

Impact Of Employee Engagement On Employee Productivity: A Study With Reference To The Cement Industry In Kadapa, Andhra Pradesh

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Abstract: Employee engagement has become an important issue in organizational research because the performance of an industrial organization depends not only on machinery, capital and technology but also on the extent to which employees are willing to invest effort in their work. The issue is particularly relevant to cement manufacturing, where production is technically intensive, safety-sensitive and dependent on coordination among production, maintenance, quality, logistics and support functions. This study examines the relationship between employee engagement and employee productivity with specific reference to the cement industry in Kadapa, Andhra Pradesh. The research deliberately adopts a descriptive research design based exclusively on secondary data. No questionnaire survey, interview or primary employee-level dataset is used. Evidence is drawn from government publications, industry reports, published academic studies and credible institutional sources. The study examines employee engagement dimensions including recognition, empowerment, communication, teamwork, supervisory support, career development, organizational involvement and meaningful work, and considers productivity through work efficiency, quality, target achievement, timely completion, attendance, problem-solving, error reduction and individual contribution. Current Gallup data show that 23% of employees in India were engaged at work in 2025, compared with 59% who were not engaged and 18% who were actively disengaged. Cement production reached about 453 million tonnes in FY2025, demonstrating the scale and continuing expansion of the sector. Kadapa possesses substantial limestone resources suitable for cement manufacture, providing a strong regional industrial context. The secondary evidence reviewed in the study indicates that employee engagement is consistently associated with favourable performance outcomes and those organizational resources such as recognition, support, development opportunities and empowerment can strengthen engagement.

Keywords: Employee Engagement, Employee Productivity, Cement Industry, HRM, Kadapa

1. Introduction

The effectiveness of an industrial organization is shaped by the interaction of physical resources and human effort. Modern manufacturing plants may employ advanced machinery, digital monitoring systems and sophisticated production processes, but these systems still depend on employees who operate equipment, monitor processes, maintain quality, respond to abnormalities and coordinate activities. Human behaviour therefore remains an important component of industrial performance. This has increased scholarly and managerial interest in employee engagement and its possible contribution to productivity.

Employee engagement

Employee engagement is broader than job satisfaction. An employee can be satisfied with a salary or workplace without necessarily demonstrating enthusiasm, initiative or psychological involvement in the job. Engagement refers to a deeper relationship between the individual and the work role. Kahn (1990) described personal engagement in terms of the extent to which people bring physical, cognitive and emotional resources into role performance. Schaufeli et al. (2002) subsequently developed a widely used framework based on vigour, dedication and absorption. These



perspectives suggest that engaged employees are likely to approach their responsibilities with energy, concentration and a stronger sense of significance.

Employee productivity

Employee productivity is equally important in manufacturing. At the organizational level, productivity concerns the efficient conversion of resources into outputs. At the employee level, it includes the quality and quantity of work, efficient use of time, achievement of assigned targets, punctuality, problem-solving and responsible behaviour. Productivity should therefore not be reduced to the number of units produced by an employee. In a modern industrial environment, a productive employee also contributes to quality, safety, teamwork and continuous improvement.

2. Background of the Indian Cement Industry

India is one of the world's largest cement-producing economies. The sector is closely connected with housing, infrastructure, roads, commercial construction and industrial development. The Economic Survey 2025–26 identifies India as the world's second-largest cement producer and reports about 690 million tonnes of annual installed capacity and approximately 453 million tonnes of cement production in FY2025. The Survey also notes that cement plants are concentrated near raw-material sources and that a large proportion of the industry's capacity is located in states including Andhra Pradesh, Telangana, Rajasthan, Karnataka, Gujarat and Tamil Nadu.

The long-term production trend illustrates the scale of the sector. Available industry data show production of about 270 million tonnes in FY2017, 351.1 million tonnes in FY2022, 375.2 million tonnes in FY2023, about 427 million tonnes in FY2024 and 453 million tonnes in FY2025. The increase demonstrates the industry's expanding production base, although year-to-year movements reflect changes in construction activity, capacity utilization, market conditions and public investment.

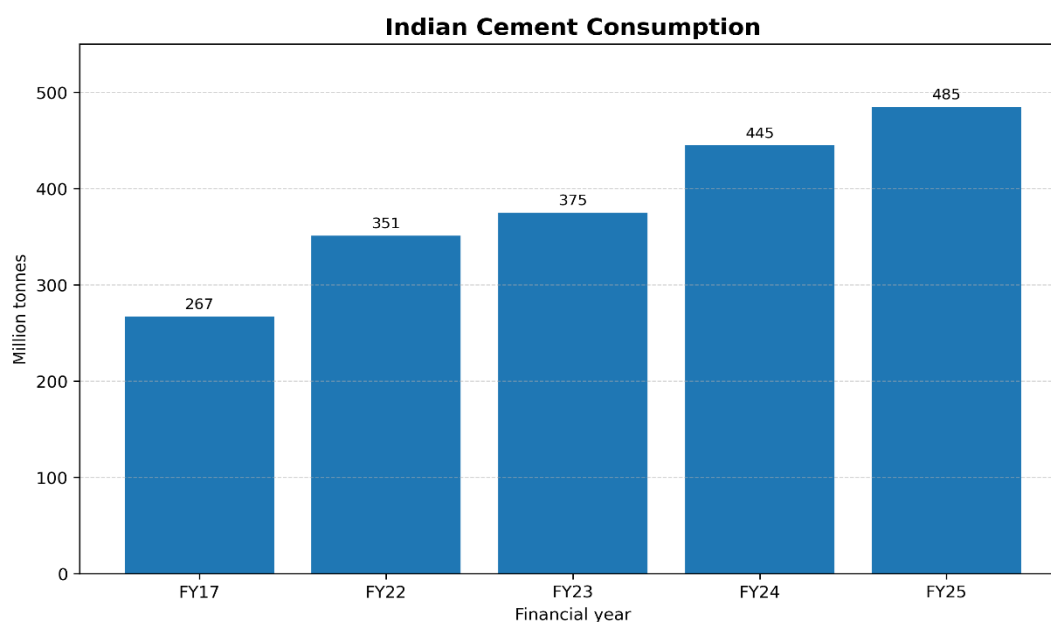


Figure 4. Selected Indian Cement Consumption Trend

Selected Indian Cement Consumption Trend. Source: Compiled from IBEF and industry/ICRA evidence.

The expansion of production and consumption increases the importance of effective human-resource management. Higher production capacity requires competent employees, adequate training and coordinated work systems. Modern cement plants increasingly depend on automation and process-control technologies, but technology does not remove the need for employees. Instead, it changes the nature of employee responsibilities by increasing the importance of monitoring, interpretation, technical problem-solving and preventive maintenance.

The sector also faces pressure to improve cost efficiency and environmental performance. Energy use, fuel costs, raw-material efficiency and emissions are significant issues for cement manufacturers. Employee engagement can be relevant to these challenges because employees who are involved in their work may be more willing to identify waste, report abnormalities and participate in improvement activities. Engagement should therefore be considered alongside technological and operational efficiency rather than separately from them.

3. Industrial Context of Kadapa, Andhra Pradesh

Kadapa occupies an important place in the mineral and industrial geography of Andhra Pradesh. The district administration reports that the district contains limestone suitable for cement manufacture in large quantities, particularly in parts of Jammalamadugu and Kamalapuram. It also identifies limestone, barytes and asbestos among the major mineral resources. The availability of limestone creates a natural foundation for cement-related industrial activity.

Cement manufacturing in a mineral-rich region involves several categories of employees. Production employees monitor and operate process systems; mechanical and electrical teams maintain equipment; quality personnel monitor specifications; safety teams support compliance; logistics personnel coordinate movement of materials; and administrative employees provide human-resource and commercial support. Productivity therefore depends on the combined functioning of multiple groups.

4. Review of Literature

- Anitha (2014) examined determinants of employee engagement and their impact on employee performance. The findings highlighted the importance of workplace conditions and organizational relationships, supporting the view that engagement is shaped partly by the environment in which employees work.
- Corbeanu and Iliescu (2023) synthesized a large body of research on engagement and job performance and reported a positive overall association. Their findings strengthen the argument that engagement has implications for observable performance rather than being only a subjective employee attitude.
- Kahn (1990) provided the foundational conceptual explanation of personal engagement and argued that people become more fully involved in work when they experience meaningfulness, psychological safety and psychological availability. His work established the idea that employee engagement involves the active investment of the self in work roles.
- Knight, Patterson and Dawson (2017) reviewed work-engagement interventions and found that engagement can be influenced by organizational and personal resources. Their work is relevant to industrial organizations because it indicates that engagement can be developed rather than simply treated as an unchangeable employee characteristic.
- Lesener and colleagues' meta-analytic research subsequently provided further evidence that engagement is positively related to task performance and negatively related to absenteeism. Such findings are particularly relevant to manufacturing because absenteeism and reduced task performance can disturb production schedules and increase workload for other employees.
- Mackay, Allen and Landis (2017) investigated the incremental validity of employee engagement in predicting employee effectiveness. Their meta-analytic work indicated that engagement contributes to understanding employee effectiveness beyond several related job attitudes.
- Madhootha (2019) examined employee engagement in a cement manufacturing organization in Andhra Pradesh and emphasized the relevance of engagement to organizational efficiency. The study also indicated the importance of continuing motivation and engagement practices.

- Rama Kumari, Pradeep Kumar and Narayana Reddy (2017) examined employee engagement and employee performance in the Indian cement industry in the Rayalaseema region. Their findings highlighted recognition, strategic alignment, empowerment, challenging work and working conditions as relevant engagement factors. The regional setting makes the study especially useful for understanding the Kadapa context.
- Saks (2006) examined antecedents and consequences of employee engagement and distinguished job engagement from organizational engagement. The study helped establish engagement as an important construct for explaining employee attitudes and organizational outcomes.
- Srilatha, Murali Krishna and Narayana Reddy (2019) examined employee engagement and work-life balance in the cement industry. Their study broadened the discussion by considering the relationship between employee involvement and employees' wider work experience.

5. Conceptual Framework

The conceptual framework developed for the study treats employee engagement as the principal explanatory construct and employee productivity as the principal organizational outcome. Employee engagement is represented through recognition, empowerment, communication, teamwork, supervisory support, career development, organizational involvement and meaningful work. These dimensions represent the organizational and psychological conditions that may encourage employees to invest greater energy and attention in their responsibilities. The framework proposes that engagement can strengthen employee motivation and involvement. Motivation and involvement are presented as an explanatory pathway rather than as a statistically tested mediator because the present study is descriptive and does not use primary employee-level data. Employee productivity is represented through work efficiency, quality of work, target achievement, timely completion, attendance and punctuality, problem-solving, reduced errors and individual contribution. These indicators reflect both quantitative and qualitative aspects of performance.



Figure 1. Conceptual Framework of Employee Engagement and Employee Productivity

Dimensions of Employee Engagement

Dimension	Meaning in the study
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Recognition	Acknowledgement of employee effort and achievement
Empowerment	Authority and participation in appropriate decisions
Communication	Timely and effective two-way workplace information
Teamwork	Cooperation and coordination among employees
Supervisory Support	Guidance, support and feedback from supervisors
Career Development	Training, learning and advancement opportunities
Organizational Involvement	Participation in organizational activities and improvement
Meaningful Work	Perception that work is valuable and significant

Source: Author's synthesis of the reviewed literature.

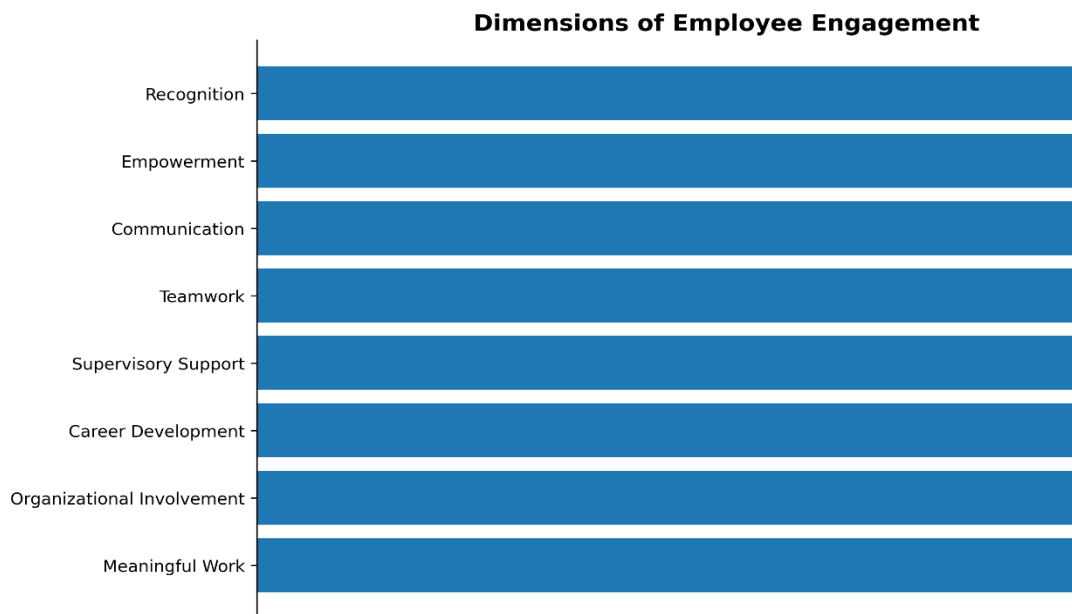


Figure 5. Dimensions of Employee Engagement Considered in the Study

6. Research Methodology

The study follows a descriptive research design based entirely on secondary data. This design is appropriate because the purpose is to describe existing evidence and interpret the relationship between employee engagement and productivity within a particular industrial context.

No questionnaire was administered for the study, no employee interviews were conducted and no primary respondent data were generated. Consequently, the article does not present artificial sample sizes, fabricated Likert-scale responses, invented Cronbach's alpha values or unsupported regression coefficients.

Secondary information was obtained from government publications, the Government of Andhra Pradesh district administration, the Ministry of Finance and Economic Survey, the Ministry of Statistics and Programme Implementation, India Brand Equity Foundation, Gallup, academic journal articles and published studies concerning employee engagement and cement manufacturing.

The period of analysis emphasizes recent information, broadly covering 2017 to 2026, while earlier academic studies are used where necessary to establish the theoretical development of employee engagement. Industry trends are described through tables and figures, while published research is synthesized thematically.

The analytical techniques used are descriptive analysis, trend analysis, comparative analysis, documentary analysis and thematic synthesis. Numerical data are presented without inferential testing because the study does not contain an original primary dataset. The approach is therefore designed to answer questions such as: What is the recent engagement position in India? How has cement production developed? What engagement dimensions recur in the literature? Why might these dimensions matter in a cement-industry environment? And what managerial practices can be inferred from the secondary evidence?

The methodology also recognizes the difference between sector-level and employee-level evidence. Cement production figures describe the performance of an industry, while Gallup engagement figures describe the national workforce environment. Neither can be interpreted as direct measurements of employee productivity in Kadapa. The conclusions are therefore framed as descriptive and contextual rather than as causal statistical claims.

7. Descriptive Analysis and Discussion

The secondary evidence provides several useful observations concerning employee engagement and the cement industry. The first concerns the national employee-engagement environment. Gallup's 2026 India country-level data report that 23% of employees were engaged in 2025, 59% were not engaged and 18% were actively disengaged. The engagement figure represents a seven-point decline from the preceding three-year rolling average and is the lowest level reported for India in four years. The trend shown in Figure 2 indicates that engagement increased to 33% in 2022, remained high at 32% in 2023, declined to 30% in 2024 and then fell to 23% in 2025.

Employee Engagement in India, 2018–2025

Year	Engaged (%)	Not Engaged (%)	Actively Disengaged (%)
2018	22	63	15
2019	26	55	19
2020	26	55	19
2021	26	48	26
2022	33	46	21
2023	32	48	19
2024	30	52	18
2025	23	59	18

Source: Gallup, State of the Global Workplace 2026, India country-level data. Values are three-year rolling averages ending in the stated year.

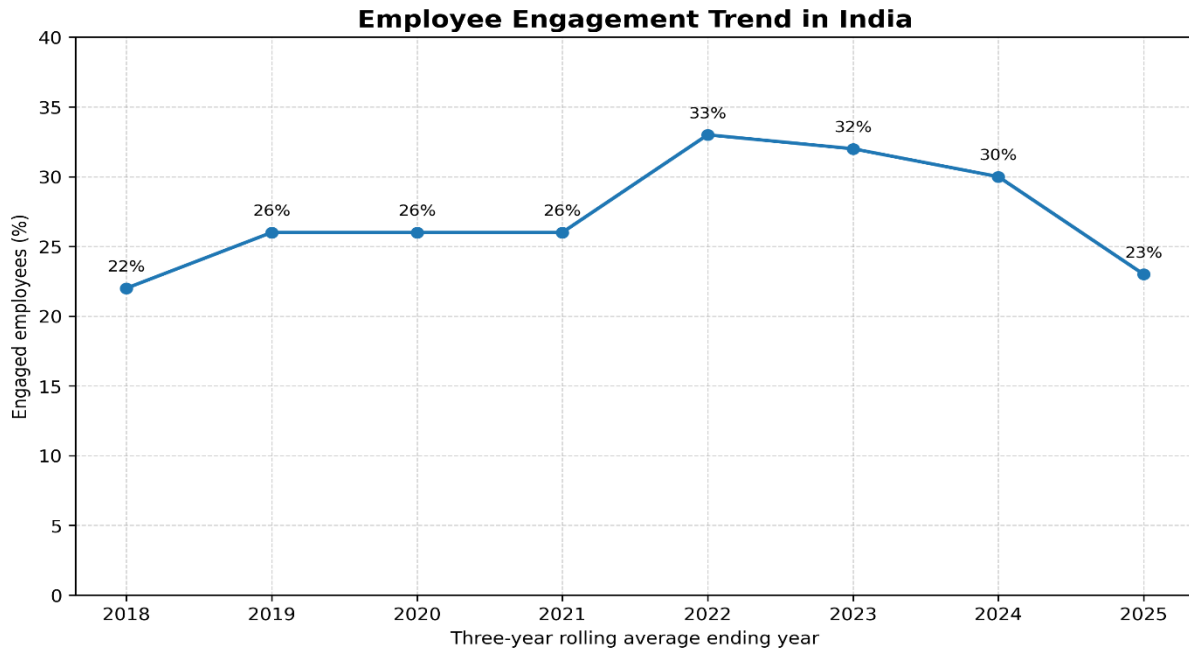


Figure 2. Employee Engagement in India, 2018–2025

Employee Engagement in India, 2018–2025. Source: Gallup (2026).

The trend is important for the present study because it demonstrates that engagement can change substantially over time. Organizations cannot assume that employees who were engaged in one period will remain equally engaged in subsequent periods. Management practices, organizational restructuring, workload, communication, career expectations and changes in the work environment can influence employee experience.

Recognition is one engagement dimension repeatedly identified in the literature. Recognition can reinforce the connection between employee effort and organizational appreciation. In a cement plant, recognition may be associated with safe work practices, quality improvement, successful maintenance interventions, attendance, teamwork or useful production suggestions. Regional cement-industry research has already identified recognition as a relevant engagement factor.

Empowerment is similarly important. Employees working close to machinery and production processes often possess practical knowledge that may not be visible to senior management. Providing suitable opportunities for employees to participate in problem-solving can improve ownership and help organizations identify operational inefficiencies. Communication is essential because cement manufacturing involves interdependence among departments. Production depends on maintenance, quality control, electrical services, logistics and safety. If information is delayed, production problems can become more difficult to resolve. Effective two-way communication can also improve employees' understanding of organizational objectives.

Teamwork has a similar role. A cement plant is not a collection of isolated jobs. Its output is the result of coordinated work. Cooperation between shifts and departments can help reduce delays and improve problem-solving. The broader engagement literature identifies social resources as important correlates of engagement, supporting the relevance of workplace relationships.

Supervisory support is particularly important because supervisors influence the everyday employee experience. Employees may have limited interaction with senior management, but they frequently interact with immediate supervisors. Supervisors who provide clear expectations, constructive feedback and practical support can create a more positive environment.

Employee Productivity Indicators

Productivity indicator	Interpretation
Work efficiency	Effective use of working time and resources
Quality of work	Accuracy and standard of completed work
Achievement of targets	Completion of assigned production or work objectives
Timely completion	Completion of tasks within required time
Attendance and punctuality	Regularity and punctuality at work
Problem solving	Ability to address operational difficulties
Reduced errors	Reduction in avoidable mistakes and rework
Individual contribution	Contribution to departmental and organizational outcomes

Source: Author's synthesis based on the reviewed literature and conceptual framework.

Career development is increasingly relevant as cement manufacturing becomes more technology-intensive. Employees require opportunities to update technical and behavioural competencies. Training can improve both employability and organizational capability. The literature on engagement resources indicates that development opportunities can support stronger engagement.

Meaningful work and organizational involvement represent another important dimension. Employees are more likely to invest themselves in work when they understand how their contribution connects with larger organizational objectives. In a cement plant, involvement can include participation in safety programmes, quality circles, environmental initiatives and continuous-improvement activities.

The secondary evidence therefore points towards a common pattern: engagement is supported when employees have appropriate resources, understand their role, receive recognition, experience supportive relationships and have opportunities to participate. These conditions can create a workplace in which employees are more willing to contribute to productivity.

However, the relationship should not be oversimplified. Production can increase because of new machinery, capacity expansion or stronger market demand even when employee engagement is unchanged. Conversely, employees can be highly engaged but face productivity limitations caused by equipment breakdowns, material shortages or unrealistic production systems. Engagement is therefore one component of a broader productivity system.

8. Major Findings

The descriptive synthesis produces several major findings. First, published research consistently associates employee engagement with favourable performance outcomes. Second, India's current engagement position indicates substantial scope for improvement, with only 23% of employees classified as engaged in 2025. Third, India's cement industry has expanded considerably, with production reaching about 453 million tonnes in FY2025. Fourth, cement consumption has also grown strongly, creating continuing pressure for operational efficiency. Fifth, Kadapa possesses significant limestone resources suitable for cement manufacture and therefore provides an appropriate regional context for the study. Sixth, recognition, empowerment, communication, teamwork, supervisory support and development recur as important engagement-related themes. Seventh, engagement should be treated as part of a wider productivity system that includes technology, safety, training and production planning. Finally, the evidence supports the relevance of employee engagement but does not justify claiming a statistically measured causal impact for Kadapa because the present study uses only secondary data.

9. Managerial Implications and Suggestions

Cement organizations in Kadapa can strengthen engagement through several practical measures. Recognition programmes should acknowledge contributions to safety, quality, production, teamwork and improvement rather than focusing only on output volume. Employee suggestions should be given a structured channel, with feedback provided on whether ideas can be implemented. Supervisors should receive training in communication, coaching and constructive feedback. Because supervisors influence daily employee experiences, improvements at this level may have a practical effect on engagement. Employee participation can also be strengthened through quality circles, safety committees, maintenance-improvement discussions and cross-functional problem-solving groups. Such mechanisms can help organizations use the practical knowledge of employees.

Training and career development should be linked with the changing technical requirements of cement manufacturing. Employees should understand the competencies required for advancement and should have access to learning opportunities that develop those competencies. Communication systems should be strengthened across shifts and departments. Information regarding production priorities, safety issues, maintenance requirements and organizational changes should reach employees promptly. Two-way communication should be encouraged so that employees can report operational difficulties and suggest improvements.

Engagement should also be linked with safety. In a heavy manufacturing environment, employees who are psychologically involved in their work may be more attentive to procedures and more willing to report unsafe conditions. Safety-related engagement should therefore be incorporated into employee-development programmes.

10. Limitations

The study has several limitations. It is based entirely on secondary data and therefore does not contain original employee responses from cement organizations in Kadapa. National engagement statistics cannot be interpreted as direct measures of engagement among Kadapa cement workers. Published studies also differ in their samples, measures and organizational contexts. Cement production and consumption are industry-level indicators and cannot be attributed solely to employee behaviour. Productivity is also influenced by technology, capacity utilization, energy costs, raw materials, market demand and production planning. Finally, because the research is descriptive, it does not establish statistical causality between employee engagement and employee productivity.

11. Conclusion

Employee engagement has become an important issue for organizations seeking sustainable productivity. The secondary evidence reviewed in this study indicates that engagement is consistently associated with employee performance and other organizational outcomes. The relationship is especially relevant to cement manufacturing because production requires technical competence, coordination, safety consciousness and continuous attention. The study's conceptual framework identifies recognition, empowerment, communication, teamwork, supervisory support, career development, organizational involvement and meaningful work as important dimensions of employee engagement. These factors can contribute to motivation and involvement, which may in turn support productive work behaviour. The evidence does not suggest that engagement alone determines productivity. A productive cement plant requires reliable machinery, appropriate technology, adequate raw materials, skilled employees, effective production planning and safe working conditions. Engagement should therefore be integrated with these operational foundations. For management, the main lesson is that employee engagement should not be treated merely as an HR slogan. Recognition, participation, communication, development and supportive supervision can influence how employees experience their work and how willing they are to contribute beyond minimum requirements. In an industry where small operational delays can have large consequences, the quality of human involvement can be strategically important. Because this study uses only secondary data, its contribution is descriptive and contextual. Future researchers may extend the work by collecting primary data from cement employees in Kadapa and comparing engagement across departments, job categories and experience groups. Such research could provide employee-level statistical evidence to complement the secondary-data findings presented here.

REFERENCES

1. Anitha, J. (2014). Determinants of employee engagement and their impact on employee performance. *International Journal of Productivity and Performance Management*, 63(3), 308–323.
2. Corbeanu, A., & Iliescu, D. (2023). The link between work engagement and job performance: A meta-analysis. *Journal of Personnel Psychology*, 22(3), 111–122. <https://doi.org/10.1027/1866-5888/a000316>
3. Gallup. (2026). State of the Global Workplace 2026: India country-level data. Gallup.
4. IBEF. (2025). Cement industry in India. India Brand Equity Foundation.
5. Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692–724.
6. Knight, C., Patterson, M., & Dawson, J. (2017). Building work engagement: A systematic review and meta-analysis investigating the effectiveness of work engagement interventions. *Journal of Organizational Behavior*, 38(6), 792–812. <https://doi.org/10.1002/job.2167>
7. Lesener, T., Gusy, B., Jochmann, A., & Wolter, C. (2022). The relationship between work engagement and employee performance: A meta-analysis. *European Journal of Work and Organizational Psychology*, 31(2), 292–315. <https://doi.org/10.1080/1359432X.2021.1953989>
8. Mackay, M. M., Allen, J. A., & Landis, R. S. (2017). Investigating the incremental validity of employee engagement in the prediction of employee effectiveness: A meta-analytic path analysis. *Human Resource Management Review*, 27(1), 108–120.
9. Madhoocha, P. K. (2019). A study on employee engagement with reference to one of the leading cement manufacturing organizations in Andhra Pradesh. *International Journal of Research in Social Sciences*, 9(1), 774–780.
10. Mazzetti, G., Robledo, E., Vignoli, M., Topa, G., Guglielmi, D., & Schaufeli, W. B. (2023). Work engagement: A meta-analysis using the Job Demands-Resources Model. *Psychological Reports*, 126(3), 1069–1107. <https://doi.org/10.1177/00332941211051988>
11. Ministry of Finance, Government of India. (2026). Economic Survey 2025–26. Government of India.
12. Rama Kumari, M., Pradeep Kumar, D., & Narayana Reddy, T. (2017). An empirical research paper on the consequences of employee engagement on employee performance of Indian cement industry. *International Journal of Management and Applied Science*, 3(3), 38–42.
13. Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600–619.
14. Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two-sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71–92.
15. Srilatha, K., Murali Krishna, P., & Narayana Reddy, T. (2019). A study on employee engagement and work-life balance in cement industry. *Review of Research*, 8(7).
16. YSR Kadapa District Administration. (2026). District profile. Government of Andhra Pradesh.
17. YSR Kadapa District Administration. (2026). Economy. Government of Andhra Pradesh.