses its performance to identify areas for improvement.	4.025	
	The organization fosters a culture of continuous improvement.	4.092	
TC	The organization fosters collaboration and teamwork among employees.	4.002	3.993
	I feel that the organization empowers employees to make decisions and take ownership of their work.	4.103	
	I feel that the organization encourages knowledge sharing and learning among employees.	3.836	
	I believe that the organization fosters a positive and supportive work environment.	3.988	
	The organization effectively manages and resolves conflicts among team members.	4.035	
	The organization provides the necessary tools and technology to support productivity.	3.992	
	I find that the organization has efficient systems and processes in place.	3.996	
RAT	The organization effectively manages time and prioritizes tasks to maximize productivity.	4.012	3.974
	I believe that the organization encourages a healthy work-life balance for employees.	3.945	
	I believe that the organization is responsive to customer needs and feedback.	3.967	
ERD	I believe that the organization values and recognizes employee contributions.		3.910
	The organization provides opportunities for professional development and growth.	4.021	
	The organization consistently delivers high-quality products or services.	4.041	
	I find that communication within the organization is clear and transparent.	4.006	
	Overall, I find that the organization is highly productive in achieving its mission and objectives.	3.505	
Total average		3.990	3.988

According to table 3, the average score for all organisational productivity characteristics and aspects is 3.990, which represents 77% of the spectrum in percentage terms. Based on the previously established criteria, this indicates that the organisational productivity elements are of utmost importance. Furthermore, the following are the average scores for the organisational productivity component expressed as percentages: 78% Goal Achievement & Process Efficiency, Adoptability & Innovation 78%, Teamwork and Collaboration 77%, Resource Allocation & Tools 77%, Employee Recognition & Development 76%.

One sample sign was used to determine the importance of each component of organisational productivity.

One sample sign test

Null Hypothesis $H_0: \mu = 3.989551657$, Alternate Hypothesis $H_a: \mu \neq 3.989551657$

Total Number of Signs (n) = 25: 16 plus sign and 9 minus sign,

Number of less frequent signs (s) = 9

Critical value for two-tailed test at 5% level of significance (k)

$K = (n-1)/2 - 0.98 \sqrt{n} = 24/2 - 0.98 \sqrt{24} = 12 - 4.80 = 7.19$

Since $S(9) > K(7.19)$, Null hypothesis is accepted

As per the test the null hypothesis is accepted, hence the average score of the dimensions is not different and whatever difference came it came just because of sample fluctuations.

Table 4: Average scores of Attitude Measurement of department on 5-point scale for the aspects and parameters/dimensions of Organizational Productivity of the sampled respondents.

Aspects of Organizational Productivity Pertaining to each Dimension	Mean Score of Cross Sections			
	Management	Non-Management (19)	Technical	Overall
The organization effectively achieves its stated goals and objectives.	4.068	4.263	4.279	4.170
I believe that the organization operates efficiently in its day-to-day processes.	3.811	4.105	4.105	3.953
I feel that the organization makes effective use of its resources.	4.004	3.842	4.179	4.076
I find that the organization's performance metrics are well-defined and measurable.	3.921	3.842	4.083	3.990
The organization effectively delegates tasks and responsibilities to appropriate team members.	4.091	3.684	4.127	4.092
The organization adapts well to changes in the business environment.	3.838	4.000	4.114	3.967
I feel that the organization encourages innovation and creativity.	3.909	4.316	4.170	4.041
The organization supports employee well-being and offers relevant wellness programs.	3.913	4.000	4.114	4.006
The organization regularly reviews and assesses its performance to identify areas for improvement.	3.936	3.947	4.061	3.992
The organization fosters a culture of continuous improvement.	3.845	4.053	4.140	3.984
The organization fosters collaboration and teamwork among employees.	3.989	4.158	4.079	4.035
I feel that the organization empowers employees to make decisions and take ownership of their work.	3.887	3.789	4.105	3.981
I feel that the organization encourages knowledge sharing and learning among employees.	3.996	4.158	3.996	4.002
I believe that the organization fosters a positive and supportive work environment.	4.026	3.947	4.205	4.103
The organization effectively manages and resolves conflicts among team members.	3.887	3.842	4.192	4.021
The organization provides the necessary tools and technology to support productivity.	3.830	4.211	3.921	3.885
I find that the organization has efficient systems and processes in place.	3.989	4.316	4.197	4.094
The organization effectively manages time and prioritizes tasks to maximize productivity.	3.932	3.895	3.965	3.945
I believe that the organization encourages a healthy work-life balance for employees.	3.902	4.211	4.183	4.039
I believe that the organization is responsive to customer needs and feedback.	3.664	4.105	4.013	3.836
I believe that the organization values and recognizes employee contributions.	3.955	3.842	4.092	4.012
The organization provides opportunities for professional development and growth.	3.932	4.158	4.057	3.996
The organization consistently delivers high-quality products or services.	3.985	4.105	4.066	4.025
I find that communication within the organization is clear and transparent.	3.962	3.895	4.026	3.988
Overall, I find that the organization is highly productive in achieving its mission and objectives.	3.355	3.842	3.651	3.505

$$H = \frac{12}{n(n+1)} \sum_i \frac{R_i^2}{n_i} - 3(n+1)$$

As per average score given in the table 4.14, rank was assigned to each score and H value was calculated.

Total Rank (N) = 75

Total Rank of Management=599: N= 25

Total Rank of Non-Management=974.5: N= 25

Total Rank of Technical =1266 : N= 25

The Kruskal-Wallis's test yielded an H value of 17.43, which exceeds the critical chi-square value of 5.991 at the 5% significance level with 2 degrees of freedom (K-1). Therefore, since the calculated H value is greater than the tabulated value, the null hypothesis is rejected. This indicates that the average scores across departments differ significantly. Specifically, the technical department has higher average scores for Organizational Productivity aspects compared to both the non-management and management departments. This suggests that departmental differences do have an impact on Organizational Productivity levels.

Relationship between Employee Engagement and Organizational Productivity

The relationship between TL and EE has been studied through Karl Pearson's Coefficient of Correlation as per the following results. As such the Coefficient of Correlation between Employee Engagement and Organizational Productivity is +0.902

		OP	EE
OP	Pearson Correlation	1	.902**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	107.352	107.128
	Covariance	.210	.209

** . Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=513

H₀: There is no relationship between Employee engagement and Organizational productivity.

H_a: There is a significant positive relationship between Employee engagement and Organizational productivity.

Correlation was calculated on average score of Employee engagement and Organizational productivity of 513 sampled respondents. Calculated correlation value of relationship between Employee engagement and Organizational productivity $r = 0.902$.

Major Findings and Conclusion

1. The average scores of all the aspects of Employee Engagement as also for the parameters are equally prominent. They are not different from one another.
2. The average score value for Employee Engagement is 3.198 which comes to 76% of the total spectrum of 5-point scale.
3. All the score values of Employee Engagement for managerial, non-managerial and technical cadre of employees are prominent and vital but their values differ. Technical cadre employees had the highest score value while managerial cadre recorded the lowest value.
4. The average scores of all the aspects of Organizational Productivity as also for the parameters are equally prominent. They are not different from one another.
5. The average score value for Organizational Productivity is 3.89 which comes to 77% of the total spectrum of 5-point scale.
6. All the average score values of Organizational Productivity for managerial, non-managerial and technical cadre of employees are prominent and vital but their corresponding values differ substantially. Technical cadre employees recorded the highest average score while managerial cadre the lowest average scores.

7. There is significant positive relationship between Employee engagement and Organizational Productivity scores of the respondents, as the r is 0.902. Moreover, Organizational Productivity is the effective function of the Employee Engagement and with the enhancement of average score value of the Employee Engagement, the average score value of Organizational Productivity enhances.

The findings support first and third hypotheses, hypothesis stood rejected; for the cross sections of the employees record subsequently different average scores for Employee engagement and Organizational Productivity. The results revealed that all the aspects as studied under the four dimensions of Employee engagement and all the aspects as studied under eight dimensions of Organizational Productivity are equally important. In terms of percentage, the level of agreement for the aspects of Employee engagement is 79% and for Organizational Productivity it is 81%, which are significantly vital. The results indicate that the dimensions of Employee Engagement, namely, Job Satisfaction and Motivation (JSM 1), Professional Development and Growth (PDG 2), Leadership and Communication (LC 3), Workplace Environment and Support (WES 4) are equally important, and the dimensions of Organizational Productivity Goal Achievement & Process Efficiency (GAPE 1), Adoptability & Innovation (AI 2), Teamwork and Collaboration (TC 3), Resource Allocation & Tools (RAT 4), Employee Recognition & Development (ERD 5) are also equally important. These dimensions are an inbuilt part of Employee Engagement and Organizational Productivity. The results of the study indicate that Employee Engagement and Organizational Productivity are having significant positive relationship. moreover, Organizational Productivity is the effective function of the Employee Engagement. Since the research focused on IT Sector and conducted the study on only middle level employees, the future researches can be conducted in various sectors for different levels of management. There is also a potential scope in the IT Sector itself to focus the study for other category of employees. On the whole, this empirical study also supports the results of the earlier researches in this area.

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