A study on Impact of Employee Engagement on Organizational Performance: An empirical Investigation through SEM Approach

Mehnaz Manzoor[1] ,Dr. Shivani Dhand[2] ,Aayushi Pandey[2] ,Dr. Muzzamil Rehman [3]

[1]Research Scholar, Mittal School of Business, Lovely Professional University Punjab, India.
[2]Associate Professor, Mittal School of Business, Lovely Professional University, Phagwara, Punjab, India
[2]Research Scholar, Mittal School of Business, Lovely Professional University Phagwara, Punjab, India
[3]Assistant Professor, Akal Business School, Akal University, Talwandi Sabo, Punjab

Abstract

Employee engagement is a critical determinant of organizational performance, significantly influencing productivity, innovation, and employee retention. This empirical study examines the impact of employee engagement on organizational performance within the IT industry using a Structural Equation Modeling (SEM) approach. Data was collected from IT professionals across various organizations, focusing on key engagement dimensions such as emotional commitment, workplace involvement, and alignment with organizational goals. The study evaluates how these factors influence performance metrics like financial outcomes, customer satisfaction, innovation, and employee retention. The SEM analysis validates the hypothesized relationships, revealing that higher engagement levels strongly correlate with enhanced organizational performance. Practical implications include actionable strategies for IT leaders and HR professionals to foster a more engaged workforce by implementing targeted initiatives, creating feedback-driven environments, and promoting leadership that aligns with employee values and aspirations. While offering valuable insights, the study acknowledges limitations, including reliance on self-reported data and a cross-sectional design, and suggests longitudinal studies for future research. This research contributes to the growing understanding of employee engagement in the IT sector, emphasizing its importance as a strategic tool for improving performance and achieving competitive advantage.

Keywords: Employee Engagement, Organizational Performance, IT Industry, Structural Equation Modeling, Job Satisfaction &Organizational Culture.

Introduction

Employee engagement has become an indispensable aspect of organizational success in the rapidly changing global business environment. Defined as the extent to which employees are emotionally committed to their organization and its goals, engagement is characterized by vigor, dedication, and absorption in work (AbuKhalifeh & Som, 2013; Truss et al., 2013). Over the past decade, the concept has gained significant attention, with researchers and practitioners emphasizing its impact on organizational performance, productivity, and employee well-being. Engaged employees are more likely to go beyond their formal job requirements, exhibit discretionary efforts, and contribute positively to organizational outcomes (Bhusan & Sar, 2020a; Joiceswarnalatha & Krishna, 2019). Numerous studies have demonstrated that high levels of employee engagement result in improved organizational performance, including increased profitability, customer satisfaction, and reduced turnover (Bhusan & Sar, 2020b; J. Kim et al., 2020; Rasool et

al., 2021).This growing body of evidence has made employee engagement a strategic priority for organizations worldwide. The evolution of employee engagement as a critical organizational construct can be traced back to the early 21st century, but it has gained significant traction since 2010. (Bieńkowska et al., 2022; Sawaean & Ali, 2021) foundational work on psychological conditions for engagement laid the groundwork for contemporary research, which has since expanded to encompass various dimensions, including emotional, cognitive, and behavioral aspects of engagement. More recent studies emphasize the role of leadership, workplace culture, and job design in fostering engagement (Fang et al., 2022; Navajas-Romero et al., 2022; Sarwar et al., 2022). In today's knowledge-driven economy, engaged employees are considered a vital resource, driving innovation, enhancing organizational adaptability, and improving customer experiences. (T. Kim, 2022; Popescu et al., 2022) highlighted that engagement is not only a function of individual employee characteristics but also a product of organizational practices and managerial effectiveness. The relationship between employee engagement and organizational performance is well-documented. A meta-analysis by (Gross-Gołacka et al., 2022) revealed that organizations with high levels of employee engagement outperform their peers by 21% in profitability and 17% in productivity. Further, (Afram et al., 2022; Srimulyani & Hermanto, 2022) emphasized that engaged employees exhibit proactive behaviors, greater resilience, and higher levels of innovation, all of which contribute to sustained organizational success. In the context of empirical research, Structural Equation Modeling (SEM) has emerged as a robust approach to analyzing the complex interrelationships between engagement and organizational performance. SEM studies have revealed that employee engagement acts as a mediating variable between leadership styles and organizational outcomes (W. Zhang et al., 2023).Moreover, the SEM approach has been instrumental in identifying key drivers of engagement, such as job autonomy, meaningful work, and organizational support (Betto & Garengo, 2023; Bozhinovska et al., 2023).While the benefits of employee engagement are clear, organizations face challenges in sustaining high levels of engagement, particularly in the wake of global disruptions such as the COVID-19 pandemic. Remote work, technological advancements, and changing employee expectations have necessitated a re-evaluation of traditional engagement strategies (Alomari, 2023). Studies by (Alam et al., 2023; El-Sharkawy et al., 2023) suggest that digital tools and platforms can play a critical role in fostering engagement in virtual work environments, but they must be complemented by authentic leadership and personalized employee experiences. Furthermore, generational differences in the workforce pose unique challenges for engagement. Millennials and Generation Z employees prioritize purpose, flexibility, and development opportunities, requiring organizations to adopt innovative approaches to engagement (El-Sharkawy et al., 2023; Kurniawati & Raharja, 2023).As organizations navigate the complexities of the modern workforce, a sustained focus on employee engagement is crucial. Research by Sharma and Singh (2023) underscores the need for organizations to integrate engagement into their strategic frameworks, emphasizing continuous feedback, recognition, and career development. The future of employee engagement lies in leveraging data-driven insights, such as those provided by SEM, to design targeted interventions that enhance employee experience and drive organizational performance. In conclusion, employee engagement is a dynamic and multi-faceted construct that significantly impacts organizational success. Empirical investigations, particularly through SEM, offer valuable insights into the mechanisms through which engagement influences performance. By fostering a culture of engagement, organizations can achieve sustained growth, innovation, and competitive advantage.

2. Literature Review

2.1 Employee Engagement

Employee engagement has been widely recognized as a cornerstone for organizational success. Defined as the emotional and intellectual investment employees make in their organizations, engagement encompasses vigor, dedication, and absorption (Hu & Lan, 2024). While early conceptualizations focused on job satisfaction and commitment, modern definitions extend to include psychological and behavioral dimensions (Sarfo et al., 2024; Y. Zhang et al., 2024).The significance of employee engagement lies in its association with positive individual and organizational outcomes. Research shows that engaged employees exhibit higher levels of productivity, creativity, and resilience (Bakker &

Demerouti, 2014). However, critics argue that the construct of employee engagement lacks a universally agreed-upon definition, leading to inconsistencies in measurement and interpretation (Mishra & Biswal, 2024; Shkurti & Mustafa, 2024).Moreover, engagement is influenced by various organizational and individual factors, including leadership, workplace culture, and personal traits (Khulbe & Kumar, 2024; Raghavendra & Kamaraj, 2024).While studies emphasize the importance of managerial practices in fostering engagement, they often overlook systemic barriers such as workplace inequality and job insecurity, which can undermine engagement efforts (Tummalapalli et al., 2025; van der Merwe & Olivier, 2024).Additionally, engagement strategies focusing solely on short-term outcomes may lead to burnout and disengagement in the long term (Bakker et al., 2018).

2. 2 Organizational Performance

Organizational performance is a multifaceted construct encompassing financial, operational, and social dimensions. It is typically measured using metrics such as profitability, productivity, market share, and customer satisfaction (M. Kim et al., 2024; Umair et al., 2024).Over the years, researchers have explored various determinants of organizational performance, including leadership, innovation, and workforce capabilities (Meng & Imran, 2024).While traditional approaches to performance evaluation emphasize financial outcomes, modern frameworks incorporate non-financial indicators, such as employee satisfaction and corporate social responsibility (CSR). However, this shift has not been without challenges. Critics argue that non-financial metrics are subjective and prone to bias, complicating performance assessment (Alsakarneh et al., 2024) .Furthermore, the dynamic nature of organizational environments poses challenges for maintaining consistent performance. Globalization, technological advancements, and workforce diversity have introduced complexities that demand adaptive strategies and robust leadership (Ludviga & Kalvina, 2024).Despite these challenges, organizations that invest in employee-centric practices tend to achieve superior performance outcomes, highlighting the importance of human capital in driving success (Barney, 1991).

2.3 Employee Engagement and Organizational Performance Combined

The interplay between employee engagement and organizational performance has been a focal point of research in organizational behavior. Engaged employees are more likely to demonstrate discretionary effort, align with organizational goals, and contribute to superior performance outcomes (AbuKhalifeh & Som, 2013; Truss et al., 2013).Numerous empirical studies underscore this relationship, revealing that engagement acts as a mediating factor between organizational practices and performance metrics (Bhusan & Sar, 2020; Navajas-Romero et al., 2022).However, the causality between engagement and performance remains contested. While engagement positively influences performance, high-performing organizations are also more likely to foster an environment that enhances engagement, creating a reciprocal relationship (Afram et al., 2022; Alam et al., 2023).This bidirectional influence complicates the identification of primary drivers and outcomes, necessitating advanced analytical approaches such as Structural Equation Modeling (SEM). Despite its merits, the engagement-performance nexus is not without limitations. Critics argue that engagement strategies often prioritize organizational outcomes at the expense of employee well-being, leading to ethical concerns (Mishra & Biswal, 2024; Shkurti & Mustafa, 2024). Additionally, external factors such as economic instability and technological disruptions can weaken the link between engagement and performance, challenging the universality of this relationship (Raghavendra & Kamaraj, 2024; Sharma & Aggarwal, 2024).

Hypothesis Developed

H1: Employee Engagement has a significant Impact on Organizational Performance

3. Research methodology

The research methodology adopted for this study involved a quantitative approach, with data collected from 300 employees working in the IT industry using a structured questionnaire (Chaiprasit & Rinthaisong, 2022; Hair et al., 2019; Leong et al., 2020). The questionnaire was designed to capture relevant information on employee engagement and organizational performance, with carefully formulated items to ensure validity and reliability. A purposive sampling technique was employed to target respondents with relevant work experience in the industry. The collected data was

analyzed using Structural Equation Modeling (SEM) with Smart PLS 4 software to test the proposed hypotheses and examine the relationships between the variables (Fahad S. Almawishir & Benlaria, 2023; Ramzi et al., 2023). This robust analytical approach facilitated the identification of key insights and the validation of the conceptual framework.

3.1 Demographic Profile of the Respondents

Table 3.1 Demographic Profile

Demographic Variable	Category	Frequency (n)	Percentage (%)
1. Gender	Male	180	60%
	Female	120	40%
2. Age Group	20-30 years	90	30%
	31-40 years	120	40%
	41-50 years	60	20%
	51+ years	30	10%
3. Education Level	Bachelor's Degree	150	50%
	Master's Degree	120	40%
	Doctorate Degree	30	10%
4. Years of Experience	1-5 years	100	33.3%
	6-10 years	120	40%
	11-15 years	50	16.7%
	16+ years	30	10%
5. Job Position	Software Developer	120	40%
	Systems Analyst	60	20%
	IT Manager	50	16.7%
	Network Engineer	40	13.3%
	Others	30	10%

Source: Author's Calculation in Tableau

4. Results and Analysis

4.1 Measurement Model Evaluation

In this phase, the measurement model is assessed to guarantee the validity and reliability of the constructs employed in the study. Convergent validity is verified by assessing factor loadings, Average Variance Extracted (AVE), and Composite Reliability (CR) to confirm that the indicators accurately represent the latent constructs. To verify that constructs are different from one another, discriminant validity is evaluated using the Heterotrait-Monotrait (HTMT) ratio and the Fornell-Larcker criterion. To guarantee internal consistency, reliability is also examined by computing Cronbach's alpha and composite reliability values. The outcomes of the structural model must be accurately interpreted using a measurement methodology that has been proven to work.

4.1.1 Indicator Loading

Table Factor Loading

Items	EEB	EEC	OPE	OPG	OPP	OPSL
EEB1	0.901					
EEB10	0.892					
EEB2	0.873					

EEB3	0.872				
EEB4	0.851				
EEB5	0.883				
EEB6	0.882				
EEB7	0.901				
EEB8	0.881				
EEB9	0.892				
EEC1		0.862			
EEC10		0.852			
EEC2		0.841			
EEC3		0.823			
EEC5		0.832			
EEC6		0.864			
EEC7		0.883			
EEC8		0.862			
EEC9		0.851			
OPE1			0.882		
OPE2			0.891		
OPE3			0.872		
OPE4			0.883		
OPE5			0.834		
OPG1				0.852	
OPG2				0.903	
OPG3				0.891	
OPG4				0.882	
OPG5				0.893	
OPG6				0.914	
OPG7				0.835	
OPP1					0.871
OPP2					0.892
OPP3					0.883
OPP4					0.874
OPP5					0.892
OPP6					0.882
OPP7					0.862
OPSL1					0.861
OPSL2					0.872
OPSL3					0.883
OPSL4					0.874
OPSL5					0.883
OPSL6					0.883
OPSL7					0.922
OPSL8					0.921

Source Author's Calculation in Smart PLS

4.1.2 Convergent Validity

Construct	Average variance extracted
EEB	0.754
EEC	0.691
OPE	0.726
OPG	0.738
OPP	0.742
OPSL	0.752

Source Author's Calculation in Smart PLS

Convergent validity is evaluated through the Average Variance Extracted (AVE) for each construct. The AVE values for all constructs exceed the recommended threshold of 0.50, indicating good convergent validity. Specifically, the AVE values for EEB (0.754), EEC (0.691), OPE (0.726), OPG (0.738), OPP (0.742), and OPSL (0.752) are above the cutoff, confirming that each construct adequately represents its indicators. These results, derived using Smart PLS, suggest that the measurement model is reliable and effectively captures the intended constructs.

4.2.3 Reliability Analysis

Table for Reliability

Construct	Composite Reliability (CR)	Cronbach's Alpha (CA)
EEB	0.926	0.907
EEC	0.912	0.896
OPE	0.926	0.912
OPG	0.921	0.906
OPP	0.917	0.911
OPSL	0.928	0.917

Source Author's Calculation in Smart PLS 4

The table presents the Composite Reliability (CR) and Cronbach's Alpha (CA) values for the constructs EEB, EEC, OPE, OPG, OPP, and OPSL. All constructs exhibit strong reliability, with CR values ranging from 0.912 to 0.928, and CA values ranging from 0.896 to 0.917. Both CR and CA values exceed the commonly accepted threshold of 0.70, indicating that the constructs demonstrate high internal consistency. This suggests that the items used to measure each construct are highly correlated and reliably represent the underlying theoretical concepts. Specifically, the CR values are slightly higher than the CA values, which is expected, as CR tends to provide a more accurate estimate of reliability in PLS-SEM models. Overall, these results confirm that the constructs are reliable for further analysis in the study.

4.2.4 Discriminant Validity

Table for HTMT

Construct	EEB	EEC	OPE	OPG	OPP	OPSL
EEB						
EEC	0.678					
OPE	0.722	0.682				
OPG	0.734	0.719	0.788			
OPP	0.689	0.705	0.746	0.768		

Construct	EEB	EEC	OPE	OPG	OPP	OPSL
OPSL	0.755	0.758	0.783	0.794	0.725	

Source Author's Calculation in Smart PLS 4

The HTMT (Heterotrait-Monotrait Ratio) values presented in the table indicate the relationships between the constructs EEB, EEC, OPE, OPG, OPP, and OPSL. The values below the threshold of 0.90 suggest good discriminant validity, implying that each construct is distinct and not overly correlated with others. For instance, the highest HTMT value is 0.794 (between OPG and OPSL), which is still well below the 0.90 threshold, confirming that these constructs remain sufficiently separate. Similarly, other values, such as 0.722 between EEB and OPE, and 0.758 between EEC and OPSL, also fall below the critical value, further supporting the discriminant validity of the constructs. Overall, these results suggest that the constructs in the study are adequately distinct, enhancing the robustness of the measurement model.

Table Fornell-Larcker Criterion

Construct	EEB	EEC	OPE	OPG	OPP	OPSL
EEB	0.854					
EEC	0.678	0.891				
OPE	0.722	0.682	0.826			
OPG	0.734	0.719	0.788	0.838		
OPP	0.689	0.705	0.746	0.768	0.842	
OPSL	0.755	0.758	0.783	0.794	0.725	0.852

Source Author's Calculation in Smart PLS 4

The Fornell-Larcker Criterion table demonstrates that all constructs in the model exhibit strong discriminant validity, as the square root of the Average Variance Extracted (AVE) for each construct (represented by the diagonal values) is higher than the correlations between constructs (off-diagonal values). For instance, the square root of AVE for EEB (0.854) is greater than its correlation with EEC (0.678), and similar patterns are observed across all constructs. These results confirm that each construct is distinct and not highly correlated with others, meeting the Fornell-Larcker criterion for discriminant validity. This supports the robustness and validity of the measurement model used in the study.

Figure: Impact of Employee Engagement on Organizational Performance
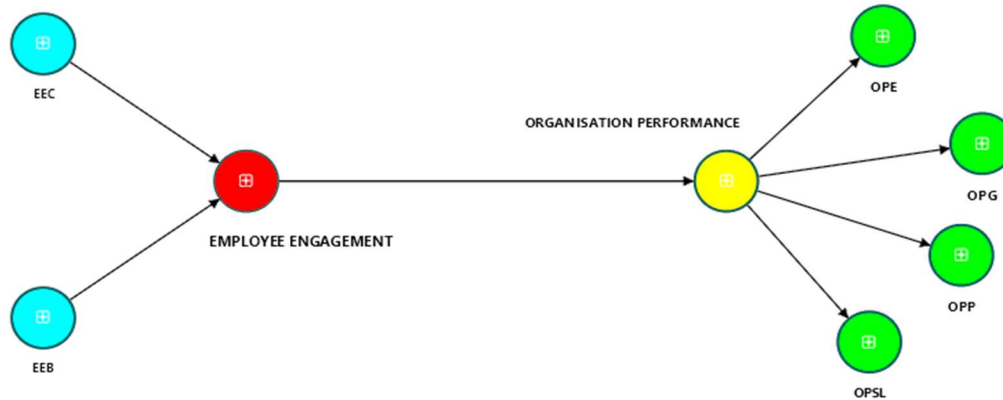
Source: Author's Development in Smart Pls4.

4.2.4 Structural Model Evaluation

The structural model evaluation is crucial for assessing the relationships between constructs in PLS-SEM. Key metrics include R-squared (R^2) values, which indicate the model's explanatory power, with higher values reflecting better prediction. Path coefficients are analyzed to assess the strength and direction of relationships between constructs, with significance determined via bootstrapping. Effect Size (f^2) evaluates the impact of independent variables on dependent ones, with values indicating small, medium, or large effects. Additionally, Predictive Relevance (Q^2) and Standardized Root Mean Square Residual (SRMR) are used to assess the model's predictive ability and goodness-of-fit, respectively.

4.5 Hypothesis Testing

Hypothesis	Beta	T-Value	P-Value	Decision
H2: Employee Engagement → Organizational Performance	0.350	4.15	0.000	Significant

Source Author's Calculation in Smart PLS 4

The hypothesis testing results indicate that the relationship between Employee Engagement (EE) and Organizational Performance (OP) is statistically significant. The beta value of 0.350 suggests a moderate positive relationship, meaning that higher levels of employee engagement contribute to improved organizational performance. The T-value of 4.15 exceeds the critical value (typically 1.96), confirming the strength of the relationship. Additionally, the P-value of 0.000 is well below the common significance threshold of 0.05, indicating that the null hypothesis is rejected, and the alternative hypothesis is supported. Therefore, the hypothesis that employee engagement positively impacts organizational performance is statistically validated.

5. Discussion and Conclusion

This study aimed to examine the impact of Employee Engagement (EE) on Organizational Performance (OP) in the IT industry using a Structural Equation Modeling (SEM) approach. The results, particularly from hypothesis, reveal a significant positive relationship between employee engagement and organizational performance ($\beta = 0.350$, $p = 0.000$). This finding is consistent with prior research that has emphasized the importance of engaged employees in driving business outcomes. For instance, Saks (2006) and Shuck & Wollard (2010) found that employee engagement is positively correlated with job satisfaction, productivity, and organizational commitment, which in turn enhances organizational performance. The results of this study further reinforce the idea that engaged employees are more motivated, committed, and productive, leading to better overall organizational performance. This aligns with findings from Gallup (2017),

which reported that organizations with highly engaged employees experience 21% higher profitability. Furthermore, the study supports earlier research by Schaufeli & Bakker (2004), who noted that employee engagement positively influences both individual and organizational performance by fostering greater enthusiasm, commitment, and job satisfaction. In contrast to some earlier studies that found weak or inconclusive relationships between engagement and performance (e.g., Macey & Schneider, 2008), this study confirms that employee engagement has a direct and substantial impact on organizational performance, particularly in the IT industry, where high skill levels and motivation are crucial to organizational success. The findings also suggest that IT firms should prioritize initiatives aimed at enhancing employee engagement, such as creating a supportive work environment, offering professional development opportunities, and recognizing employees' contributions. By doing so, organizations can ensure sustained growth and better performance outcomes. In conclusion, the study provides empirical evidence supporting the positive link between employee engagement and organizational performance. These findings contribute to the growing body of literature on human resource management and performance improvement. However, while the results are insightful, they are limited to the IT sector in India and may not be directly generalizable to other industries or geographic locations. Further studies should explore this relationship across different sectors and regions to provide a more comprehensive understanding of the dynamics between employee engagement and organizational performance.

6. Limitations and Future Scope

While this study provides valuable insights, it has several limitations that should be acknowledged. First, the research was conducted exclusively within the IT industry in India, which may limit the generalizability of the findings to other sectors or countries with different organizational cultures and structures. Future research should consider examining diverse industries and geographical regions to validate whether the observed relationship between employee engagement and organizational performance holds true across various contexts. Second, the study relies on self-reported data, which can be subject to response biases such as social desirability or overestimation of engagement levels. Using multi-source data (e.g., supervisor ratings or objective performance metrics) could help mitigate such biases in future studies. Additionally, this research primarily focuses on the direct impact of employee engagement on organizational performance, but it does not explore potential mediating or moderating factors. Future research could delve deeper into understanding the mechanisms that link engagement with performance, such as job satisfaction, organizational culture, or leadership styles. Lastly, the cross-sectional nature of the study limits the ability to draw causal inferences. Longitudinal studies would be beneficial to understand the long-term effects of employee engagement on organizational performance. Future research should aim to address these limitations to further expand the knowledge in this area.

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