International Journal for Modern Trends in Science and Technology
Volume 12, Special Issue 01, pages 1196-1199
ISSN: 2455-3778 online
Available online at: http://ijmtst.com/ICRCSET2026.html
DOI: https://doi.org/10.5281/zenodo.19863206

Exploring the Gap between Standards and Practice in the Construction Industry

G. Suresh Babu, M. Ashok

Department of Civil Engineering, Chalapathi Institute of Technology, Guntur-522016, A.P, India

To Cite this Article
G. Suresh Babu, M. Ashok (2026). Exploring the Gap between Standards and Practice in the Construction Industry. International Journal for Modern Trends in Science and Technology, 12(SI01), 1196-1199. https://doi.org/10.5281/zenodo.19863206

Article Info
Received: 12 March 2026; Revised: 07 April 2026; Accepted: 10 April 2026.

KEYWORDS

ABSTRACT

Ethical practices are fundamental to the sustainability and credibility of the construction industry. In Nigeria, the construction sector has been significantly affected by ethical challenges such as corruption, bribery, poor contract management, and professional misconduct. Despite the existence of ethical codes and regulatory bodies, professionals often exhibit ambivalence toward ethical standards, balancing between compliance and self-interest.

This study explores the underlying causes of ethical ambivalence among construction professionals in Nigeria. It examines existing ethical frameworks, identifies gaps in implementation, and proposes strategies to improve ethical behavior. The research highlights the impact of socio-economic factors, weak enforcement mechanisms, and organizational culture on ethical decision-making. A comprehensive framework is proposed to strengthen ethical practices through education, policy enforcement, and technological integration.

INTRODUCTION

The construction industry is a key driver of economic development in Nigeria, contributing significantly to infrastructure growth and employment. However, the sector is plagued by ethical challenges that hinder its performance and reputation.

Ethics in construction involves adherence to professional standards, honesty, transparency, and accountability. Professionals such as engineers, architects, and contractors are expected to follow ethical guidelines established by regulatory bodies.

Despite these guidelines, ethical violations remain widespread due to:

- Corruption and bribery
- Conflict of interest
- Lack of accountability
- Weak regulatory enforcement

The construction industry operates under a wide range of standards, codes, and regulations designed to ensure

safety, quality, sustainability, and efficiency in project execution. These standards provide structured guidelines for materials, design procedures, construction practices, and project management processes. However, despite the availability of well-established standards, there is often a significant gap between what is prescribed and what is actually practiced on construction sites. This gap arises due to various factors such as lack of awareness, inadequate training, cost constraints, time pressures, and weak enforcement mechanisms. As a result, deviations from standards can lead to compromised quality, safety risks, project delays, and increased lifecycle costs. Understanding and addressing this gap is essential for improving construction performance and ensuring that projects meet regulatory and professional expectations. Therefore, a structured framework is needed to bridge the gap between standards and practice by enhancing compliance, improving stakeholder coordination, and promoting a culture of quality and accountability in the construction industry.

Ambivalence toward ethics refers to the conflicting attitudes of professionals who understand ethical standards but fail to consistently adhere to them. This study aims to analyze these contradictions and propose solutions to improve ethical compliance.

LITERATURE SURVEY

Ethics in Construction Industry

- Findings: Ethical practices improve project outcomes
- Limitation: Weak enforcement mechanisms

Corruption in Nigerian Construction

- Findings: Corruption is a major challenge
- Limitation: Lack of transparency

Professional Ethics and Standards

- Findings: Codes of ethics exist but are not strictly followed
- Limitation: Poor monitoring

Organizational Culture

- Findings: Culture influences ethical behavior
- Limitation: Resistance to change

Governance and Regulation

- Findings: Strong policies improve compliance
- Limitation: Implementation gaps

Ethical Decision-Making Studies

- Common Findings:
  - o Training improves ethical awareness
  - o Leadership influences behavior
  - o Accountability is essential

EXISTING SYSTEM

In the existing system, construction standards and codes are often well-documented and accessible, but their implementation in real-world projects is inconsistent and sometimes inadequate. While designers and planners may incorporate standards during the initial stages of a project, adherence tends to weaken during execution due to various practical challenges. Contractors and site personnel may lack sufficient knowledge or training to fully understand and apply complex standards, leading to unintentional deviations. In some cases, cost and time pressures encourage stakeholders to bypass certain requirements to meet deadlines or reduce expenses.Monitoring and enforcement mechanisms are often weak, with limited inspections and irregular audits, allowing non-compliance to go unnoticed or unaddressed. Communication gaps between stakeholders—such as clients, consultants, and contractors—further contribute to inconsistencies in applying standards. Additionally, documentation practices are often poor, making it difficult to track compliance or identify areas of deviation. The use of digital tools for compliance monitoring and reporting is minimal, resulting in a lack of transparency and accountability. Furthermore, there is limited emphasis on continuous improvement or feedback mechanisms to learn from past mistakes. Overall, the existing system is characterized by a disconnect between theoretical standards and practical implementation, driven by insufficient awareness, weak enforcement, fragmented communication, and lack of technological support

DRAWBACKS OF EXISTING SYSTEM

1. Weak enforcement of ethical standards
2. High level of corruption
3. Lack of transparency
4. Inadequate accountability
5. Poor monitoring systems
6. Conflict of interest
7. Limited ethical training
8. Organizational pressure
9. Ineffective legal systems
10. Cultural acceptance of unethical practices

PROPOSED SYSTEM

The proposed system introduces a comprehensive and integrated framework aimed at bridging the gap between construction standards and on-site practices by embedding compliance and quality assurance throughout the project lifecycle. This framework begins with enhanced awareness and training programs to ensure that all stakeholders, including engineers, contractors, and site workers, have a clear understanding of relevant standards and their importance. Standards are translated into simplified, project-specific guidelines and checklists that are easier to implement on-site. The system emphasizes early integration of standards during the planning and design phases, ensuring that compliance requirements are clearly defined and aligned with project objectives. Advanced digital tools, such as Building Information Modeling (BIM), mobile inspection applications, and compliance tracking systems, are utilized to monitor adherence in real time and improve transparency. Regular audits, inspections, and performance evaluations are incorporated to ensure accountability and identifydeviations promptly. The framework also promotes strong stakeholder collaboration, encouraging open communication and shared responsibility for compliance. Incentive mechanisms and performance-based rewards are introduced to motivate adherence to standards, while penalties are enforced for non-compliance. Continuous improvement is supported through feedback loops, lessons learned, and knowledge-sharing practices across projects. By integrating training, technology, monitoring, and collaboration, the proposed system effectively reduces the gap between standards and practice, enhances construction quality and safety, and ensures more consistent and reliable project outcomes.

ADVANTAGES OF PROPOSED SYSTEM

- Reduced corruption
- Improved transparency
- Better project outcomes
- Increased trust among stakeholders
- Enhanced professional integrity
- Stronger regulatory compliance
- Improved industry reputation

METHODOLOGIES

1. Data Collection
- Surveys of construction professionals
- Interviews with stakeholders

2. Analytical Approach
- Comparative analysis of ethical practices
- Evaluation of compliance levels

3. Tools and Techniques
- Statistical analysis
- Case study evaluation

4. Implementation Steps

1. Identify ethical challenges
2. Develop policies
3. Implement training programs
4. Monitor compliance
5. Evaluate outcomes

5. Evaluation Metrics
- Number of ethical violations
- Compliance rates
- Stakeholder satisfaction
- Project success rates

CONCLUSION

Ethical ambivalence among professionals in the Nigerian construction industry poses significant challenges to sustainable development. While ethical frameworks exist, their effectiveness is limited by weak enforcement, cultural factors, and economic pressures. The proposed framework provides a comprehensive approach to addressing these issues through education, policy reform, and technological integration. Strengthening ethical practices will improve industry performance, enhance trust, and contribute to national development

Conflict of interest statement

Authors declare that they do not have any conflict of interest.

REFERENCES

[1] Lumpe, T.S.; Shea, K. Computational Design of Multi-State Lattice Structures with Finite Mechanisms for Shape Morphing. J. Mech. Des. 2023, 145, 071701. [Google Scholar] [CrossRef]

[2] Zhao, X.; Zhang, T.; Xiao, W. An Automated Design Method for Plane Trusses Based on User Preference Information. Appl. Sci. 2023, 13, 1543. [Google Scholar] [CrossRef]

[3] Markou, G.; Bakas, N.; Megan Van Der Westhuizen, A. Use of AI and ML Algorithms in Developing Closed-Form Formulae for Structural Engineering Design. In Advances in Civil and Industrial

Engineering; Plevris, V., Ahmad, A., Lagaros, N.D., Eds.; IGI Global: Hershey, PA, USA, 2023; pp. 73–105. [Google Scholar] [CrossRef]
[4] Chang, K.-H.; Cheng, C.-Y. Learning to Simulate and Design for Structural Engineering. In Proceedings of the 37th International Conference on Machine Learning, Online, 13–18 July 2020; Volume 119, pp. 1426–1436. Available online: https://proceedings.mlr.press/v119/chang20a.html (accessed on 27 July 2024).
[5] Paz, M. Dinámica Estructural. Teoría y Cálculo; Reverte: Barcelona, Spain, 2021. [Google Scholar]
[6] Galambos, T.V.; Surovek, A.E. Structural Stability of Steel Concepts and Applications for Structural Engineers; John Wiley & Sons.: Hoboken, NJ, USA, 2008. [Google Scholar]
[7] Zhong, W.; Wu, Z.; Wu, H.; Zhao, K.; Bao, W.; Wei, C. Control and instability analysis of multiple inverters parallel based on droop control. In Proceedings of the 2022 4th International Conference on Electrical Engineering and Control Technologies (CEECT),
Shanghai, China, 16–18 December 2022; pp. 777–782. [Google Scholar] [CrossRef]
[8] Belash, T.; Svitlik, I. On the issue of improving the seismic resistance of suspended buildings in areas of high seismic activity. Earthq. Eng. Constr. Saf. 2023, 6, 54–66. [Google Scholar] [CrossRef]
[9] Masi, A.; Santarsiero, G.; Chiauzzi, L.; Gallipoli, M.R.; Piscitelli, S.; Vignola, L.; Bellanova, J.; Calamita, G.; Perrone, A.; Lizza, C.; et al. Different damage observed in the villages of Pescara del Tronto and Vezzano after the M6.0 August 24, 2016 central Italy
earthquake and site effects analysis. Ann. Geophys. 2017, 59, 53. [Google Scholar] [CrossRef]
[10] Xie, J.; Shen, S.-D.; Hua, Y. A mode selection procedure for a seismic response prediction method based on micro-tremor measurements. Soil Dyn. Earthq. Eng. 2023, 175, 108271. [Google Scholar] [CrossRef]
[11] Yamin, L.E.; Reyes, J.C.; Rueda, R.; Prada, E.; Rincon, R.; Herrera,
C.; Daza, J.; Riaño, A.C. Practical seismic microzonation in complex geological environments. Soil Dyn. Earthq. Eng. 2018, 114, 480–494. [Google Scholar] [CrossRef]
[12] Khan, S.; Waseem, M.; Jan, S. Site response studies in Peshawar using the Nakamura technique of HVSR. Arab. J. Geosci. 2021, 14, 193. [Google Scholar] [CrossRef]
[13] Piancastelli, L. Common Mistakes and Their Fixes in Earthquake-Resistant Buildings. Acadlore Trans. Geosci. 2022, 1, 12–21. [Google Scholar] [CrossRef]
[14] Chopra, A.K. Dynamics of Structures: Theory and Applications to Earthquake Engineering, 5th ed.; Pearson Education: London, UK, 2019; ISBN 9781292249186. [Google Scholar]
[15] O'Reilly, G.J.; Calvi, G.M. Conceptual seismic design in performance-based earthquake engineering. Earthq. Eng. Struct. Dyn. 2019, 48, 389–411. [Google Scholar] [CrossRef]