

ADMINISTRATION & MANAGEMENT

Quarterly Competition & Employee Engagement

State Capitalism and India's SOEs

Purchasing and Documentation at Naga Foods Ltd

AI Solutions for Core Construction Challenges

Discovering Thoughts, Inventing Future

VOLUME 26 / ISSUE 2 / VERSION 1.0

**GLOBAL JOURNAL OF
MANAGEMENT AND
BUSINESS RESEARCH**

Section A - Administration & Management

Volume 26

2026

Issue A2

Global Journal of Management and Business Research

ISSN (Online): 2249-4588 • ISSN (Print): 0975-5853

Open Access Policy

All articles published in Global Journal of Management and Business Research are open access articles published under the Global Journals Open Access Publishing Agreement, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Publisher

Global Journals Incorporated
301 Edgewater Place, Suite 100
Wakefield, MA 01880, United States

Copyright

© 2026 by Global Journals Incorporated (USA). All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without written permission.

Disclaimer

The authors, editors, and publisher will not accept any legal responsibility for any errors or omissions that may be made in this publication. The publisher makes no warranty, express or implied, regarding the material contained herein.

Global Journal of Management and Business Research

Management, business, finance, economics, marketing, entrepreneurship and organisational studies.

Dr. Wing-Keung Wonn

PROFESSOR · PH.D.

Department of Finance · Asia University
Wufeng, Taiwan

Research focuses on Economics and Econometrics, with related work in Finance, Economics, Econometrics and Finance.

ORCID · Scholar · OpenAlex

Dr. Ali Dehghan

RESEARCHER · PH.D.

Department of Business & Economics · Eastern Michigan University
McDonough, United States

Research focuses on Marketing, with related work in Organizational Behavior and Human Resource Management, Information Systems and Management.

ORCID · OpenAlex

Dr. Mohd Norfian Alifiah

RESEARCHER · PH.D.

Department of Accounting and Finance · University of Technology Malaysia
Johor Bahru, Malaysia

Research focuses on Accounting, with related work in Business, Management and Accounting, Finance.

OpenAlex

Prof. Rajiv Mishra

DEAN · PH.D. · M.B.A.

School of Hospitality & Tourism · Galgotias University
Greater Noida, India

Research focuses on Tourism, Leisure and Hospitality Management, with related work in Business, Management and Accounting, Management.

David Barnes

ASSOCIATE PROFESSOR

Bryan College
Dayton, United States

Research focuses on Economics and Econometrics, with related work in Economics, Econometrics and Finance.

Dr. Vitalii Nitsenko

PROFESSOR · PH.D.

Department of Accounting and Taxation · Odesa I. I. Mechnikov National University
Kyiv, Ukraine

Research focuses on Economics and Econometrics, with related work in General Economics, Econometrics and Finance, Management, Monitoring, Policy and Law.

ORCID · Scholar · OpenAlex

Dr. Dodi Irawanto

RESEARCHER · PH.D.

Department of Management Faculty of Economics · Massey University
Malang, Indonesia

Research focuses on Strategy and Management, with related work in Business, Management and Accounting, Leadership.

Scholar · ResearchGate

Dr. Mohamed Elheddad

RESEARCHER · PH.D.

Department of Economics · University of Hull
Hull, United Kingdom

Research focuses on Economics and Econometrics, with related work in Environmental Engineering, Finance.

ORCID · Scholar · OpenAlex

Dr. Dinh Huy

RESEARCHER · PH.D. · M.B.A.

Management · University of Japan
Ho Chi Minh City, Japan

Research focuses on Accounting, with related work in Economics and Econometrics, Finance.

Dr. Afroditi Anagnostopoulou

SENIOR RESEARCHER · PH.D.

Department of Management Science · Athens University of Economics and Business
Peiraeus, Greece

Research focuses on Building and Construction, with related work in Economics and Econometrics, Industrial and Manufacturing Engineering.

ORCID · Scholar · OpenAlex

Dr. Maura Sheehan

RESEARCHER · PH.D.

Edinburgh Napier Business School · Edinburgh Napier University
Edinburgh, United Kingdom

Research focuses on Organizational Behavior and Human Resource Management, with related work in Strategy and Management, Business, Management and Accounting.

ORCID · Scholar · OpenAlex

Robert Waldo

ASSOCIATE PROFESSOR · PH.D.

Liberty University
Bradenton, United States

Research focuses on Organizational Behavior and Human Resource Management, with related work in Social Psychology, Business, Management and Accounting.

OpenAlex

Dr. Mohsen Brahmi

RESEARCHER · PH.D.

Department of Economics Innovation · Campus Southern Scientific IAE
Paris, France

Research focuses on Accounting, with related work in Management of Technology and Innovation, Economics and Econometrics.

ORCID · Scholar · OpenAlex

Dr. Bhavesh Vanparia

RESEARCHER · PH.D. · M.B.A.

Department of Business · Veer Narmad South Gujarat University
Adipur, India

Research focuses on Education, with related work in Social Sciences, Marketing Research.

ResearchGate

Dr. Samrat Ray

SENIOR RESEARCHER

Economics · Polytechnic University
St Petersburg, Russia

Research focuses on Artificial Intelligence, with related work in Strategy and Management, Business, Management and Accounting.

Dr. Ity Patni

ASSOCIATE PROFESSOR · PH.D. IN BEHAVIORAL FINANCE

Business Administration · Manipal Academy of Higher Education
Jaipur, India

Research focuses on Accounting, with related work in Artificial Intelligence, Economics and Econometrics.

ORCID · OpenAlex

Dr. Mehdi Taghian

LECTURER · PH.D.

Department of Marketing · Deakin University
Burwood, United States

Research focuses on Marketing, with related work in Sociology and Political Science, Business, Management and Accounting.

ORCID · Scholar · OpenAlex

Dr. William Felstead

RESEARCHER · PH.D.

Trident University International
Palm Desert, United States

His research interests span Administration and Marketing, Business, and Strategy and Strategic Management.

Dr. Ivona Raguz

RESEARCHER · PH.D.

Department of Economics and Business Economi · University of Dubrovnik

Dubrovnik, Croatia

Research focuses on Accounting, with related work in Archeology, Cultural Studies.

ORCID · Scholar · OpenAlex

Dr. Iqtidar Shah

RESEARCHER · PH.D.

Department of Business Administration · Yorkville University

Surrey, Canada

Research focuses on Education, with related work in Social Sciences, Business Administration.

Scholar

Dr. Gabariel Dwomoh

RESEARCHER · PH.D.

Department of Human Resource Management · Business University of Costa Rica

Kumasi, Ghana

Research focuses on Marketing, with related work in Business, Management and Accounting, Human Resource Management.

Dr. Nigel DSilva

PROFESSOR · PH.D. · M.B.A.

Department of Econometrics · University of Mumbai

Mumbai, India

Research focuses on Applied Psychology, with related work in Developmental and Educational Psychology, Economics and Econometrics.

ORCID · OpenAlex

Prof. Yue-Jun Zhang

RESEARCHER · PH.D.

Business School · Hunan University

China

Research focuses on Environmental Engineering, with related work in Management, Monitoring, Policy and Law, Environmental Science.

Scholar

Dr. Johnbosco Ozigbu

RESEARCHER · PH.D. · M.SC.

International Economics and Finance · Rivers State University

Nigeria

Research focuses on International Economics and Finance.

Nikola Vukcevic

RESEARCHER · PH.D.

Department Of Economics · University Adriatic Bar

Montenegro

Research focuses on Management, with related work in E-Business, Business.

Scholar

Dr. Charles Rarick

PROFESSOR EMERITUS · PH.D.

Department of Business and Management · Purdue University Northwest

Hammond, United States

Research focuses on Social Psychology, with related work in Psychology, Management.

Scholar · ResearchGate

Haici Zhang

RESEARCHER · PH.D.

Department of Financial Analytics · University of Delaware

United States

Research focuses on Finance, with related work in Signal Processing, Computer Science.

ORCID · Scholar · OpenAlex

Dr. Julie Melton

RESEARCHER · PH.D.

Department of Political Science · Yale University

Santa Fe, United States

Research focuses on Sociology and Political Science, with related work in Social Sciences, International Development.

ORCID · OpenAlex · ResearchGate

Anton Mialeshka

RESEARCHER

Luxod LLC

United States

Research focuses on Strategic Management, with related work in Digital Transformation, Business Scaling.

ORCID

Paul Thaddeus Kazibudzuki

ASSISTANT PROFESSOR · PH.D. · M.B.A.

Department of Law, Administration and Managem · Jan Dlugosz University

Opole, Poland

Research focuses on Management Science and Operations Research, with related work in Decision Sciences.

ORCID · OpenAlex · ResearchGate

Dr. Lóránt Dénes Dávid

PROFESSOR · PH.D.

Management and Business Administration · Eötvös Loránd University

Győngyás, Hungary

Research focuses on Geology, with related work in Transportation, Earth and Planetary Sciences.

Dr. Bentolhoda Abdollahbeigi

RESEARCHER · PH.D. · M.B.A.

Department of Management · Multimedia University

Malaysia

Research focuses on Management, with related work in Breeding, Organizational Development.

Scholar

Cengiz Haksever

RESEARCHER · PH.D.

Department of Information Systems and Supply Chain Management · Rider University

United States

Research focuses on Linear Programming, with related work in Logistics, Management Science.

Dr. Bettina Mrusek

ASSISTANT PROFESSOR · PH.D.

Department of Business · Embry–Riddle Aeronautical University

New Smyrna Beach, United States

Research focuses on Business and International Management, with related work in Radiological and Ultrasound Technology, Statistics, Probability and Uncertainty.

Scholar · OpenAlex · ResearchGate

Dr. Tsutomu Harada

PROFESSOR · PH.D.

School of Business Administration · Kobe University

Kobe, Japan

Research focuses on Economic analysis of innovation, with related work in institutions.

Dr. Ambar Beharay

RESEARCHER · PH.D. IN MANAGEMENT · M.B.A.

Management · Savitribai Phule Pune University

India

Research focuses on Marketing.

Dr. Menon Sreedharan Mampully

RESEARCHER · PH.D. · M.B.A.

Management and Business · University of Mumbai

Thane, India

Research focuses on Management and Business.

Dr. John Theodore

RESEARCHER · PH.D.

University of Kansas

United States

Theodore is a distinguished academic and business leader with a multifaceted background in management and business research.

Dr. Bassey Esu

CONSULTANT · PH.D. · M.B.A.

Department of Marketing · University of Calabar

Nigeria

Research expertise is aligned with management.

Dr. Söhnke M. Bartram

RESEARCHER · PH.D. · M.B.A.

University of Brawijaya
Switzerland

Bartram has established a robust career in management and business research.

Dr. Yongbing Jiao

RESEARCHER · PH.D.

Department of Marketing · Ningbo University of Technology
China

Research focuses on Marketing, with related work in Consumer Behavior, Services Marketing.

Dr. Bhakta Dash

PROFESSOR · PH.D. · M.B.A.

Management · ASBM University
PURI, India

Research focuses on Human Resource Management, with related work in Writing Research Papers, Articles.

ResearchGate**Dr. Albrecht Classen**

UNIVERSITY DISTINGUISHED PROFESSOR · PH.D.

Department of German Studies · University of Arizona
Tucson, United States

Research focuses on Classics, with related work in History, Arts and Humanities.

ORCID · **OpenAlex****Dr. Xiaohong He**

PROFESSOR · PH.D.

The University of Texas at Dallas
United States

Research focuses on trade openness, financial performance, and strategic leadership, contributing significantly to the academic community.

Dr. Anurag Hazarika

RESEARCHER · PH.D. · M.B.A.

Sociology and Management · M.Com, MBA, PGDRD, PGDCA, Ph.D, University of science and Technology, Meghalaya, India
India

Research focuses on Sociology and Management.

ORCID · **OpenAlex****Dr. Carl Freedman**

PROFESSOR · PH.D.

Department of English · Louisiana State University
United States

Research focuses on Organic Chemistry, with related work in Chemistry, Modern Culture.

Dr. Agni Aliu

ASSOCIATE PROFESSOR · PH.D.

Department of Management · South East European University
struga, United States

Research focuses on Condensed Matter Physics, with related work in Materials Chemistry, Oncology.

ResearchGate**Dr. Brandon S. Shaw**

PROFESSOR · PH.D.

Department of Sport and Movement Studies · University of Johannesburg
Johannesburg, United States

Research focuses on Pulmonary and Respiratory Medicine, with related work in Medicine, Understanding the problems and potential of e.

Scholar**Dr. Bachchu Kaini**

LECTURER · PH.D.

Department of Health Management · Anglia Ruskin University
London, United Kingdom

Research focuses on Emergency Medical Services, with related work in Health Professions, Health Care Management.

Scholar · **ResearchGate****Prof. Moji Moatamedi**

RESEARCHER · PH.D. · M.B.A.

Department of Technology · UiT The Arctic University of Norway
United States

Research focuses on Multiphysics.

Dr. Robert Soni

RESEARCHER · PH.D.

Department of Management · RGPV
Indiana

Research focuses on Management.

Dr. Carlos Garcia Pont

ASSOCIATE PROFESSOR

Universidad de Navarra
Spain

Research focuses on Epidemiology, with related work in Virology, Immunology and Microbiology.

ResearchGate**Dr. Iwona Gorzen-Mitka**

RESEARCHER · PH.D.

Department of International Economic · Czeszochowa University of Technology
Poland

Research focuses on Management.

Dr. Angela Presson

RESEARCHER

Department of Management Studies
United States

Research focuses on Management.

Dr. Faisal Khamis

ASSOCIATE PROFESSOR · PH.D.

Department of Statistics · Al-Zaytoonah University of Jordan
Amman, Jordan

Research focuses on Economics and Econometrics, with related work in General Economics, Econometrics and Finance, Management of Technology and Innovation.

ORCID · **OpenAlex****Dr. Vincent Jemison**

RESEARCHER · PH.D.

Department of Science · University of Phoenix
United States

Research focuses on Management of Technology and Innovation, with related work in Marketing, Organizational Behavior and Human Resource Management.

ResearchGate**Dr. Xianbo Zhao**

RESEARCHER · PH.D.

Department of Building Engineering · Central Queensland University
Sydney, Australia

Research focuses on Industrial and Manufacturing Engineering, with related work in Management, Monitoring, Policy and Law, Organizational Behavior and Human Resource Management.

ORCID · **Scholar** · **OpenAlex****Dr. Latifa Oubedda**

RESEARCHER · PH.D.

Computer science · Université Ibn Zohr
SALE, Morocco

Research focuses on Management Information Systems, with related work in Business, Management and Accounting.

OpenAlex**Dr. Fararishah Abdul Khalid**

RESEARCHER · PH.D.

Department of Management · Monash University
Australia

Research focuses on Business Incubation, with related work in Incubators, Entrepreneurship.

Scholar**Dr. Giaime Berti**

RESEARCHER · PH.D.

Department of Economics and Management · Imperial College London
China

Research focuses on Political Participation, with related work in Governance, Food Systems.

Dr. Raymond Chan

ASSOCIATE PROFESSOR · PH.D.

Department of Applied Social Sciences · University of Hong Kong

Hong Kong, Hong Kong

Research focuses on Economics and Econometrics, with related work in Political Science and International Relations, Sociology and Political Science.

ORCID · Scholar · OpenAlex

Dr. Indranil Gupta

PROFESSOR · PH.D.

Department of Mathematics · North Dakota State University

New York, United States

Research focuses on Finance, with related work in Management Science and Operations Research, Decision Sciences.

ORCID · OpenAlex · Profile

Dr. Luisa Dall'Acqua

RESEARCHER · PH.D.

Department of Educational Technology & AI · Università di Bologna

Italy

Research focuses on Management Science and Operations Research, with related work in Decision Sciences, E-learning technologies.

Dr. Cosimo Magazzino

RESEARCHER · PH.D.

Department of Political Sciences · Roma Tre University

Roma, Italy

Research focuses on Economics and Econometrics, with related work in Renewable Energy, Sustainability and the Environment, Pollution.

ORCID · Scholar · OpenAlex

Xueyan Hu

RESEARCHER · PH.D.

Department of Education · Texas A&M University

College Station, United States

Research focuses on Developmental and Educational Psychology, with related work in Literature and Literary Theory, Language and Linguistics.

ORCID · OpenAlex

Dr. Nurul Akmar Emran

RESEARCHER · PH.D.

Department of Computer Science and Engineering · Technical University of Malaysia Malacca

Durian Tunggal, Malaysia

Research focuses on Artificial Intelligence, with related work in Information Systems, Management Science and Operations Research.

ORCID · Scholar · OpenAlex

Dr. Rufus Ayisi

RESEARCHER · M.B.A.

Washington University

United States, United States

Research focuses on Artificial Intelligence, with related work in Health Informatics, Management Science and Operations Research.

OpenAlex

Dr. Jiaming Pei

RESEARCHER · PH.D.

Information Management & Information System · Taizhou University

Nanjing, China

Research focuses on Artificial Intelligence, with related work in Computer Networks and Communications, Control and Systems Engineering.

ORCID · OpenAlex

Dr. Fentahun Kasie

RESEARCHER · M.SC.

Department of mechanical & Industrial Enginee · Hawassa University

Hawassa, Ethiopia

Research focuses on Industrial and Manufacturing Engineering, with related work in Management Information Systems, Management Science and Operations Research.

ORCID · OpenAlex

Di Wang

RESEARCHER · PH.D.

Department of Industrial Engineering · University of Illinois

Oak Creek, United States

Research focuses on Artificial Intelligence, with related work in Industrial and Manufacturing Engineering, Management Science and Operations Research.

Scholar

Mr. Rahul Chauhan

ASSISTANT PROFESSOR · PH.D. · M.B.A.

Department of Business Administration · Gujarat Technological University

Baroda, India

Research focuses on Artificial Intelligence, with related work in Communication, General Agricultural and Biological Sciences.

ORCID · OpenAlex

Dr. Intakhab Khan

PROFESSOR · PH.D.

Department of English · King Abdulaziz University

Jeddah, Saudi Arabia

Research focuses on Language and Linguistics, with related work in Literature and Literary Theory, Education.

ORCID · OpenAlex · ResearchGate

Dr. Prasad Bidarkota

RESEARCHER · PH.D.

Department of Economics · Florida International University

United States

Research focuses on Economics, with related work in Econometrics, Time Series.

Scholar · ResearchGate

Dr. Yaping Ren

RESEARCHER · PH.D.

Statistics and Mathematics · Yunnan University of Finance And Economics

Kunming, China

Research focuses on Statistics and Mathematics.

Dr. Mahipal Sankhla

RESEARCHER · PH.D. · M.SC.

Forensic Science · Galgotias University

Gurugram, India

Research focuses on Ecology, with related work in Economics and Econometrics, Electrical and Electronic Engineering.

ORCID · Scholar · OpenAlex

Dr. Natalia Vladimirovna

RESEARCHER

Economics · Russian Customs Academy, department of Economics, Branch of State Budget Institution of Higher Education ,Russian Customs Academy

Russia

Research focuses on Economics.

Dr. Jun Wang

RESEARCHER · PH.D.

Dept of Public Policy · City University of Hong Kong

Kowloon, Hong Kong

Research focuses on Political Science and International Relations, with related work in Social Sciences, human geography.

ORCID · Scholar · OpenAlex

Dr. Vesna Stankovic Pejnovic

RESEARCHER · PH.D.

Department Of Philosopohy · MIT University

Skopje, Croatia

Research focuses on Philosophy, with related work in Political Science and International Relations, Arts and Humanities.

ORCID · Scholar

Dr. Alis Puteh

RESEARCHER · PH.D.

Northern University of Malaysia

Jitra, Malaysia

Research focuses on Linguistics and Language, with related work in Social Sciences, Pedagogy and Education.

ResearchGate

Dr. Wesam Alaloul

RESEARCHER · PH.D. IN CIVIL · M.SC.

Civil Engineering Department · Universiti Teknologi Petronas

Seri Iskandar, Malaysia

Research focuses on Artificial Intelligence, with related work in Building and Construction, Management Information Systems.

ORCID · OpenAlex

PREFACE

empty 2cm center gjheadercolor 22 26 Preface

0.8em]gjcolor!200.351.5ptcenter1.5cm*The Global Journal of Management and Business Research (GJMBR)* is pleased to present this issue, bringing to

Global Journals Organization

The Chief Editor

TABLE OF CONTENTS

Title	Author	Pages
Copyright		i
Editorial Board		ii
Preface		vi
Quarterly Competition Program Impact on Employee Engagement: A Case Study of the Quarterly Competition Program Materials Services Department Saudi Aramco	Ghamdi et al.	1-3
Reassessing State Capitalism in the New World Order: The Case of India	Mishra et al.	4-13
A Study of Purchasing Procedure and Documentation at Naga Foods Limited	Kishorebalaji	14-17
AI-Driven Transformation in Construction: A Comprehensive Review of Resolving Core Industry Challenges	Mialeshka et al.	18-27
Emotional Intelligence Training for Workforce Adaptability in AI – Integrated Organizations	Jha et al.	28-34
Subject Index		35
Author Guidelines		37



Quarterly Competition Program Impact on Employee Engagement: A Case Study of the Quarterly Competition Program Materials Services Department Saudi Aramco

Article Record

Majed Al Ghamdi^{§*}

*Corresponding Author



Ali N. Al-Abbas



Ali M. Al-Taweel



Dr. Hussain, Hussain I



§ Saudi Aramco: Company

RECEIVED

2026-02-26

ACCEPTED

2026-03-12

ONLINE PUBLISHED

2026-04-09

PUBLISHED

2026-06-18

PEER REVIEW

Double Blind

Abstract

This technical paper documents the implementation and outcomes of the “Quarterly Employee Competition Program” introduced by Warehousing Organization that operates within Oil and Gas Industry. It serves as a case study to demonstrate how structured motivational strategies can improve employee engagement levels, drive performance, and align individual contributions with organizational goals. The paper also provides actionable insights for external organizations considering similar programs. Illustration from recent academic literature on employee engagement, this study highlights how engagement directly influences the organization's productivity, innovation, and operational excellence. The program resulted in measurable improvements in accountability, self-development, and consistent employee engagement.

accountability

employee engagement

Incentive Programs

Motivational Strategies

Organizational Productivity

performance improvement

Workforce Development

AI USE STATEMENT

No generative AI was used for analysis or results.

FUNDING

No external funding was declared for this work.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY

Not applicable for this article.

ETHICS

No ethics committee approval was required for this article type.

CONSENT

Not applicable for this article.

TRIAL REG.

Not applicable.

Crossref DOI: 10.34257/GJMBRA254192

How to Cite: Ghamdi et al. (2026). Quarterly Competition Program Impact on Employee Engagement: A Case Study of the Quarterly Competition Program Materials Services Department Saudi Aramco. Global Journal of Management and Business Research, 26(2), 1-3. DOI: 10.34257/GJMBRA254192

LICENSE

© 2026 Global Journals. Open-access article under CC BY-NC-ND 4.0 International License.

AR Experience Web Page



DOI



Print ISSN 0975-5853



Online ISSN 2249-4588



Under the strict compliance and defined process of



METADATA CONTINUATION

AUTHOR CONTACT QR LEDGER

Majed Al Ghamdi*		Ali N. Al-Abbas		Ali M. Al-Taweel		Dr. Hussain, Hussain I	
------------------	---	-----------------	---	------------------	---	------------------------	---

ARCHIVAL RECORD

Quarterly Competition Program Impact on Employee Engagement: A Case Study of the Quarterly Competition Program Materials Services Department Saudi Aramco

Majed Al Ghamdi^{§*}, Ali N. Al-Abbasi[§], Ali M. Al-Taweel[§], and Dr. Hussain, Hussain I^{§1}

¹ Affiliations

§ Saudi Aramco: Company

Abstract

This technical paper documents the implementation and outcomes of the “Quarterly Employee Competition Program” introduced by Warehousing Organization that operates within Oil and Gas Industry. It serves as a case study to demonstrate how structured motivational strategies can improve employee engagement levels, drive performance, and align individual contributions with organizational goals. The paper also provides actionable insights for external organizations considering similar programs. Illustration from recent academic literature on employee engagement, this study highlights how engagement directly influences the organization's productivity, innovation, and operational excellence. The program resulted in measurable improvements in accountability, self-development, and consistent employee engagement.

Keywords: *accountability, employee engagement, Incentive Programs, Motivational Strategies, Organizational Productivity, performance improvement, Workforce Development*

* Corresponding Author
Majed Al Ghamdi

DOI
10.34257/GJMBRA254192

1. Introduction Background and Literature Review

Employee engagement is a critical driver of organizational performance, particularly in operational environments such as warehousing, where human performance directly affects safety, efficiency, and service quality. According to the mentioned studies in this paper, employee engagement is influenced by a combination of HR policies, leadership practices, and recognition mechanisms. Engaged employees are enthusiastic, dedicated, and willing to go the extra mile qualities that are essential in high-pressure, high-stakes environments like logistics and warehousing.

In early 2025, a comprehensive review of employee engagement levels within the organization revealed a lack of motivation, limited accountability, low development opportunities, insufficient recognition mechanisms, and inconsistent engagement.

In response, a “Quarterly Employee Competition Program” was launched by the Warehousing Organization in February 2025. This program was designed to recognize and reward employees based on performance across five weighted categories: Safety, Operations, Cybersecurity, Development, and Innovation.

2. Relationship between Employee Engagement and Organization Productivity

Engaged employees can demonstrate greater commitment, creativity, and willingness to exceed their job requirements, directly leading to improved operational outcomes. They are more likely to take

initiative and solve problems, follow safety protocols consistently, participate in innovation and process improvement, collaborate effectively with management.

These behaviors were clearly observed and reinforced through the Quarterly Employee Competition Program. By linking performance to recognition across multiple operational areas, the program shaped a culture of accountability and continuous improvement.

3. Research Methodology

This case study employed a mixed-methods approach to evaluate the implementation and impact of the competition program. The study focused on both qualitative and quantitative indicators to assess changes in employee engagement and organizational productivity.

Table 1. Quarterly Employee Competition Program Categories and Metrics

Operational Excellence				Safety Excellence				Development		Cybersecurity		Innovation	
Interim Clearance	HR Training Compliance	Customer Satisfaction	Materials Re-arrangement	Safety Suggestion	Safe Operation Compliance	Safety Training Compliance	Behavioral Observation Reporting	Safety Self-Development	Knowledge Sharing	Phishing Email Reporting	Process Efficiency Improvement	Innovation Submission	Idea
Clear one item/items from one of the interims valued between 50K-100K.	Achieve zero expired courses.	Obtain customer satisfaction through material service.	Re-arrange location bins of materials.	Submit high quality suggestions.	Achieve zero safety violation during operation.	Maintain zero expired safety-related courses.	Submit high quality safety observations per month.	Complete non-required courses.	Share business-related knowledge to the required stakeholders.	Achieve phishing condition on or efficiency reporting.	Complete process or improvement projects.	Submit high quality innovative ideas.	
Exceeded: +5 Achieved: +3 Did Not Achieve: 0	Achieved: +5 Did Not Achieve: 0	Exceeded: +5 Achieved: +3 Did Not Achieve: 0	Exceeded: +5 Achieved: +3 Did Not Achieve: 0	Exceeded: +5 Achieved: +3 Did Not Achieve: 0	Achieved: +5 Did Not Achieve: 0	Achieved: +5 Did Not Achieve: 0	Exceeded: +5 Achieved: +3 Did Not Achieve: 0	Exceeded: +5 Achieved: +3 Did Not Achieve: 0	Exceeded: +5 Achieved: +3 Did Not Achieve: 0	Achieved: +5 Did Not Achieve: 0	Exceeded: +5 Achieved: +3 Did Not Achieve: 0	Exceeded: +5 Achieved: +3 Did Not Achieve: 0	

4. Key Findings and Program Strategies

- I. Initially, employees tended to perform within their defined responsibilities, with limited collaboration or engagement. This approach hindered overall productivity. By implementing a recognition system that rewarded top performers in the competition program, employees became more engaged in different tasks, often going beyond standard expectations to improve their scores and contribute positively to the organization. The visible success of outstanding efforts further reinforced a culture of shared responsibility and continuous improvement.
- II. Certain employees were focused on their primary task in the warehouse while overlooking other contributing factors. By offering incentive to tap on other activities, employees were exposed to other aspects aligned with the corporate values and objectives. The program resulted in these employees contributing not only to safety initiative but also to cybersecurity, and innovation and process improvement. Efforts of reviewing current processes, and enhancing it were visible, and triggered by the competition weekly progress.
- III. The introduction of real-time performance updates and visible scoreboard created a culture of transparency and accountability. By consistently sharing progress and recognizing improvements, employees became more conscious of their contributions and how they aligned with wider operational goals. This improved awareness led to a noticeable increase in self-driven performance, especially in high-impact areas like quality control and compliance. Employees took greater ownership of their work, the overall reliability and consistency of operations strengthened, fostering a more disciplined and performance-driven environment.
- IV. Previously, there was limited emphasis on personal growth and skill advancement, resulting in minimal engagement with development opportunities. To address this, a structured category focusing on self-development was introduced, including internal training, external learning, and professional certification. This shift motivated employees to actively seek growth opportunities, leading to enhanced competencies, greater adaptability, and more effective problem-solving. The increased focus on continuous improvement contributed to a more capable workforce aligned with long-term organizational objectives.
- V. Before the program was launched, engagement levels among employees were inconsistent, with only a portion actively participating in broader organizational efforts. To bridge this gap, a competition-driven program and ongoing engagement framework was introduced, encouraging continuous involvement and accountability across all levels. This approach

fostered a more persistent culture of participation, where employees remained consistently invested in their responsibilities to seek out opportunities for improvement.

5. Program Implementation Journey

5.1. Understanding Employee Needs

In order to establish an effective program, it is critical to understand the employees in order to tailor the competition objectives to the employee needs. To achieve this, an analysis of the employee needs was established based on the four themes: enable, care, develop & recognize. These four themes were later translated into competition program categories.

5.2. Initial Review and Program Design

The program originated from a comprehensive review of employee engagement levels conducted in January 2025. Based on the findings, a set of weighted performance categories was developed, including Safety, Operations, Cybersecurity, Development, and Innovation. These categories were designed to reflect organizational values and operational priorities.

5.3. Pilot Testing

The program was initiated in a pilot phase to all employees, where they were evaluated based on the defined criteria, and top performers were recognized. The pilot phase revealed high levels of interest and participation. In Q2, the program was refined, resulting in measurable improvements in engagement and performance.

5.4. Formal Launch and Enhancements

Based on the success of the pilot, the program was formally published in July 2025. Enhancements included the addition of materials re-arrangement, customer satisfaction metrics, and HR trainings. These additions expanded the operational scope of the program in alignment with organizational goals.

5.5. Awareness and Communication

To ensure widespread understanding and participation, awareness sessions were held for Chief Position Holders (CPHs) and employees. A weekly scoreboard was introduced to provide real-time feedback and encourage continuous improvement. The scoreboard was later enhanced to include personalized performance insights, enabling employees to identify areas for growth.

6. Program Results and Impact

6.1. Enhanced Employee Engagement and Collaboration

The program fostered healthy engagement between employees and management across the organization. Employees have demonstrated increased motivation and willingness to go to the “extra mile” in their daily tasks, contributing to a more collaborative and proactive work environment.

6.2. Improved Organizational Performance

Key performance indicators (KPIs) related to safety and operations have shown significant improvement. This reflects the direct impact of employees’ outstanding contributions and their alignment with organizational goals.

6.3. Employee Self-Development and Skill Enhancement

Employees have taken the initiative to develop their skills both internally and through external training at approved institutions. This self-driven growth has enhanced their knowledge and directly contributed to improved daily operations and problem-solving.

6.4. Increased Accountability and Resilience in Critical Areas

Employees have demonstrated stronger resilience and accountability in maintaining safe operations and upholding cybersecurity standards. This cultural shift is vital for risk mitigation and long-term operational integrity.

6.5. Effective Communication and Continuous Feedback

The introduction of a weekly scoreboard, enhanced with personalized performance insights, has created a culture of transparency and continuous improvement. Employees are more informed about their progress and areas for growth, which supports ongoing development.

7. Conclusion and Adoption Recommendations

The implementation of the Quarterly Employee Competition Program has demonstrated a significant positive impact on employee engagement levels, organizational productivity, and workplace culture. The program has successfully addressed key challenges identified in early 2025 by introducing a structured framework that evaluates employees across specific weighted performance categories.

7.1. Recommendations for External Organizations

For organizations considering similar employee engagement programs, the following best practices are recommended:

- Tailor performance categories to reflect organizational values and operational needs.
- Conduct pilot testing to refine criteria and ensure fairness and relevance.
- Implement real-time scoreboards or dashboards to maintain engagement and transparency.
- Conduct training and awareness sessions to ensure understanding of the established program.

■ REFERENCES

- [1] Damandeep Johar. (May 2024). Factors Affecting Employee Engagement and Its Impact on Employee Performance and Innovation. *Educational Administration Theory and Practice journal*.
- [2] Dr. Manojkumar B. Vanara. (July 2025). Drivers of Employee Engagement: A Conceptual Framework. *International Journal of Scientific Research in Engineering and Management*.
- [3] Hangwani Raymond Ravhudzulo and Chukuakadibia Ejerulo Eresia-Eke. (June 2025). The Subliminal Interactions of The Dimensions of Employee Engagement with Employee Performance. *Journal of Frontiers in Organizational Psychology*.
- [4] Soumi Majumder. (July 2025). Employee Engagement Models. *Journal Of Analyzing Trends and Patterns in Employee Engagement*.
- [5] Ms Mushkan Chauhan. (June 2025). Linking Employee Engagement to Organizational Productivity. *International Journal of Scientific Research in Engineering and Management*.
- [6] Aswanti Setyawati, Cecep Pahrudin, Lira Agusinta, Rohana Sitanggang, and Primadi Candra Susanto. (April 2025). Employee Performance Through Employee Engagement in Cargo Companies. *Jurnal Ilmiah Manajemen Kesatuan*.
- [7] Lord Dordunoo. (July 2025). Developing Strategy for Employee Engagement. *Advancing Safety, Service, and Performance in Organizations with Impactful Leadership*.
- [8] Faruk Ahmeti. (January 2023). Leveraging Employee Engagement for Competitive Advantage: Satisfaction and Work Motivation Management. *Journal of Liberty and International Affairs Institute for Research and European Studies*.
- [9] Setyo Riyanto, Endri Endri, Novita Herlissha. (August 2021). Effect of Work Motivation and Job Satisfaction on Employee Performance: Mediating Role of Employee Engagement. *Journal of Problems and Perspectives in Management*.
- [10] Meily Margaretha, Susanti Saragih, Sri Zaniarti, and Bena Parayow. (June 2021). Workplace Spirituality, Employee Engagement, And Professional Commitment: A Study of Lecturers from Indonesian Universities. *Journal of Problems and Perspectives in Management*.
- [11] Andrew C. Ologbo and Saudah Sofian. (December 2012). Individual Factors and Work Outcomes of Employee Engagement. *Journal of Procedia - Social and Behavioral Sciences*.



Reassessing State Capitalism in the New World Order: The Case of India

Article Record

Dr. R K Mishra^{§*}

President

*Corresponding Author



Priyanka Mishra^{‡§}

Assistant Professor



Kadumuri Neeraja[¶]

Registrar and Research Scientist



[§] Management and Social Science Research Center, Hyderabad, India, and Extraordinary Professor, Stellenbosch University, South Africa. (OA)

[‡] Ashoka School of Business, Hyderabad, India

[¶] Management and Social Science Research Center, Hyderabad, India

RECEIVED

2026-05-08

ACCEPTED

2026-05-18

ONLINE PUBLISHED

2026-05-26

PUBLISHED

2026-06-18

PEER REVIEW

Double Blind

Abstract

This study re-examines the origins, conceptual foundations, and theoretical dimensions of state capitalism within the shifting contours of the contemporary global order. It positions India's state-owned enterprises (SOEs) as pivotal instruments of national development, countering the dominant narrative that privatization is the universal remedy for inefficiency. By tracing the historical trajectory and policy frameworks underpinning state capitalism, the paper demonstrates how Indian SOEs have sustained capital investment, safeguarded energy security, and generated significant fiscal dividends, particularly in sectors where private capital has been hesitant to participate. Drawing on comparative global models and debates, the analysis identifies the structural and contextual factors that shape the resilience and viability of state capitalism in volatile geopolitical and economic environments. The evidence underscores that, under statist strategies, Indian SOEs have consistently delivered superior outcomes relative to private sector counterparts, reaffirming their relevance in an era defined by uncertainty, multipolarity, and systemic transformation.

State Capitalism

Global Order

Theoretical Foundations

Comparative SOE Models

Governance and Policy

SOE Performance in India

AI USE STATEMENT

No generative AI was used for analysis or results.

FUNDING

No external funding was declared for this work.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY

Not applicable for this article.

ETHICS

No ethics committee approval was required for this article type.

CONSENT

Not applicable for this article.

TRIAL REG.

Not applicable.

Crossref DOI: 10.34257/GJMBRA257121

How to Cite: Mishra et al. (2026). Reassessing State Capitalism in the New World Order: The Case of India. Global Journal of Management and Business Research, 26(2), 4-13. DOI: 10.34257/GJMBRA257121

LICENSE

© 2026 Global Journals. Open-access article under CC BY-NC-ND 4.0 International License.



Print ISSN 0975-5853



9 770975 585000

Online ISSN 2249-4588



9 772249 458010

Under the strict compliance and defined process of



METADATA CONTINUATION

AUTHOR CONTACT QR LEDGER

Dr. R K Mishra§0*		Priyanka Mishra‡§		Kadumuri Neeraja¶0	
-------------------	---	-------------------	---	--------------------	---

ARCHIVAL RECORD

Reassessing State Capitalism in the New World Order: The Case of India

Dr. R K Mishra^{§*}, Priyanka Mishra^{‡ξ}, and Kadumuri Neeraja^{¶θ}

Affiliations

[§] Management and Social Science Research Center, Hyderabad, India, and Extraordinary Professor, Stellenbosch University, South Africa. (OA)

[‡] Ashoka School of Business, Hyderabad, India

[¶] Management and Social Science Research Center, Hyderabad, India

Qualifications / Designations

^θ President

^ξ Assistant Professor

^θ Registrar and Research Scientist

Abstract

This study re-examines the origins, conceptual foundations, and theoretical dimensions of state capitalism within the shifting contours of the contemporary global order. It positions India's state-owned enterprises (SOEs) as pivotal instruments of national development, countering the dominant narrative that privatization is the universal remedy for inefficiency. By tracing the historical trajectory and policy frameworks underpinning state capitalism, the paper demonstrates how Indian SOEs have sustained capital investment, safeguarded energy security, and generated significant fiscal dividends, particularly in sectors where private capital has been hesitant to participate. Drawing on comparative global models and debates, the analysis identifies the structural and contextual factors that shape the resilience and viability of state capitalism in volatile geopolitical and economic environments. The evidence underscores that, under statist strategies, Indian SOEs have consistently delivered superior outcomes relative to private sector counterparts, reaffirming their relevance in an era defined by uncertainty, multipolarity, and systemic transformation.

Keywords: *State Capitalism, Global Order, Theoretical Foundations, Comparative SOE Models, Governance and Policy, SOE Performance in India*

* Corresponding Author

Dr. R K Mishra

DOI

10.34257/GJMBRA257121

1. Introduction

The twenty-first century has been marked by profound shifts in the global economic and political landscape, often described as the emergence of a “New World Order.” Multipolarity, geopolitical realignments, energy crises, climate challenges, and the retreat of unrestrained globalization characterize this order. In such a turbulent environment, the state's role in economic management has re-emerged as a central theme of scholarly and policy discourse. State capitalism, defined by extensive state involvement in ownership, investment, and regulation, has become an essential framework for understanding how nations navigate uncertainty and secure strategic interests. In this context, multipolarity and geopolitical volatility favor the SOE model because it allows the state to maintain direct control over strategic supply chains and energy security, mitigating risks that private capital may be hesitant to absorb.

India's experience illustrates this dynamic vividly. The mixed economy model introduced in 1951 institutionalized the coexistence of public and private sectors, with state capitalism and SOEs forming its two foundational pillars (Muralidharan, 2024). Despite the liberalization reforms of 1991, state capitalism and SOEs remain integral to India's developmental trajectory. The government has noted that aggregate dividends from SOEs represent a consistent fiscal inflow, which in the context of long-term stability, compares favorably to one-time receipts from privatization (GoI, 2024), underscoring their enduring relevance in sustaining

capital investment, ensuring energy security, and stabilizing fiscal performance.

State capitalism may be broadly understood as an economic system in which the state controls a significant share of production through centralized management, labor regulation, and capital accumulation, while simultaneously engaging in commercial, profit-oriented ventures that often compete with private firms. In this model, ownership, markets, and state authority converge. Scholars have described its manifestations in diverse terms, ranging from “red capitalism” and “progressive capitalism” to “leviathan ownership” and “platform capitalism” (Musacchio & Lazzarini, 2012; Sperber, 2019). Its intellectual roots lie in both doctrinaire and pragmatic traditions (Megginson, 2017), with five major forces driving its rise: intensifying global division of labor, technological modernization, industrial upgrading, capital concentration, shifts in the global economic center of gravity, and the expansion of debt and financial linkages.

Globally, state capitalism manifests in varied forms. In China, the state dominates strategic sectors through large SOEs and sovereign funds, cultivating “national champions.” In France, the tradition of dirigisme continues to shape industrial policy through state-backed enterprises and politically guided investments. Even in the United States, often portrayed as the bastion of free markets, the government has intervened directly in strategic industries, such as acquiring stakes in semiconductor firms to secure supply chains. These examples highlight that even liberal economies resort to

state capitalism when national security and competitiveness are at stake.

India has witnessed a resurgence of state capitalism in recent years, as the government reasserts its role in directing capital, shaping industrial policy, and forging alliances with major business groups. This reflects developmental priorities, political legitimacy, and global trends where states actively mobilize resources to manage crises and strategic sectors. The expansion of SOEs, sovereign wealth funds, and development banks, alongside renewed industrial policy and economic nationalism in advanced economies, signals that state capitalism is regaining prominence in the international political economy. Within this evolving global order, India's SOEs exemplify how statist strategies can deliver resilience, growth, and fiscal dividends, challenging the assumption that privatization is the universal solution.

2. Literature review

State capitalism, defined by active government intervention in economic activity, has been central to India's developmental trajectory. The mixed economy model adopted in 1951 institutionalized the coexistence of public and private sectors, with SOEs serving as the backbone of strategic industries (Muralidharan, 2024). Amsden (2001) highlights how late-industrializing economies, including India, leveraged SOEs to achieve industrial growth and technological catch-up. Kornai's (1979) distinction between resource-constrained and demand-constrained systems remains relevant, as Indian SOEs often operate within policy environments shaped by fiscal priorities and political mandates. Bremmer (2009, 2010) situates India's economic policies within the broader global rise of state capitalism, underscoring its systemic importance.

The debate over privatization continues to be contentious. Bator (1958) emphasized the inevitability of market failures, providing a rationale for state intervention. La Porta and López-de-Silanes (1999) found that privatization often improves profitability and efficiency, but frequently through socially costly measures such as layoffs and wage reductions. Goswami (2003) and Khanna (2015) traced India's gradual reforms, noting shifts in corporate governance and accountability. The *Public Enterprises Survey* (2023) provides empirical evidence of SOE resilience, while OECD (2015, 2017) benchmarks governance frameworks against global standards. NITI Aayog's *National Monetization Pipeline* (2021) illustrates fiscal strategies that balance privatization with state-led investment.

Musacchio and Lazzarini (2014) outline varied models of state capitalism, many of which resonate with India's evolving public sector. Shleifer and Vishny (1998) critique inefficiencies in state ownership, while Trivikram (2021) aligns SOEs with India's self-reliance agenda. Chang (2002) and Mazzucato (2013) argue that state intervention has historically driven industrial upgrading and innovation, challenging neoliberal critiques. Evans (1995) introduces the concept of "embedded autonomy," where states balance bureaucratic independence with societal embeddedness, a framework particularly relevant to India's SOEs. Rodrik (2004) emphasizes institutional diversity in industrial policy, suggesting that state capitalism offers viable alternatives to market orthodoxy.

Globally, state capitalism manifests in diverse forms. In China, SOEs dominate strategic sectors, guided by state priorities in energy, technology, and infrastructure (Lardy, 2019). In France, dirigisme continues to shape industrial policy through state-owned champions. Even in the United States, often portrayed as a bastion of free markets, state intervention in strategic industries, such as

semiconductor supply chains, illustrates the pragmatic embrace of state capitalism (Sperber, 2019). These examples underscore that state capitalism is not an anomaly but a recurring strategy in the New World Order, where states mobilize resources to manage crises and secure competitiveness.

India's resurgence of state capitalism reflects developmental priorities, political legitimacy, and global trends. The expansion of SOEs, sovereign wealth funds, and development banks, alongside renewed industrial policy and economic nationalism in advanced economies, signals that state capitalism is regaining prominence in the international political economy. Within this evolving context, India's SOEs exemplify how statist strategies can deliver resilience, growth, and fiscal dividends, challenging the assumption that privatization is the universal solution.

3. Private Enterprises vs SOEs Performance

The performance of SOEs has long been debated, with critics often asserting that their returns on investment lag behind private firms. This perception, however, overlooks the structural and policy contexts within which SOEs operate. Historically, SOEs were tasked with social obligations, subsidized pricing, and welfare commitments that constrained profitability. Today, the public sector has evolved into a more dynamic, market-oriented, and globally competitive entity. Reforms such as withdrawal of budgetary support, market-based resource mobilization, strategic alliances, restructuring, closure of non-viable units, corporate governance reforms, and exposure to competition have reshaped SOEs into modern enterprises (CIER, 2000; Rath, 2022).

Empirical evidence challenges the assumption of SOE underperformance. The Centre for Industrial and Economic Research concluded that SOEs' profitability is comparable to, and in some cases exceeds, that of private enterprises. Since the 1990s reforms, SOEs have consistently improved financial parameters, with the government recovering more than its capital investment through dividends, interest, and taxes. Moreover, SOEs have balanced shareholder value with broader developmental commitments, addressing welfare and social dimensions (Ram Mohan, 2005). Gupta (2024) further observes that even in deregulated regimes, SOEs have adapted effectively, underscoring their resilience.

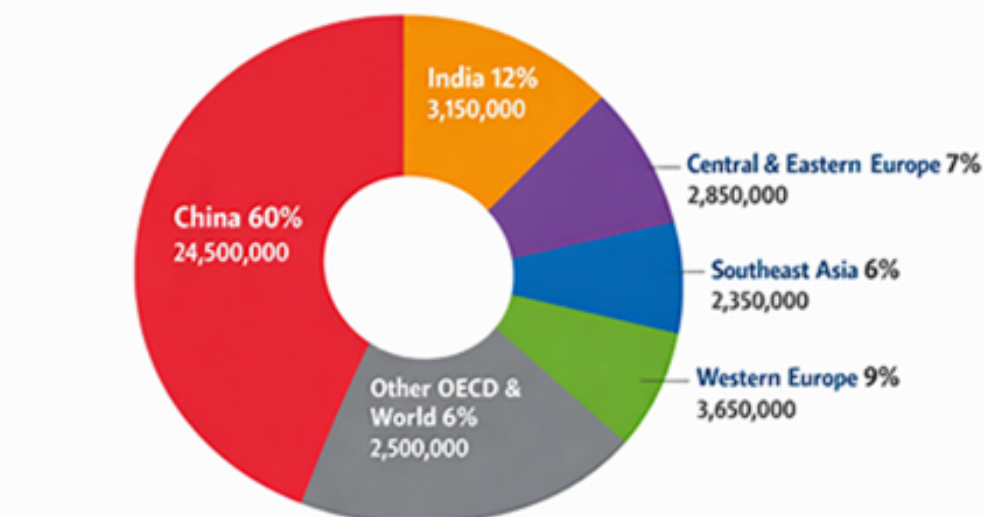
Comparative studies reinforce this perspective. Research across regions shows that privatized enterprises have not consistently outperformed their pre-privatization benchmarks (African Association for Public Administration and Management, 1987; Vickers & Yarrow, 1991; Kikeri & Nellis, 2002; Nellis, 1989; Mishra, 2009; Ensslin, Welter, & Pedersini, 2022). In India, the private sector has remained cautious in capital-intensive domains such as energy, infrastructure, and defence, leaving SOEs to shoulder the burden of national development. This is evident in the performance of Central Public Sector Enterprises (CPSEs), which, despite lower returns on assets due to their massive asset base, demonstrate comparable or robust performance in return on sales, business cost trends, climate action, and statutory CSR obligations.

In the current global context, SOEs are not merely economic entities but strategic instruments of resilience. Their role in energy security, climate change mitigation, and infrastructure development aligns with national priorities in a volatile geopolitical environment. CPSEs such as NTPC, IOCL, and GAIL have spearheaded renewable energy transitions, while others like BEL and BHEL contribute to defence self-reliance. Their embedded sustainability mandates, corporate governance reforms, and statutory CSR obligations position them as agents of inclu-

Table 1. CPSEs vs Private Sector: Capital-Intensive Sectors

Parameter	CPSEs (Aggregate Trends)	Private Sector (Capital-Intensive Only)	CPSEs Advantage?	Source (CPSEs)	Source (Private Sector)
Return on Sales (ROS)	~5-7% (NTPC, IOCL, GAIL, BEL)	~6-8% (L&T, Tata Power, JSW Energy, Adani Infra)	Comparable	Department of Public Enterprises (2025). <i>MoU Ratings FY24: 39 CPSEs Rated 'Excellent'.</i> Indian Masterminds	Fortune India (2025). <i>Fortune India 500 Rankings</i>
Return on Assets (ROA)	~2-4% (due to high asset base in infra, energy, defence)	~3-5% (Tata Steel, Adani Ports, Reliance Infra)	Slightly Lower	Department of Public Enterprises (2024). <i>Public Enterprises Survey 2022-23</i>	Fortune India (2025). <i>Enterprise Profiles and Sectoral Performance</i>
Annual Growth	Sales ~6-8% CAGR (energy, infra, logistics CPSEs)	~7-9% CAGR (private infra, power, logistics firms)	Comparable	Press Information Bureau (2025). <i>Forward-Looking Survey on Private Sector CAPEX</i>	Economic Times (2025). <i>Strategic Private Investments in Infrastructure</i>
Business Trends	Cost Stable/declining due to scale and GeM procurement, though offset by administrative overheads	Volatile, rising raw material and staffing costs	Strategic advantage in procurement	Press Information Bureau (2024). <i>GeM Procurement Efficiency Report</i>	Financial Express (2025). <i>RBI Manufacturing Sector Margin Trends</i>
Corporate Governance	Mandatory DPE guidelines, board diversity, SEBI compliance	SEBI-driven, variable compliance in mid-tier firms	Comparable	Department of Public Enterprises (2023). <i>Corporate Governance Guidelines</i>	Drishti IAS (2024). <i>Corporate Governance in India</i>
Climate Change Action	Large-scale renewables (NTPC, SECI, IREDA), PSPs, coal gasification, geothermal pilots	Active in EVs, solar, and hydrogen, but on a smaller scale	Better in scale	Ministry of Coal (2024). <i>Diversification of Coal CPSEs</i>	World Economic Forum (2025). <i>Climate Action Platform</i>
CSR Spending	₹4,911 crore in FY24; 19% YoY growth; 56.7% by top 10 CPSEs	₹30,000+ crore in FY24; 84% of national CSR by private firms	Statutory obligations	India CSR (2025). <i>CSR Spending by CPSEs Hits ₹4,911 Crore</i>	Business World (2025). <i>India's CSR Spending Rises 13% to ₹34,909 Crore</i>
Sustainability Focus	Embedded in MoUs, DPE mandates, SCOPE-GIZ training, and climate co-benefit metrics	Increasing ESG adoption is fragmented across sectors	Stronger mandate	SCOPE (2025). <i>Climate Action Portal</i>	EY-Parthenon (2025). <i>Green Manufacturing in India</i>

sive growth. By contrast, private enterprises, while agile, often prioritize shareholder value over broader developmental goals and remain hesitant in sectors requiring long-term capital investment.



Source: OECD (2024).

Figure 1. Distribution of SOE employment by country/region

4. Global Landscape of State Ownership

State ownership continues to be a defining feature of the global economic architecture. The *OECD Factbook 2024* reaffirms the scale, diversity, and strategic importance of state-owned enterprises across both developed and emerging economies (OECD, 2024). China remains dominant, accounting for nearly 60% of global SOE employment, with over 24.5 million workers and a portfolio valued at USD 29 trillion. India ranks second, employing approximately 3.15 million people and maintaining an SOE portfolio valued at USD 338.5 billion, underscoring its pivotal role in the global state-capitalist framework. Western Europe, Central and Eastern Europe, Southeast Asia, and other OECD regions collectively account for the remaining 40% of SOE employment, with notable concentrations in France, Brazil, and Korea.

Sectoral distribution reveals that network industries, electricity, gas, transport, telecommunications, and postal services dominate the SOE landscape, representing nearly 70% of employment and half of total SOE value. India, alongside Italy, Korea, Norway, and France, contributes significantly to the state-owned electricity and gas sector. Its financial sector SOEs also rank among the top five globally outside China (OECD, 2024). Despite decades of privatization, SOEs remain central to national strategies, particularly in essential services and strategic industries. Their persistence reflects not only efforts to address market failures but also deliberate state-led positioning in global markets. In Europe, SOEs have expanded internationally, while in liberal economies such as the United States, strategic interventions, such as public stakes in semiconductor firms, demonstrate the enduring relevance of state capitalism (Sperber, 2019).

The continued prevalence of SOEs, even in competitive sectors, suggests that governments worldwide have opted to retain control over key enterprises, often resisting full privatization due to political, developmental, and security considerations. This global pattern reinforces the argument that state capitalism remains a dominant and adaptive model in the evolving New World Order (Bremmer, 2010; Musacchio & Lazzarini, 2014).

For India, the global resurgence of state capitalism carries important policy implications. First, India must recognize its comparative advantage in maintaining robust public sector enterprises in capital-intensive and strategic domains such as energy, infrastructure, and defence. Rather than pursuing blanket privatization, policymakers should adopt a differentiated strategy that strengthens governance, transparency, and competitiveness within SOEs while selectively divesting non-strategic assets, such as those in the hospitality, consumer goods, or specific manufacturing segments, to unlock capital for strategic priorities.

Second, Indian SOEs should be positioned as instruments of industrial policy and global competitiveness. This requires deeper integration with climate action goals, digital transformation, and regional development strategies. Third, the government should leverage SOEs to crowd-in private investment, particularly in sectors where risk aversion or long gestation periods deter private capital. Finally, India must continue to align its SOE governance with international best practices, ensuring that public enterprises remain accountable, efficient, and responsive to national priorities.

In sum, India's SOEs are not relics of the past but dynamic institutions capable of shaping the country's economic future. Their strategic deployment within a recalibrated model of state capitalism offers a viable path toward inclusive growth, resilience, and global relevance.

5. State Capitalism with Reference to SOEs in India

The trajectory of India's SOEs must be understood within the broader framework of industrial policy and developmental planning that followed independence in 1947. At that time, rapid industrialization was seen as essential not only for economic growth but also for national autonomy. A series of Industrial Policy Resolutions and Five-Year Plans (FYPs) laid the foundation for India's mixed economy, where public and private sectors coexisted under a democratic framework.

The Industrial Policy Resolution of 1948 provided the first blueprint for industrial development, building upon the pre-independence "Bombay Plan." It divided industries into categories reserved for the public sector, those open to private participation, and those designated for joint ownership. This framework was reinforced by the Industries (Development and Regulation) Act of 1951, which empowered the government to regulate licensing and industrial growth. The Industrial Policy Resolution of 1956 then articulated a socialist pattern of society as the national objective, placing "core industries" firmly under public sector control while allowing private participation in non-core areas.

Planning institutions further entrenched state capitalism. The Planning Commission, established in 1950, became the central body for economic planning. Through successive Five-Year Plans beginning in 1951, India pursued industrialization with objectives of self-reliance, social justice, and poverty alleviation. The First Plan emphasized infrastructure and agriculture, while later Plans expanded into heavy industries, energy, and defence. Although the Five-Year Plan exercise was discontinued after the Twelfth Plan (2012-2017), the legacy of centralized planning continues to shape SOE policy.

The public sector was consistently positioned as the driver of strategic industries. SOEs were tasked with building capacity in energy, transport, defence, and infrastructure sectors where private capital was either reluctant or unable to invest. Over time, SOEs became instruments of both economic growth and social policy, balancing commercial objectives with developmental mandates.

In recent years, policy has evolved to reflect new priorities. The New Public Sector Policy of 2021 introduced a classification of SOEs into "strategic" and "non-strategic" categories (Trivikram, 2021). Strategic SOEs were retained in sectors critical to national security, energy security, and essential infrastructure, while non-strategic SOEs were earmarked for privatization or closure. Importantly, exemptions were made for not-for-profit enterprises and those serving vulnerable populations, reaffirming the developmental role of the public sector.

This policy framework illustrates the adaptive nature of state capitalism in India. While liberalization and privatization have reshaped parts of the economy, SOEs remain central to strategic planning and national development. Their role in capital-intensive sectors, fiscal stability, and social welfare underscores the enduring relevance of statist strategies in India's economic model.

6. SOE Policy Enunciated in the Industrial Policy Resolutions and the National Common Minimum Programme

India's industrial policy framework has consistently emphasized the centrality of the public sector in driving national development. The Industrial Policy Resolution of 1948 explicitly designated the public sector as the primary engine of growth in "core industries,"

while leaving “non-core industries” open to both public and private participation. This early articulation established the principle that strategic sectors would remain under state control, thereby laying the foundation for the subsequent Industrial Policy Resolution of 1956. The 1956 Resolution reinforced this vision by expanding the scope of public sector dominance, identifying industries that would eventually evolve into SOEs.

The government’s role was not limited to ownership but extended to initiating new projects and shaping industrial expansion. While the private sector was expected to complement state initiatives, the public sector was entrusted with spearheading industrialization in areas critical to national security, energy security, and infrastructure development. This statist orientation reflected the broader developmental priorities of post-independence India, where industrial policy was closely tied to the objectives of self-reliance, social justice, and poverty alleviation.

Policy evolution continued into the twenty-first century. The New Public Sector Policy adopted in 2021 marked a significant recalibration of SOE governance (Trivikram, 2021). It introduced a classification system that divided SOEs into “strategic” and “non-strategic” categories. Strategic SOEs were retained in sectors deemed vital to national interests, such as defence, energy, and essential infrastructure, while non-strategic SOEs were earmarked for privatization, merger, or closure. Importantly, the policy exempted certain categories of enterprises, including not-for-profit organizations and SOEs serving vulnerable populations or developmental roles, thereby reaffirming the social dimension of state capitalism.

This framework illustrates the adaptive nature of India’s SOE policy. From the early Industrial Policy Resolutions to the contemporary National Common Minimum Programme and the 2021 reforms, the public sector has remained a cornerstone of India’s economic model. While privatization has reshaped parts of the economy, SOEs continue to play a decisive role in strategic sectors, balancing commercial objectives with developmental mandates. Their enduring presence underscores the resilience of state capitalism in India’s policy architecture.

Following the evolution of India’s public sector policy, from the Industrial Policy Resolutions of 1948 and 1956 to the New Public Sector Policy of 2021, the financial performance of SOEs provides concrete evidence of their enduring relevance. The macro-financial profile of Central Public Sector Enterprises (CPSEs), as reported in the latest *Public Enterprises Survey 2024-25*, highlights their role in sustaining capital investment, generating fiscal dividends, and contributing to national development. Table 2 below captures the aggregate position of SOEs as of March 31, 2025, offering a snapshot of their operational scale, profitability, and strategic impact.

The macro-financial profile of SOEs as of March 31, 2025, underscores their continuing significance in India’s developmental strategy. The data reveal several important trends:

- **Scale and Consolidation:** The number of operating enterprises declined slightly from 254 in 2023 to 248 in 2025, reflecting ongoing consolidation and restructuring. Despite this reduction, the overall capital employed rose to ₹39.72 lakh crore, indicating expansion in asset base and operational scale.
- **Revenue and Profitability:** Gross revenue from operations increased to ₹39.86 lakh crore, while net profit rose to ₹2.28 lakh crore. Profitability ratios, net profit to capital employed (5.74%) and net profit to gross revenue (5.72%), show marginal

improvement, suggesting stronger efficiency in resource utilization.

- **Fiscal Contribution:** Dividends grew to ₹1.12 lakh crore, with the payout ratio rising to 21.05%. This highlights the public sector’s role in generating fiscal returns for the exchequer, reinforcing the government’s position that SOE dividends outweigh privatization proceeds.
- **Investment and Market Presence:** Capital expenditure (CAPEX) rose to ₹2.95 lakh crore, underscoring the state’s emphasis on infrastructure and energy investments. Market capitalization also increased to ₹17.42 lakh crore, reflecting improved investor confidence in listed SOEs.
- **Employment and Efficiency:** Total employment contracted slightly to 0.14 lakh crore persons, consistent with rationalization and automation trends. While this indicates efficiency gains, it also underscores the need for balancing productivity with social obligations.
- **Strategic Role:** Foreign exchange earnings of ₹1.63 lakh crore highlight SOEs’ contribution to external trade and currency stability. Their presence in energy, defence, and infrastructure sectors continues to anchor India’s strategic autonomy.

Taken together, these indicators demonstrate that SOEs remain resilient and adaptive. They not only sustain capital investment and fiscal stability but also align with national priorities in energy security, infrastructure development, and global competitiveness. The data reinforce the argument that state capitalism, embodied in India’s SOEs, continues to be a viable and strategic model in the evolving global order.

Table 2. Macro-financial profile of SOEs as of March 31, 2025

Indicator	Value (2024-25)
Operating enterprises (in numbers)	248
Paid-up Capital	5.21
Total Financial Investment	26.84
Capital Employed	39.72
Gross Block	31.45
Gross Revenue from Operations	39.86
Depreciation	1.19
Gross Profit	3.48
Net Profit	2.28
Interest	1.42
Dividends	1.12
Profit of profit-making SOEs	2.59
Loss of loss-making SOEs	0.31
Profit-making SOEs (no.)	187
Loss-making SOEs (no.)	55
Net Profit from operations to capital employed ratio (%)	8.65
Net Profit to gross revenue from operations ratio (%)	5.72
Net Profit to capital employed ratio (%)	5.74
Dividend payout ratio (%)	21.05
Interest to gross revenue (times)	3.56
Market Capitalization	17.42
Foreign Exchange Earnings	1.63
CAPEX	2.95
Total Employment	0.14

Source: Department of Public Enterprises. (2025). Public Enterprises Survey 2024-25. Ministry of Finance, Government of India. <https://dpe.gov.in>

Note: 92.64 Indian Rupee=1 USD; 1 lakh crore INR $\approx$ 10.79 billion USD as on April 3, 2026.

7. Why Do SOEs Perform Well?

The classification of India's SOEs into Maharatna, Navratna, and Miniratna categories has significantly reshaped their autonomy and performance benchmarks. According to the *DPE Annual Survey Report 2024-25*, India currently hosts 14 Maharatna, 26 Navratna, 49 Miniratna-I, and 9 Miniratna-II enterprises. These entities operate across strategic domains such as mining, hydrocarbons, metals, electricity, financial services, manufacturing, telecommunications, transport, logistics, and construction. Much like China's "grasping the big and letting the small go" approach or Korea's "national champions" model, India's classification system empowers its largest SOEs with enhanced financial authority. Maharatna and Navratna enterprises enjoy independence in investment decisions, pricing, mergers and acquisitions, strategic partnerships, and organizational restructuring, thereby strengthening their competitiveness in global markets.

7.1. MoU-Based Performance Contracts

India's Memorandum of Understanding (MoU) system, introduced in the late 1980s and expanded during the 1991–92 liberalization reforms, has become a cornerstone of SOE performance evaluation. By FY2024–25, more than 100 SOEs had signed MoUs with the government, aligning their operational targets with national priorities. These contracts balance financial and physical indicators, enabling both ex-ante and ex-post-performance comparisons. The DPE notes that MoUs have enhanced accountability while granting SOEs operational flexibility, allowing them to adapt to market conditions without losing sight of developmental objectives.

7.2. Corporate Governance and Market Discipline

Corporate governance reforms have further strengthened SOE performance. As of March 31, 2025, 64 SOEs were listed on Indian stock exchanges, with a combined market capitalization of approximately ₹34.5 lakh crore, up sharply from ₹16.69 lakh

crore in March 2023. This surge reflects strong valuations in energy, defence, and infrastructure sectors. The government has also prepared a roadmap for listing an additional 170 non-financial SOEs. Listing has introduced market discipline, investor scrutiny, and compliance with the *Companies Act (2013)*. Since 2009, SOEs have voluntarily adopted governance frameworks, and in 2010, mandatory guidelines were introduced covering risk management, disclosures, audit committees, ethics codes, and board composition. These reforms have enhanced transparency, stakeholder confidence, and competitiveness. SOEs have also taken a leading role in corporate social responsibility (CSR), with growing emphasis on climate change mitigation and sustainability.

7.3. Self-Reliance and CAPEX Growth

National initiatives such as the Self-Reliant India Mission (Atmanirbhar Bharat) and Make in India have significantly boosted SOE performance. The *DPE Annual Survey 2024-25* reports that CPSEs achieved 57% of their FY2024-25 CAPEX targets by November 2024, reflecting a 24.2% increase compared to the previous year. SOEs are now central to CAPEX-intensive sectors, driving infrastructure modernization, energy diversification, and defence indigenization. Their role in climate action and CSR further enhances their developmental impact, positioning them as strategic instruments of resilience in the evolving global order.

7.4. Strategic Contributions of SOEs

The *DPE Annual Survey Report 2024-25* underscores the pivotal role of SOEs in sustaining capital investment and national development. CPSEs achieved 57% of their FY2024-25 CAPEX targets by November 2024, reaffirming their position as engines of industrial growth. In the energy sector, Maharatna enterprises such as ONGC, NTPC, IOCL, and GAIL have ensured energy security by diversifying into renewables, expanding domestic production,

and stabilizing supply chains amid global volatility. In defence, enterprises like HAL, BEL, and BEML have advanced indigenization, supported the *Make in India* initiative, and contributed to defence exports, thereby reducing reliance on imports and enhancing strategic autonomy.

The fiscal contribution of SOEs has also been remarkable. As presented in the Union Budget on 1 February 2026, CPSEs delivered record dividend earnings, surpassing government projections and providing a crucial stream of non-tax revenue. This dividend performance highlights their dual role as commercial entities and fiscal stabilizers. Looking ahead, the government's plan to monetize inactive public sector assets promises to unlock additional value, channeling resources into productive investments while retaining strategic control over core enterprises.

Together, these developments demonstrate that India's SOEs are not relics of the past but dynamic institutions capable of driving capital accumulation, securing energy supplies, strengthening defence capabilities, and contributing to fiscal resilience in the evolving New World Order.

8. Challenges Facing SOEs

India's SOEs face the dual challenge of aligning with national development priorities while remaining competitive in a rapidly changing global environment. Developing a unified vision, adapting to market dynamics, and fostering organizational resilience are critical but difficult tasks. Oversight from multiple authorities, siloed operations, weak internal controls, and uneven governance practices often undermine efficiency. Employee motivation also remains a persistent concern, with many enterprises struggling to cultivate a culture of excellence.

8.1. Governance Highlights

Robust governance structures are essential for the survival and expansion of SOEs. The *DPE Annual Survey Report 2024-25* highlights that fragmented reporting lines and overlapping mandates frequently compromise efficiency. In response, several SOEs have introduced "ownership management" reforms, professionalized boards, and clearer accountability mechanisms, aligning themselves more closely with market-oriented practices (KPMG, 2011). Yet, the absence of a unified ownership strategy continues to blur the distinction between ownership and management. Constitutional provisions treating majority-owned SOEs as state entities further burden them with non-commercial obligations, such as affirmative-action employment reservations. While socially justified, these mandates do not always enhance efficiency (Goswami, 2003).

Direct government interference without independent boards often results in bureaucratization, delayed decision-making, and politically influenced investments. The DPE notes that project commissioning delays and inflated costs remain common, with initiatives frequently launched without clear objectives or feasibility assessments.

8.2. Operational Constraints

Financial planning inefficiencies have left many SOEs overcapitalized, with easy access to government funding encouraging wasteful capital allocation and high capital-output ratios. Social overheads such as townships, schools, and hospitals continue to impose high costs. According to the *DPE Annual Survey Report 2024-25*, SOEs spent ₹8,412.56 crore on maintaining townships and welfare amenities in FY2023-24, up from ₹7,238.67 crore in

FY2022-23. While these expenditures improve the quality of life, they also strain public resources.

Manpower planning is another persistent challenge. The DPE report notes that several SOEs remain overstaffed relative to output, with recruitment practices lacking robust labor forecasting. Leadership continuity is undermined by prolonged vacancies in chief executive positions. Managerial efficiency is further hampered by excessive centralization, frequent transfers, and limited training in modern business practices. Weak incentive structures contribute to low morale, as performance is rarely rewarded adequately.

8.3. SOE Boards

To address governance constraints, the government has introduced reforms to strengthen board oversight. The Securities and Exchange Board of India (SEBI) extended its corporate governance code for listed companies to SOEs. Under Clause 49 of the SEBI Listing Agreement, listed SOEs must ensure that at least 50 percent of their boards comprise independent directors. They are also required to establish an Audit Committee and a Nomination and Remuneration Committee.

- The Audit Committee oversees financial reporting, ensures accuracy of statements, monitors internal controls and risk management systems, and reviews related-party transactions and statutory audit findings.
- The Nomination and Remuneration Committee identifies and evaluates candidates for board and senior management positions, determines compensation structures, formulates diversity policies, and assesses director and executive performance.

SOEs must also disclose related-party transactions, prohibit loans from holding companies to subsidiaries, and provide full transparency in financial dealings.

The Companies Act, 2013, further strengthens board responsibilities. Section 178(4) mandates procedures for director selection and remuneration. Section 134(3) requires boards to explain disqualifications noted in secretarial audit reports. Section 134(5) obliges boards to establish adequate compliance protocols and risk management systems, with annual reviews of internal financial controls. Boards may also engage independent experts to assess the adequacy of these systems.

8.4. Transparency

Transparency has become a cornerstone of SOE governance. The Right to Information Act, 2005 requires public agencies to disclose organizational information, including financial transactions, procurement processes, annual reports, press briefings, parliamentary questions, and HR practices. This has gradually shifted SOEs away from a culture of secrecy toward openness.

Additionally, Transparency International's Integrity Pact (IP), introduced in the 1990s, has been adopted to combat corruption in public contracting and procurement. By creating reciprocal contractual obligations, the IP enforces ethical behavior and enhances transparency in procurement processes.

8.5. Remuneration in SOEs

Remuneration structures remain a major challenge. The *OECD Ownership and Governance of SOEs 2024* report notes that executive compensation in SOEs is, on average, 40-60% lower than

in private firms, making it difficult to attract and retain top talent (OECD, 2024). In India, wage disparities between cadres have widened, fueling labor unrest and undermining morale. Government-imposed pay caps particularly constrain SOEs in globally competitive sectors such as energy, telecom, and defence, where private firms and multinationals offer significantly higher packages (Economic Times, 2024).

The *OECD Revised Guidelines on Corporate Governance of SOEs (2023)* recommend aligning compensation more closely with private-sector benchmarks to reduce disparities and strengthen governance. However, in India, remuneration patterns remain tied to civil service norms, limiting flexibility for performance-linked incentives. The *DPE Annual Survey Report 2024-25* confirms that remuneration inequities are among the top governance challenges, alongside overstaffing and bureaucratic delays. These disparities weaken competitiveness and raise broader governance concerns, as compensation directly affects accountability, efficiency, and the ability of SOEs to fulfill strategic mandates.

8.6. Empowerment of SOEs

Despite waves of disinvestment and privatization, SOEs remain integral to India's economy, though they face unique governance challenges. Accountability is diffused across a complex web of actors—management, boards, government directors, ministries, and the state itself—leading to overlapping mandates and delayed decision-making. This fragmentation undermines transparency and weakens corporate governance.

International experience offers lessons in empowerment. In China, the policy of “grasping the big and letting the small go” granted autonomy to large SOEs in investment, pricing, and restructuring, while smaller enterprises were privatized or merged. Korea's chaebol-linked SOEs were designated as “national champions,” receiving strategic support to expand globally, particularly in shipbuilding and electronics. France empowered its SOEs in energy and transport through partial stock exchange listings, which introduced market discipline while retaining state control.

India has taken steps in this direction by granting Maharatna and Navratna enterprises enhanced financial authority, enabling independent decisions on mergers, acquisitions, and strategic partnerships. The MoU system, modeled on French and Korean practices, has further empowered SOEs by aligning performance contracts with national priorities. However, compared to China's unified ownership model under the State-owned Assets Supervision and Administration Commission (SASAC), India's fragmented ownership structure continues to limit full empowerment. Strengthening ownership clarity, professionalizing boards, and aligning compensation with private-sector benchmarks, as recommended by the OECD, remain critical steps for transforming Indian SOEs into globally competitive national champions.

9. Conclusion

The contemporary geopolitical, social, and economic environment demonstrates that state capitalism, in varying forms, remains indispensable across the globe. Nations seeking to safeguard political integrity and economic sovereignty often rely on state capitalism as a mechanism for equilibrium and self-reliance (Bremmer, 2010; Musacchio & Lazzarini, 2014). In India, SOEs have played a decisive role in advancing socioeconomic development, acting as stabilizers during periods of volatility and promoting inclusive growth. As a mixed economy with sustained annual growth exceeding 8 percent, India requires a strong public sector

anchored by SOEs to preserve resilience and strategic autonomy (OECD, 2024).

The *Department of Public Enterprises Annual Survey Report 2024-25* highlights the robust performance of SOEs, with 39 CPSEs earning ‘Excellent’ ratings in MoU performance rankings for FY2023-24. Enterprises such as NTPC, GAIL, Indian Oil Corporation, and Bharat Electronics Limited excelled in project execution, innovation, and policy compliance, demonstrating resilience amid macroeconomic challenges. These achievements underscore the evolving efficiency and competitiveness of India's SOEs, reinforcing their role as key drivers of infrastructure modernization, energy security, and defence preparedness (DPE, 2025).

The fiscal importance of SOEs was reaffirmed in the Union Budget of 1 February 2026, which reported dividend earnings exceeding ₹1.15 lakh crore, surpassing government projections and strengthening their role as fiscal stabilizers (Ministry of Finance, 2026). Combined with their capital expenditure contributions and strategic presence in energy and defence, these results confirm that SOEs are not vestiges of the past but dynamic institutions shaping India's economic future. Furthermore, the government's plan to monetize inactive public sector assets promises to unlock additional value, channeling resources into new investments while retaining strategic control over core enterprises.

Looking ahead, SOEs must address challenges related to intensifying competition, technological modernization, regulatory compliance, innovation, environmental and social governance (ESG), and internationalization. Policy implications point to the need for strengthening strategic autonomy, expanding performance contracts, accelerating governance reforms, and embedding climate and CSR leadership more deeply into operational frameworks. By pursuing these reforms, India can transform its SOEs into globally competitive national champions, ensuring that state capitalism remains a viable and adaptive model.

Taken as a whole, India's state-owned enterprises embody both the strengths and challenges of state capitalism in the twenty-first century. Their resilience in capital investment, energy security, defence preparedness, and fiscal contributions demonstrates that SOEs remain indispensable to India's developmental trajectory. At the same time, governance reforms, remuneration restructuring, and empowerment strategies are essential to overcome persistent constraints and ensure global competitiveness. By balancing efficiency with inclusivity and strategic autonomy with international integration, India can position its SOEs as dynamic national champions. In doing so, the country not only secures its economic sovereignty but also affirms the continuing relevance of state capitalism as a viable and adaptive model in the evolving New World Order.

■ REFERENCES

- [1] African Association for Public Administration and Management. (1987). *Privatization in Africa: Issues and experiences*. Nairobi.
- [2] Amsden, A. H. (2001). *The rise of “the rest”*. Oxford University Press.
- [3] Bator, F. M. (1958). The anatomy of market failure. *The Quarterly Journal of Economics*, 72(3), 351–379.
- [4] Bremmer, I. (2009). State capitalism comes of age. *Foreign Affairs*, 88(3), 40–55.

- [5] Bremmer, I. (2010). *The end of the free market: Who wins the war between states and corporations?* Portfolio.
- [6] Chang, H.-J. (2002). *Kicking away the ladder: Development strategy in historical perspective*. Anthem Press.
- [7] Centre for Industrial and Economic Research (CIER). (2000). *Public sector performance in India*. New Delhi.
- [8] Department of Public Enterprises (DPE). (2023). *Public Enterprises Survey 2022–23*. Government of India.
- [9] Department of Public Enterprises (DPE). (2025). *Public Enterprises Survey 2024–25*. Government of India.
- [10] Drishti IAS. (2024). *Corporate governance in India*. <https://www.drishtias.com>
- [11] Economic Times. (2025). *Strategic private investments in infrastructure*. <https://economictimes.indiatimes.com>
- [12] Economic Times. (2024, July 15). SOE pay caps hinder talent retention in India.
- [13] Ensslin, L., Welter, M., & Pedersini, R. (2022). Evaluating privatization outcomes: A multi-criteria approach. *Journal of Public Sector Management*, 35(4), 512–530.
- [14] Evans, P. (1995). *Embedded autonomy: States and industrial transformation*. Princeton University Press.
- [15] Fortune India. (2025). *Fortune India 500 Rankings*. <https://www.fortuneindia.com>
- [16] Fortune India. (2025). *Enterprise profiles and sectoral performance*. <https://www.fortuneindia.com>
- [17] Goswami, O. (2003). *India's economic reforms: Managing change*. Oxford University Press.
- [18] Gupta, R. (2024). Performance of SOEs in deregulated regimes. *Indian Journal of Economic Policy*, 29(1), 67–84.
- [19] India CSR. (2025). CSR spending by CPSEs hits ₹4,911 crore in FY24. <https://indiacsir.in>
- [20] KPMG. (2011). *Corporate governance and SOE reforms: Global practices and lessons*. KPMG International.
- [21] Kikeri, S., & Nellis, J. (2002). Privatization in competitive sectors: Lessons from transition economies. *World Bank Policy Research Working Paper*.
- [22] Khanna, T. (2015). *Billions of entrepreneurs: How China and India are reshaping their futures—and yours*. Harvard Business Review Press.
- [23] Kornai, J. (1979). Resource-constrained versus demand-constrained systems. *Econometrica*, 47(4), 801–819.
- [24] Kurlantzick, J. (2016). *State capitalism: How the return of statism is transforming the world*. Oxford University Press.
- [25] La Porta, R., & López-de-Silanes, F. (1999). The benefits of privatization: Evidence from Mexico. *The Quarterly Journal of Economics*, 114(4), 1193–1242.
- [26] Lardy, N. R. (2019). *The state strikes back: The end of economic reform in China?* Peterson Institute for International Economics.
- [27] Mazzucato, M. (2013). *The entrepreneurial state: Debunking public vs. private sector myths*. Anthem Press.
- [28] Megginson, W. L. (2017). Privatization, state capitalism, and state ownership of business in the 21st century. *Foundations and Trends in Finance*, 11(1–2), 1–153.
- [29] Ministry of Finance. (2026). *Union Budget 2026*. Government of India.
- [30] Muralidharan, K. (2024). The mixed economy model and India's development trajectory. *Journal of Public Policy Studies*, 18(2), 45–62.
- [31] Musacchio, A., & Lazzarini, S. G. (2012). *Reinventing state capitalism: Leviathan in business, Brazil and beyond*. Harvard University Press.
- [32] Musacchio, A., & Lazzarini, S. G. (2014). *Reinventing state capitalism: Leviathan in business, Brazil and beyond*. Harvard University Press.
- [33] Nellis, J. (1989). *Public enterprise reform: The lessons of experience*. World Bank Discussion Paper.
- [34] NITI Aayog. (2021). *National monetization pipeline*. Government of India.
- [35] OECD. (2015). *OECD guidelines on corporate governance of state-owned enterprises*. OECD Publishing.
- [36] OECD. (2017). *State-owned enterprises and the principles of corporate governance*. OECD Publishing.
- [37] OECD. (2023). *Revised guidelines on corporate governance of state-owned enterprises*. OECD Publishing.
- [38] OECD. (2024). *Ownership and governance of state-owned enterprises: Factbook 2024*. OECD Publishing.
- [39] Press Information Bureau. (2024). *GeM procurement efficiency report*. Government of India.
- [40] Press Information Bureau. (2025). *Forward-looking survey on private sector CAPEX*. Government of India.
- [41] Ram Mohan, T. T. (2005). *Privatization in India: Challenging economic orthodoxy*. Routledge.
- [42] Rath, B. (2022). Corporate governance reforms in Indian SOEs. *Journal of Governance Studies*, 14(2), 101–118.
- [43] Rodrik, D. (2004). Industrial policy for the twenty-first century. *UNIDO Working Paper*.
- [44] Shleifer, A., & Vishny, R. W. (1998). *The grabbing hand: Government pathologies and their cures*. Harvard University Press.
- [45] Sperber, D. (2019). The state capitalist normal: Varieties of state intervention in the global economy. *Cambridge Journal of Economics*, 43(4), 1027–1045.

- [46] SCOPE. (2025). *Climate action portal and co-benefit methodologies*. Standing Conference of Public Enterprises.
- [47] The Economic Times. (2024, July 15). SOE pay caps hinder talent retention in India.
- [48] Transparency International. (1990s). *Integrity Pact*. Transparency International.
- [49] Trivikram, S. (2021). Self-reliant India and the role of SOEs. *Economic and Political Weekly*, 56(12), 45–52.
- [50] Vickers, J., & Yarrow, G. (1991). Economic perspectives on privatization. *Journal of Economic Perspectives*, 5(2), 111–132.
- [51] World Economic Forum. (2025). *Climate Action Platform*. <https://www.weforum.org>



A Study of Purchasing Procedure and Documentation at Naga Foods Limited

Article Record

M. Kishorebalaji^{§*}

*Corresponding Author



§ Department of Management Studies, Karpagam College of Engineering Coimbatore, India, India

RECEIVED

2026-03-16

ACCEPTED

2026-04-01

ONLINE PUBLISHED

2026-05-15

PUBLISHED

2026-06-18

PEER REVIEW

Double Blind

Abstract

The current study is focused on the purchasing procedure and the documentation practices adopted by the organization named Naga Foods Limited. The purchasing procedure plays a vital role in any organization involved in the manufacturing industry. This is because the purchasing procedure ensures the availability of raw materials needed to carry out the production activities. The overall objective of the current study is to analyze the purchasing procedure adopted by the organization. Additionally, the study aims to analyze the documentation procedure adopted by the organization. Finally, the study aims to identify the efficiency of the purchasing procedure adopted by the organization. The current study used both primary and secondary data to achieve the goal of the study. The primary data were collected through questionnaires, communication, and feedback from the vendors and employees involved in the purchasing procedure. On the other hand, the secondary data were collected from the records maintained by the organization. The current study analyzed the purchasing procedure adopted by the organization. The purchasing procedure adopted by the organization includes the stages involved in the purchasing procedure. The overall findings of the current study revealed that the purchasing procedure adopted by the organization ensures transparency.

Purchasing procedure

Procurement management

Vendor management

Supply chain management

Procurement documentation

AI USE STATEMENT

No generative AI was used for analysis or results.

FUNDING

No external funding was declared for this work.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY

Not applicable for this article.

ETHICS

No ethics committee approval was required for this article type.

CONSENT

Not applicable for this article.

TRIAL REG.

Not applicable.

Crossref DOI: 10.34257/GJMBRA254734

How to Cite: Kishorebalaji (2026). A Study of Purchasing Procedure and Documentation at Naga Foods Limited. Global Journal of Management and Business Research, 26(2), 14-17. DOI: 10.34257/GJMBRA254734

LICENSE

© 2026 Global Journals. Open-access article under CC BY-NC-ND 4.0 International License.



Print ISSN 0975-5853



9 770975 585000

Online ISSN 2249-4588



9 772249 458010

Under the strict compliance and defined process of



METADATA CONTINUATION

AUTHOR CONTACT QR LEDGER

M. Kishorebalaji*



ARCHIVAL RECORD

A Study of Purchasing Procedure and Documentation at Naga Foods Limited

M. Kishorebalaji^{§*}

Affiliations

[§] Department of Management Studies, Karpagam College of Engineering Coimbatore, India, India

Abstract

The current study is focused on the purchasing procedure and the documentation practices adopted by the organization named Naga Foods Limited. The purchasing procedure plays a vital role in any organization involved in the manufacturing industry. This is because the purchasing procedure ensures the availability of raw materials needed to carry out the production activities. The overall objective of the current study is to analyze the purchasing procedure adopted by the organization. Additionally, the study aims to analyze the documentation procedure adopted by the organization. Finally, the study aims to identify the efficiency of the purchasing procedure adopted by the organization. The current study used both primary and secondary data to achieve the goal of the study. The primary data were collected through questionnaires, communication, and feedback from the vendors and employees involved in the purchasing procedure. On the other hand, the secondary data were collected from the records maintained by the organization. The current study analyzed the purchasing procedure adopted by the organization. The purchasing procedure adopted by the organization includes the stages involved in the purchasing procedure. The overall findings of the current study revealed that the purchasing procedure adopted by the organization ensures transparency.

Keywords: *Purchasing procedure, Procurement management, Vendor management, Supply chain management, Procurement documentation*

* Corresponding Author
M. Kishorebalaji

DOI
10.34257/GJMBRA254734

1. Introduction

Purchasing is essential for an organization's efficiency. It plays a key role in managing the supply chain, ensuring timely access to necessary materials and services for production. It helps maintain quality, lower costs, and build strong relationships with suppliers. An effective purchasing system includes clearly defined steps: identifying material needs, choosing suppliers, placing orders, receiving goods, verifying quality, and keeping thorough records. Documentation, such as purchase requisitions and invoices, supports these steps and helps prevent errors and miscommunication. Organizations are increasingly improving their purchasing processes to boost efficiency and reduce costs. Good documentation supports internal control and compliance with auditing requirements. In particular, the food processing industry needs efficient purchasing due to its production demands and quality requirements. Timely procurement from reliable vendors is essential to avoid disruptions.

Naga Foods Limited is an example of a food manufacturer that relies on a strong purchasing system to acquire raw materials and supplies. This study looks closely at Naga Foods' purchasing procedures and documentation practices. It assesses how these activities are performed, recorded, and evaluated to identify areas for improvement. The research also examines vendor relationships, communication, and performance evaluation as important aspects of effective procurement. Additionally, the study highlights the importance of proper documentation in ensuring transparency and accuracy in transactions. This helps

organizations track material flows and maintain accountability, while also facilitating internal audits. Overall, this study deepens the understanding of purchasing procedures and documentation in manufacturing, offering insights into the role of effective procurement management in achieving operational success.

Purchasing activities in an organisation vary based on the nature of materials, urgency of requirement, and operational needs. To ensure effective procurement and cost control, purchasing is classified into different types. Each type of purchasing follows specific methods and procedures depending on the purpose and frequency of the purchase. Proper identification of purchasing types helps in smooth operations and better decision-making. Understanding these types is essential for managing purchasing functions efficiently.

1.1. Need of Study

- To study coordination between purchase, stores, accounts, and production departments.
- To understand how documentation supports the purchasing function.
- To identify gaps, delays, or inefficiencies in the purchasing process.
- To evaluate whether proper internal control systems are maintained.

1.2. Objectives of Study

- To study the purchasing procedures and documentation system followed by an organization
- To examine the process of purchase requisition and approval system.
- To study purchase order preparation and authorization procedures
- To evaluate documentation control and record maintenance practices

1.3. Significance of Study

- Helps the company improve efficiency in purchasing operations.
- Supports better cost control and reduction of unnecessary expenses.
- Enhances transparency and accountability in documentation.
- Strengthens internal control and audit compliance.

2. LITERATURE REVIEW

Purchasing is a key part of how organizations operate. It ensures the availability of materials, goods, and services needed for production and business activities. According to Van Weele (2014), purchasing involves more than just buying materials; it also includes managing relationships with suppliers, controlling procurement costs, and making sure the right quality of materials is available at the right time. Good purchasing practices help production run smoothly and boost overall efficiency.

The idea of purchasing management has changed a lot over the years and has become a strategic part of supply chain management. Monczka et al. (2015) explained that organizations need to use organized purchasing methods to lower procurement risks and enhance supplier performance. Effective planning and structured purchasing systems help organizations coordinate better with suppliers, ensuring an uninterrupted supply of materials.

Documentation is crucial in the purchasing process as it provides formal proof of procurement activities. Lysons and Farrington (2016) noted that documents like purchase requisitions, purchase orders, invoices, and goods receipt notes help record transactions between buyers and suppliers. These documents also support financial oversight and promote transparency in procurement operations.

According to Baily et al. (2015), the purchasing cycle typically includes several steps: identifying material needs, choosing suppliers, placing orders, receiving materials, and completing payments. Each step requires proper documentation to ensure that procurement activities are recorded correctly and monitored effectively. Without the right documentation, organizations can face operational issues, financial mistakes, and communication problems with suppliers.

In today's organizations, purchasing is increasingly seen as a strategic activity that contributes to gaining a competitive edge. Christopher (2016) highlighted that effective procurement management boosts supply chain performance and helps organizations become more cost-efficient. Building strong relationships with suppliers and keeping accurate procurement records allow organizations to assess supplier reliability and make informed purchasing decisions.

Strategic purchasing also significantly impacts organizational performance. Cousins et al. (2008) stressed that purchasing should align with overall organizational strategies for long-term benefits. When organizations implement clear purchasing procedures backed by effective documentation systems, they can enhance control and improve procurement efficiency.

Additionally, Dobler and Burt (2012) stated that purchasing documentation is an important part of internal control systems within organizations. Documentation ensures that procurement transactions are authorized, recorded, and verified correctly. These records also aid organizations during financial audits and performance checks.

Supplier relationships are also vital for effective purchasing. Gadde and Håkansson (2001) suggested that organizations should form long-term partnerships with reliable suppliers to ensure a steady supply of materials and maintain product quality. Good documentation and communication systems help strengthen supplier relationships and improve coordination between organizations and vendors.

The review of existing literature shows that purchasing procedures and documentation are vital for effective procurement management. Well-structured purchasing systems help organizations maintain transparency, improve supplier coordination, and support smooth operations. Thus, studying purchasing procedures and documentation practices in organizations like Naga Foods Limited offers valuable insights into procurement efficiency and organizational performance.

3. RESEARCH METHODOLOGY

This study adopts a **descriptive research design** to analyze the purchasing procedures and documentation practices followed at Naga Foods Limited. The purpose of the study is to understand the procurement process, vendor involvement, and the effectiveness of documentation used in purchasing activities within the organization.

3.1. Data Collection

The study is based on both **primary data and secondary data**. Primary data was collected directly from vendors associated with Naga Foods Limited. A structured questionnaire was prepared to obtain information regarding vendor experience, purchasing procedures, communication with the company, and documentation practices followed during procurement activities.

The questionnaire was distributed through **Google Forms, direct phone communication, and manual feedback** from vendors. A total of **50 vendors** who are involved in supplying materials and services to the company participated in the study. Their responses provided valuable insights into the purchasing procedures and documentation system followed by the organization.

Secondary data was collected from company records, procurement documents, academic books, research journals, and relevant websites related to purchasing management and supply chain practices.

3.2. Sampling Technique

The study used a **convenience sampling method** to collect responses from vendors who are actively associated with the purchasing activities of Naga Foods Limited. A sample size of **50 vendors** was considered for the study to understand

their perspectives on purchasing procedures and documentation practices.

3.3. Data Analysis

The collected data was organized, classified, and analyzed using **percentage analysis and simple tabulation methods**. The responses from vendors were interpreted to understand the efficiency of purchasing procedures and the role of documentation in procurement activities at Naga Foods Limited.

3.4. Research Focus

The study mainly focuses on examining the **purchasing procedures, vendor interaction, and documentation practices** followed in the procurement process. It also attempts to identify areas where improvements can be made in order to enhance procurement efficiency and strengthen vendor relationships.

4. ANALYSIS

4.1. Years of Association

Table 1. Years of association

Years of association	Number of vendor	Percentage
1-3 years	5	10%
3-5 years	8	16%
More than 5 years	37	74%
Total	50	100%

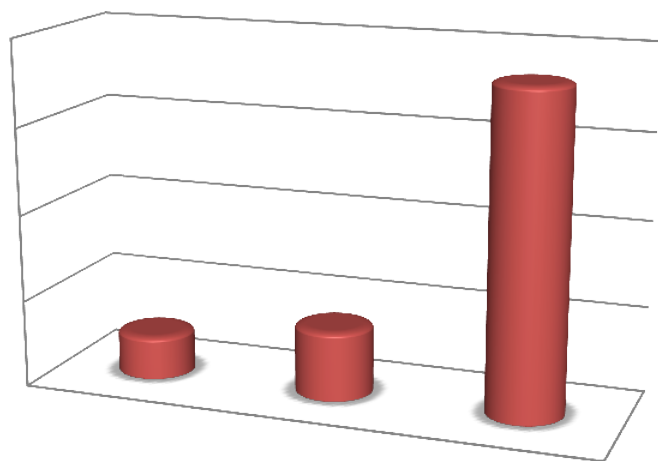


Figure 1. Years of association

The distribution of vendors based on duration of association indicates that 10% of vendors have been associated for 1–3 years, 16% for 3–5 years, and a significant majority of 74% for more than 5 years. This distribution highlights the long-standing nature of vendor relationships maintained by Naga Foods.

A category-wise observation shows that packing material vendors predominantly fall within the 3–5 years association period, indicating a stable but relatively recent consolidation of suppliers in this category. In contrast, the majority of service vendors, as well as vendors supplying maintenance, repair, and operational materials, have been associated with the company for more than 5 years. This reflects sustained collaboration and continued reliance on established suppliers across key operational areas.

The overall pattern suggests that the company maintains long-term relationships with its vendors, which contributes to consistency in supply, improved coordination, and reliability in delivery performance. Such long-standing associations indicate mutual trust, operational stability, and an effective vendor relationship management approach.

4.2. Rating Focused on Material Quality

Table 2. Rating of Material quality

Rating	Number of vendor	Percentage
Very High	26	52%
High	14	28%
Moderate	10	20%
Total	50	100%

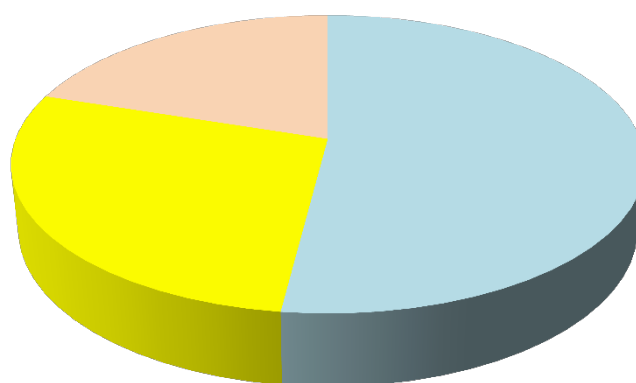


Figure 2. Rating of Material quality

The analysis indicates that 52% of vendors reported that Naga Foods places a very high level of focus on material quality, 28% reported a high level of focus, and 20% indicated a moderate level of focus. These findings suggest that quality is a key consideration in the company's procurement decisions.

However, the degree of quality emphasis varies depending on the nature and criticality of the materials procured. Materials that directly influence product safety, operational reliability, and production continuity such as packing materials, maintenance components, and essential production inputs require very high quality standards. In contrast, for non-critical or routine materials, procurement decisions may balance quality requirements with cost and availability considerations.

Overall, the results indicate that the organization adopts a need-based quality approach, ensuring strict quality standards for critical materials while maintaining practical procurement flexibility for other categories.

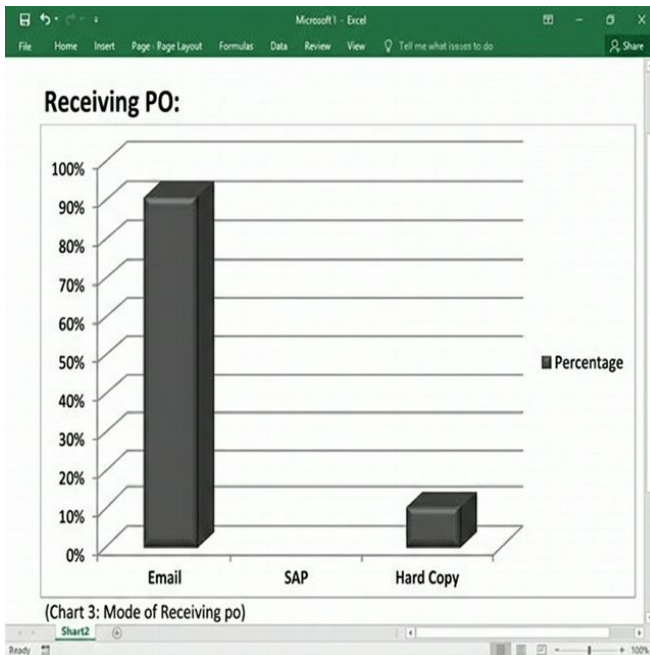
4.3. Mode of Receiving PO

The analysis of the mode of receiving purchase orders indicates that 90% of vendors receive their purchase orders through email communication, while 10% receive purchase orders in hard copy form. The vendors receiving hard copy purchase orders primarily belong to the service category, where documentation requirements and operational convenience may necessitate physical records.

The predominance of email-based purchase order communication reflects the adoption of efficient and timely procurement

Table 3. Mode of Receiving PO

Mode of Receiving	Number of vendor	Percentage
Email	45	90%
SAP	0	0%
Hard copy	5	10%
Total	50	100%

**Figure 3.** Mode of Receiving PO

practices by Naga Foods. Electronic communication enables faster transmission of order details, reduces processing time, and supports accurate documentation of transactions. It also facilitates prompt confirmation, better coordination, and improved responsiveness between the company and its vendors.

Overall, the findings indicate that digital communication, particularly email, plays a significant role in strengthening coordination, ensuring transparency in order processing, and maintaining a smooth and professional business relationship between the organization and its vendors.

5. Conclusion

The present study examined the purchasing procedures and documentation practices followed at Naga Foods Limited. Purchasing is a critical function in any manufacturing organization, as it ensures the availability of required materials for continuous production activities. An effective purchasing system supported by proper documentation helps organizations maintain operational efficiency, transparency, and accountability in procurement processes.

Based on the findings of the study, it is evident that the purchasing department plays a significant role in coordinating procurement activities and maintaining communication with vendors. The organization follows structured purchasing procedures that include identifying material requirements, selecting suppliers, placing purchase orders, receiving materials, and maintaining necessary documentation related to procurement transactions. These procedures help ensure that materials are procured in a

systematic manner while maintaining quality standards and cost efficiency.

The study also highlights the importance of maintaining strong relationships with suppliers in order to ensure consistent supply of materials and smooth operational performance. Vendor cooperation and clear communication contribute significantly to improving procurement efficiency. In addition, proper documentation serves as an important tool for monitoring procurement transactions, supporting financial control, and facilitating internal auditing processes.

Overall, the findings of the study indicate that systematic purchasing procedures and effective documentation practices contribute to the efficient functioning of procurement activities at Naga Foods Limited. However, continuous improvement in purchasing management, vendor coordination, and digital documentation systems can further enhance procurement efficiency and organizational performance.

In conclusion, purchasing procedures and documentation are essential elements of effective procurement management in manufacturing organizations. The insights obtained from this study provide a better understanding of procurement practices and highlight the importance of maintaining structured purchasing systems to support operational success and long-term organizational growth.

■ REFERENCES

- [1] Baily, P., Farmer, D., Jessop, D., & Jones, D. (2015). *Procurement principles and management* (11th ed.). Pearson Education.
- [2] Christopher, M. (2016). *Logistics and supply chain management* (5th ed.). Pearson Education.
- [3] Cousins, P., Lamming, R., Lawson, B., & Squire, B. (2008). *Strategic supply management: Principles, theories and practice*. Pearson Education.
- [4] Ellram, L. M., & Cooper, M. C. (2014). Supply chain management: It's all about the journey, not the destination. *Journal of Supply Chain Management*, 50(1), 8–20.
- [5] Foerstl, K., Hartmann, E., Wynstra, F., & Moser, R. (2013). Cross-functional integration and functional coordination in purchasing and supply management. *International Journal of Operations & Production Management*, 33(6), 689–721.
- [6] Institute for Supply Management. (2021). *Principles of procurement and supply management*. <https://www.ismworld.org>
- [7] Lysons, K., & Farrington, B. (2016). *Procurement and supply chain management* (9th ed.). Pearson Education.
- [8] Monczka, R. M., Handfield, R. B., Giunipero, L. C., & Patterson, J. L. (2015). *Purchasing and supply chain management* (6th ed.). Cengage Learning.
- [9] World Trade Organization. (2020). *Government procurement and supply chain practices*. <https://www.wto.org>



AI-Driven Transformation in Construction: A Comprehensive Review of Resolving Core Industry Challenges

Article Record

Anton Mialeshka^{§*}

Entrepreneur & Management Expert

ORCID 0009-0002-4772-2214

*Corresponding Author



Pavel Sukhachev



§ Luxod LLC, United States

RECEIVED

2026-03-09

ACCEPTED

2026-03-23

ONLINE PUBLISHED

2026-05-04

PUBLISHED

2026-06-18

PEER REVIEW

Double Blind

Abstract

The construction industry faces persistent challenges including cost volatility, labor shortages, project delays, safety risks, and regulatory complexity. This study analyzes the application of Artificial Intelligence (AI) across the construction lifecycle, from pre-construction estimation and financial forecasting to scheduling, workforce management, cybersecurity, and sustainable design. Using a structured analytical framework, the paper examines how machine learning, computer vision, predictive analytics, natural language processing, and generative design enhance decision-making, operational efficiency, and risk mitigation. The findings demonstrate that AI improves estimation accuracy, reduces delays, strengthens liquidity control, increases safety compliance, and supports sustainability objectives. Successful implementation, however, depends on robust data infrastructure and a human-in-the-loop model that integrates technological intelligence with professional expertise. A phased AI adoption roadmap is proposed to guide construction firms toward long-term resilience and competitive advantage.

Artificial Intelligence

Construction Management

Predictive Analytics

Machine Learning

Computer Vision

Generative Design

Digital Transformation

AI USE STATEMENT

No generative AI was used for analysis or results.

FUNDING

No external funding was received for this research.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY

Not applicable for this article.

ETHICS

No ethics committee approval was required for this article type.

CONSENT

Not applicable for this article.

TRIAL REG.

Not applicable.

Crossref DOI: 10.34257/GJMBRA254296

How to Cite: Mialeshka et al. (2026). AI-Driven Transformation in Construction: A Comprehensive Review of Resolving Core Industry Challenges. Global Journal of Management and Business Research, 26(2), 18-27. DOI: 10.34257/GJMBRA254296

LICENSE

© 2026 Global Journals. Open-access article under CC BY-NC-ND 4.0 International License.



Print ISSN 0975-5853



9 770975 585000

Online ISSN 2249-4588



9 772249 458010

Under the strict compliance and defined process of



METADATA CONTINUATION

AUTHOR CONTACT QR LEDGER

Anton Mialeshka\$ø*	
Pavel Sukhachev	

ARCHIVAL RECORD

AI-Driven Transformation in Construction: A Comprehensive Review of Resolving Core Industry Challenges

Anton Mialeshka^{§*} and Pavel Sukhachev[§]

Affiliations

§ Luxod LLC, United States

Qualifications / Designations

‡ Entrepreneur & Management Expert

Abstract

The construction industry faces persistent challenges including cost volatility, labor shortages, project delays, safety risks, and regulatory complexity. This study analyzes the application of Artificial Intelligence (AI) across the construction lifecycle, from pre-construction estimation and financial forecasting to scheduling, workforce management, cybersecurity, and sustainable design. Using a structured analytical framework, the paper examines how machine learning, computer vision, predictive analytics, natural language processing, and generative design enhance decision-making, operational efficiency, and risk mitigation. The findings demonstrate that AI improves estimation accuracy, reduces delays, strengthens liquidity control, increases safety compliance, and supports sustainability objectives. Successful implementation, however, depends on robust data infrastructure and a human-in-the-loop model that integrates technological intelligence with professional expertise. A phased AI adoption roadmap is proposed to guide construction firms toward long-term resilience and competitive advantage.

Keywords: Artificial Intelligence, Construction Management, Predictive Analytics, Machine Learning, Computer Vision, Generative Design, Digital Transformation, Risk Management, Project Scheduling, Sustainability

* Corresponding Author

Anton Mialeshka

DOI

10.34257/GJMBRA254296

1. Introduction

The global construction industry operates within a paradigm of high risk and low margins. It is an ecosystem characterized by profound complexity, with projects involving numerous stakeholders, intricate scheduling dependencies, and exposure to unpredictable variables ranging from weather to market volatility [1]. Despite its economic significance, the sector has historically lagged behind others in technology adoption, often relying on manual processes and legacy systems [2].

This technological deficit has exacerbated chronic issues. Persistent skilled labor shortages, an aging workforce, and difficulties in attracting new talent threaten productivity and project timelines [3]. Inaccurate cost estimations and inefficient bidding processes erode profitability before construction begins [4]. On-site, challenges with safety, communication breakdowns, and project delays lead to costly rework and disputes [5].

Against this backdrop, Artificial Intelligence has emerged as a strategic imperative. The industry is at an inflection point, moving beyond standalone digital tools toward intelligent, integrated platforms that can synchronize activities across the entire project lifecycle [1]. AI offers the capability to process vast and disparate datasets, identify patterns invisible to human analysis, and generate predictive insights that transform decision-making from reactive to proactive.

This paper provides a comprehensive review of AI applications in solving core challenges of the construction industry. The analysis is structured around ten industry problems, each examined through a systematic framework to present clear, evidence-based

findings. The challenges addressed span the entire project lifecycle, from pre-construction and financial management to on-site operations, workforce development, and risk mitigation.

Key findings indicate that AI is not a single solution but a suite of technologies—including machine learning, computer vision, natural language processing (NLP), and generative design—that can be deployed to improve efficiency, accuracy, and profitability. A central theme is the "Data Value Chain": the success of any AI initiative is fundamentally dependent on a robust strategy for data collection, centralization, and hygiene [6].

The analysis also reveals the emergence of agentic AI systems that can automate complex workflows and the persistent necessity of a "Human-in-the-Loop" approach, where AI augments rather than replaces the expertise of seasoned industry professionals. Furthermore, the paper explores potential systemic risks associated with widespread AI adoption, such as algorithmic price clustering, requiring a strategic rather than purely tactical view of implementation.

Table 1. AI Solutions Mapped to Construction Challenges

Challenge Area	Primary AI Technologies/Solutions	Primary Business Impact
1. Cost Estimation & Bidding	Computer Vision, Predictive Analytics, Machine Learning	Increased Bid Accuracy, Higher Win Rate, Improved Profit Margins
2. Material Price Volatility	Predictive Analytics, Time-Series Analysis, Real-Time Data Integration	Risk Mitigation, Cost Control, Optimized Procurement
3. Cash Flow Management	Computer Vision, Machine Learning, Workflow Automation	Improved Liquidity, Reduced Errors, Enhanced Financial Forecasting
4. Project Delays & Scheduling	Predictive Analytics, Simulation Engines, IoT Data Integration	Reduced Delays, Optimized Resource Allocation, Increased Productivity
5. Communication & Documentation	Natural Language Processing (NLP), AI Agents, Cloud Platforms	Reduced Rework, Faster RFI/Change Order Cycles, Single Source of Truth
6. Labor Shortage & Workforce	AI-Powered Recruitment, Predictive Analytics, Generative Design, Robotics	Increased Productivity, Improved Talent Retention, Workforce Augmentation
7. Jobsite Safety	Computer Vision, IoT Wearables, Predictive Analytics, VR/AR	Reduced Incidents, Proactive Hazard Detection, Improved Compliance
8. Subcontractor Management	Predictive Analytics, Natural Language Processing (NLP)	Reduced Partner Risk, Data-Driven Selection, Improved Performance
9. Cybersecurity & Data Protection	Anomaly Detection, Machine Learning, Automated Incident Response	Threat Prevention, Data Integrity, Reduced Breach Risk
10. Sustainability & Compliance	Generative Design, Automated Compliance Checking, NLP	Reduced Environmental Impact, Faster Permitting, Cost-Effective Green Building

■ PART I: FINANCIAL FOUNDATIONS

2. AI in Cost Estimation and Bidding

2.1. Problem Statement

The pre-construction phase, particularly cost estimation and bidding, is the cornerstone of project profitability. This foundational process has traditionally been manual, labor-intensive, and susceptible to significant human error. Estimators spend considerable time on repetitive tasks like manual quantity takeoffs from blueprints, using spreadsheets prone to arithmetic mistakes and outdated cost data [7]. This inefficiency limits the number of projects a firm can competitively bid on and exposes the company to substantial financial risk from budget overruns [8].

2.2. AI Technologies and Implementation

The application of AI in pre-construction targets the core inefficiencies of the traditional workflow through computer vision for automated takeoffs, machine learning for predictive cost modeling, and predictive analytics for strategic bidding.

Automated Quantity Takeoffs. The most immediate application of AI in estimating is the automation of quantity takeoffs. Computer vision algorithms can execute this task in a fraction of the time with superior accuracy. These systems are trained to read and interpret 2D plans (PDF or CAD formats) and 3D Building Information Modeling (BIM) models [6]. They automatically detect, measure, count, and label structural and architectural elements such as walls, doors, windows, flooring, and MEP components [9]. Integration with BIM is particularly powerful, as AI can convert raw model data into actionable, cost-specific insights in real-time as designs evolve [6]. Industry reports indicate that AI-driven takeoff tools can reduce preparation time by over 80% compared to manual methods [9]. By automating these repetitive tasks, AI allows estimators to focus on higher-value activities like value engineering and risk analysis [7].

Predictive Cost Modeling. Beyond quantification, AI excels at cost prediction. Machine learning algorithms, including regression models, neural networks, and ensemble methods like random forests, can analyze complex datasets to identify cost

drivers and predict future expenses with accuracy that surpasses human judgment alone [9]. A robust AI cost model synthesizes a wide array of inputs including [6]: historical project data with detailed cost records; real-time market data including live supplier price indexes; labor trends with current rates and regional availability data; and early project signals from public filings and procurement portals.

By processing these variables, AI can generate accurate cost predictions. Studies in the literature suggest that ML-based tools can achieve up to 97% accuracy in cost predictions, which directly translates into a reduction in budget overruns of 5–10% [10]. This data-driven approach replaces individual expert intuition with statistically robust forecasts [9].

Strategic Bidding Analytics. The speed and accuracy afforded by AI fundamentally improve the bidding process. AI platforms enable firms to submit bids much faster than competitors relying on manual processes [7]. Predictive analytics algorithms can model the potential outcomes of different bid prices by analyzing market dynamics, historical win/loss data, and competitive pricing, helping identify the optimal bid price—competitive yet profitable [11].

2.3. The Human-in-the-Loop Imperative

Despite these capabilities, the most effective implementation of AI in pre-construction is as an augmentation tool that enhances human expertise [4]. Human insight remains indispensable in several areas: regional cost nuances that national AI models may not capture; subcontractor and relationship dynamics that require relational knowledge; and unstructured risk factors such as political landscapes and unique site constraints [4]. The most effective AI platforms incorporate features that empower the human expert, including override controls, transparent audit trails, and risk flags that highlight areas requiring specific human judgment [4].

This collaborative approach also addresses concerns about over-reliance on opaque systems. For AI to be trusted and adopted, its outputs must be explainable and its limitations understood [12]. By keeping the human expert in the loop, firms leverage computational power without sacrificing contextual wisdom.

2.4. Market-Level Implications

The implementation of AI in bidding introduces a potential market-level dynamic that warrants consideration. As AI-driven pricing tools become industry standard, a more complex effect could emerge. Evidence from the equipment rental sector, where several large providers faced a class-action antitrust lawsuit alleging coordinated pricing through a common AI-powered tool [13], provides a cautionary example. If a significant portion of competitors adopt similar AI bidding platforms trained on overlapping datasets, their algorithms could independently converge on similar "optimal" bid prices, leading to unintentional algorithmic price clustering. Forward-thinking firms must therefore monitor the market for signs of price convergence and consider the potential for future regulatory attention directed at industry-wide algorithmic pricing practices.

3. AI-Powered Material and Resource Forecasting

3.1. Problem Statement

The construction industry depends on a global supply chain for materials like steel, lumber, concrete, and copper, with prices subject to fluctuations driven by supply and demand, geopolitical events, tariffs, and logistical disruptions [14]. Traditional methods for forecasting material costs are ill-equipped to handle the speed and complexity of modern market dynamics, introducing significant financial risk into projects [9].

3.2. AI Technologies and Implementation

Predictive Analytics for Price Forecasting. Machine learning models for price prediction generally fall into two categories, which can be combined into hybrid systems [15]:

1. *Causal Models:* These models predict prices by analyzing the relationship between material costs and external economic indicators. Techniques such as Multiple Linear Regression (MLR), Artificial Neural Networks (ANN), and Least Square Support Vector Machines (LSSVM) find correlations between prices and factors like the Consumer Price Index (CPI), Producer Price Index (PPI), and Gross Domestic Product (GDP) [15].
2. *Time-Series Analysis:* This method focuses on historical price data to identify patterns such as trends, seasonality, and cyclical behavior, projecting future price movements [16]. Its primary advantage is that it requires minimal data inputs beyond the price history itself [15].

The process involves data collection, cleaning, feature selection, model training, and rigorous evaluation to ensure predictive accuracy [16].

Real-Time Data Integration and Proactive Procurement. Modern AI platforms integrate with real-time data sources to ensure forecasts are constantly updated [9]. This real-time intelligence enables a shift from reactive to proactive procurement. For instance, an AI system might flag a potential surge in steel prices due to increased demand or a production disruption [14]. Armed with this foresight, project teams can lock in early orders at current prices, explore substitute materials, or leverage insights to negotiate more favorable terms [14].

Optimized Resource Allocation. Beyond forecasting price, AI can optimize the quantity of all resources—materials, labor,

and equipment—needed for a project. By analyzing project plans, schedules, and historical consumption data, AI algorithms can predict resource requirements accurately, eliminating waste from over-ordering and preventing costly downtime from under-ordering [7]. AI-driven inventory management systems can anticipate needs and automatically reorder materials, ensuring just-in-time delivery [17].

3.3. Discussion: Procurement as Strategic Function

AI-driven forecasting elevates procurement from a transactional, cost-centric function to strategic risk management. A procurement manager equipped with AI-driven forecasts becomes a market analyst and strategic advisor. This shift necessitates deeper integration between previously siloed departments. Design and engineering teams need pricing forecasts for value engineering. Finance requires foresight for cash flow management. Project management needs supply chain risk data for schedule resilience. AI-driven forecasting thus acts as a catalyst that breaks down departmental walls, transforming procurement into a central hub of strategic intelligence [14].

4. Intelligent Cash Flow Management

4.1. Problem Statement

Positive and predictable cash flow is critical for any construction company, yet the industry's financial model is characterized by long payment cycles, complex progress billings, and retainage practices [18]. Many firms rely on manual, error-prone processes for managing Accounts Payable (AP) and Accounts Receivable (AR), creating bottlenecks and delays [17]. Financial forecasting is often reactive, based on historical ERP reports that fail to provide a forward-looking view of future cash positions [18].

4.2. AI Technologies and Implementation

Automated AP/AR Processing. Computer vision enables systems to read and understand invoice documents [17]. When a vendor invoice arrives as a PDF, AI extracts relevant information such as invoice number, date, and line items; matches the invoice against purchase orders and receiving documents [17]; and codes expenses by detecting job numbers, phases, or cost codes [19]. AI-driven workflow systems then automatically route invoices for approval, schedule payments, and reduce manual data entry while shortening the processing cycle [20].

Enhanced Financial Forecasting. Machine learning algorithms detect complex patterns in financial data invisible to spreadsheet analysis [17]. By analyzing historical project data, AI systems can forecast cash inflows based on past payment behaviors and contract terms; model the historical "burn rate" of similar projects to predict future costs; and run scenario analyses testing the impact of various external factors such as price spikes or major payment delays [18].

Intelligent ERP Integration. AI enhances existing ERP systems with a layer of intelligence [21]. Applications include smart payroll validation that flags discrepancies before processing, and automated variance analysis that continuously monitors data streams from ERP, telematics, and scheduling software to flag anomalies indicating financial leakage [18].

5. AI-Driven Project Scheduling and Management

5.1. Problem Statement

Construction projects comprise hundreds or thousands of interdependent tasks executed by multiple trades over extended periods. Traditional scheduling relies on the Critical Path Method (CPM) visualized in static Gantt charts—a fundamentally reactive approach difficult to update, reliant on delayed field data, and unable to model the cascading effects of disruptions [5]. Project delays are endemic, leading to significant cost overruns and client dissatisfaction [22].

5.2. AI Technologies and Implementation

Predictive and Generative Scheduling. Advanced AI platforms function as construction simulators. Before breaking ground, these systems can “build” the project virtually millions of times, exploring different sequences, resource allocations, and construction methods to identify the most efficient schedule [22]. Predictive analytics models trained on historical project timelines, labor productivity records, supply chain lead times, and weather data learn to identify patterns that precede delays [23].

Real-Time Data Integration and Dynamic Rescheduling. The power of AI scheduling is realized when combined with live data from the jobsite through IoT devices on equipment and wearable sensors on the workforce, providing accurate, real-time progress pictures [5]. When disruptions occur, the AI system ingests new information, automatically recalculates the critical path, reschedules dependent activities, and presents the project manager with a revised, optimized plan [14].

AI-Powered Weather Forecasting. AI agents process comprehensive weather data from multiple sources including historical records, satellite imagery, and on-site IoT sensors to provide hyperlocal predictions [24]. The schedule can then be automatically adjusted to prioritize weather-sensitive activities during optimal windows. Studies indicate that AI-powered scheduling can reduce weather-related downtime by as much as 47% [25].

5.3. Case Studies

Turner Construction developed a proprietary AI system that analyzes variables from historical project data to weather patterns and supplier reliability, creating dynamic schedules. This approach reduced project delays by an average of 30% and generated over \$50 million in annual savings [26]. ALICE Technologies offers a commercial AI platform functioning as a construction simulator. In one case study, a general contractor used the platform to develop a schedule that accelerated completion by 45 days while reducing labor costs [22].

5.4. Discussion: Evolving Role of the Project Manager

AI-driven scheduling redefines the role of the Project Manager from tactical “firefighting” to strategic oversight. The AI system maintains real-time project status through IoT data streams [5], recalculates optimal schedules automatically in response to deviations [27], and can automate update communications to stakeholders. The PM’s primary responsibility shifts from manual plan creation and updates to defining strategic parameters and handling complex exceptions that AI flags but cannot resolve independently—such as contractual negotiations or subcontractor

disputes. This evolution has direct implications for future leadership skill sets, requiring data literacy, comfort with probabilistic forecasts, and proficiency in human-AI collaboration.

■ PART II: COMMUNICATION AND DOCUMENTATION

6. AI in Communication and Documentation

6.1. Problem Statement

A typical construction project generates vast documentation (contracts, blueprints, specifications, RFIs, submittals, change orders) and communications among dozens of stakeholders [28]. This information is frequently fragmented across disconnected systems, leading to stakeholders working from outdated documents, lost communications, significant administrative overhead, and costly delays in essential workflows [1].

6.2. AI Technologies and Implementation

Intelligent Document Management. Natural Language Processing (NLP) and Optical Character Recognition (OCR) enable AI systems to scan thousands of unstructured documents, extract key information, and categorize them automatically, reducing manual data entry time by over 80% [29]. AI can also analyze contracts to flag high-risk clauses related to indemnity, liquidated damages, or insurance requirements [28], and perform cross-document analysis identifying inconsistencies between drawings and specifications [27].

Automated RFI and Change Order Management. AI agents can assist in drafting RFIs by pulling relevant details from project plans, automatically route them to the correct respondent, and track response status [29]. Predictive analytics can analyze project documents and historical data to anticipate issues likely to generate RFIs, allowing proactive resolution [30]. For change orders, AI can quickly compile all relevant data—daily reports, photos, schedule impacts, and cost information—to create comprehensive, data-driven requests [6].

Enhanced Field-to-Office Communication. AI-powered tools now transcribe voice notes from field workers in their native language and translate them into structured, actionable text for project managers [31]. Centralized collaboration platforms are increasingly embedding AI features for real-time project updates and team alignment [32].

■ PART III: WORKFORCE AND SAFETY

7. Addressing the Labor Crisis: AI in Workforce Management

7.1. Problem Statement

The construction industry faces a severe and worsening skilled labor shortage driven by an aging workforce, failure to attract diverse talent, and a historical perception of the industry as technologically stagnant [3]. Traditional recruitment methods are slow and struggle to identify best-fit candidates, leading to high turnover [33]. The rapid digitization of the industry creates a “digital skills gap” where the existing workforce may lack training to use modern technologies [2].

7.2. AI for Talent Acquisition and Retention

AI-Powered Recruitment. AI systems parse candidate documents to detect relevant skills and certifications, perform skill-

based matching beyond stated qualifications, and filter by factors including geographic proximity [33]. This data-driven approach can reduce recruitment time by up to 60% [33]. AI can also conduct automated initial interviews to assess soft skills, and when focused on objective qualifications rather than demographic characteristics, these algorithms help reduce unconscious bias in hiring [3]. Improved skill-fit matching has been shown to improve worker retention by up to 45% [33].

Retention and Development. Machine learning models analyzing attendance records, performance metrics, and engagement data can identify patterns indicating an employee is at risk of leaving, allowing proactive management intervention [34]. AI can also create customized training and development plans based on individual performance reviews and skill sets [34].

7.3. AI for Workforce Augmentation

The most direct way AI addresses the labor shortage is by augmenting the capacity of the existing workforce. AI-powered robots and autonomous machinery can handle tasks that are repetitive, physically demanding, or dangerous, including bricklaying, rebar tying, and welding [22]. In the design phase, generative design tools function as "AI apprentices." For example, one firm using such technology for electrical engineering design cut project design times by 40%, equivalent to adding two to three full-time designers [35]. AI co-pilot systems are also being implemented to assist junior project managers with real-time guidance on construction protocols, building codes, and scheduling best practices [36].

7.4. Discussion: Reshaping Industry Perception

AI's integration into construction—from generative design and intelligent scheduling to on-site robotics—is fundamentally changing the nature of construction work itself. This evolution presents a strategic opportunity for recruitment by dismantling the perception of construction as a purely manual, low-tech industry. Firms can now attract a younger, more digitally native demographic by marketing roles involving data analytics, AI system management, drone operations, and robotics programming. AI thus becomes not only a tool to solve the immediate labor shortage but a catalyst to reshape the industry's image and build a sustainable talent pipeline.

8. AI-Powered Safety Management

8.1. Problem Statement

The construction industry consistently ranks among the most hazardous sectors, with a significant portion of incidents—estimated at up to 80%—attributable to human error and lapses in situational awareness [37]. Traditional safety management relies on manual oversight by safety managers, periodic inspections, and classroom-style training—an approach difficult to scale across large, dynamic jobsites [37].

8.2. AI Technologies and Implementation

Computer Vision for Real-Time Monitoring. Computer vision is arguably the most impactful AI technology for on-site safety. By analyzing video feeds from cameras and drones, AI can perform real-time object detection and recognition (identifying workers, machinery, PPE), action and activity recognition (understanding worker behaviors), and pattern recognition with anomaly detection (identifying deviations from safety protocols) [38]. Key applications include automated PPE compliance monitoring, hazard detection (missing guardrails, uncovered excavations), and unsafe

behavior or proximity alerts that predict potential collisions [37]. When a hazard is detected, the system generates instant alerts to relevant supervisors [38].

Predictive Analytics for Risk Mitigation. By analyzing historical incident reports, near-miss logs, safety observations, and site conditions, machine learning algorithms identify leading indicators of accidents [37]. This allows prediction of which areas, tasks, or times of day carry the highest incident risk, enabling proactive resource allocation to the highest-risk zones [39].

IoT and Wearable Technology. Smart sensors in wearable helmets, vests, or wristbands monitor worker vital signs (heart rate, body temperature) to detect fatigue or heat stress [34]. Environmental sensors monitor air quality, noise levels, and hazardous gases [40]. Wearable-based proximity alerts create "digital safety zones" around heavy equipment to prevent collisions [36].

AI-Enhanced Safety Training. AI-powered VR/AR training modules allow workers to practice high-risk procedures in safe virtual environments, improving knowledge retention compared to traditional methods [37]. AI can create feedback loops between on-site monitoring and training—if the computer vision system flags a worker for repeated violations, targeted training modules are automatically assigned [41].

8.3. Case Studies

A construction company in New Zealand implemented computer vision for PPE detection and achieved over 90% PPE compliance, significantly reducing regulatory fines [42]. Multiple industry implementations of AI-driven safety monitoring have demonstrated measurable reductions in incident rates through proactive detection.

■ PART IV: RISK MITIGATION AND FUTURE

9. AI in Subcontractor and Supplier Management

9.1. Problem Statement

The modern general contractor relies on an extensive network of subcontractors and suppliers. The vetting and selection process is often subjective and based on incomplete data, introducing risks of delays, poor workmanship, safety incidents, and disputes [4].

9.2. AI Technologies and Implementation

Predictive Performance Analytics. AI platforms aggregate data from internal historical performance records (on-time completion rates, change order frequency, safety incidents), external data (financial stability reports, insurance records, official safety ratings), and credentials and certifications [43]. Machine learning models—such as decision trees or neural networks—then generate holistic "risk scores" for each subcontractor, allowing objective comparison of potential partners [44].

AI-Powered Contract Analysis. NLP tools scan subcontractor agreements to flag high-risk or non-standard clauses related to indemnity, insurance coverage, payment terms, or scope definitions, and compare proposed terms against standard policies [43].

Real-Time Performance Monitoring. During construction, AI integrates data from scheduling and on-site monitoring systems to track subcontractor progress against the plan, alerting project managers when emerging issues require early intervention [44].

9.3. Discussion: Data Bias and Market Access

A data-centric approach to subcontractor assessment inherently favors established firms with extensive documented histories. New or smaller subcontractors may receive poor risk scores due to limited data rather than limited competence, potentially leading to market consolidation. To mitigate this, firms should develop hybrid assessment strategies that maintain pathways for emerging partners through pilot project opportunities and assessment criteria beyond historical data alone, such as team experience, financial backing, and technology adoption.

10. AI for Cybersecurity and Data Protection

10.1. Problem Statement

The construction industry's rapid digital transformation—with cloud-based project management, IoT sensors, and mobile devices—creates a growing attack surface containing proprietary designs, financial records, and confidential client data [45]. Cybercriminals are now using AI to launch more sophisticated attacks, while traditional rule-based defenses prove inadequate against these intelligent threats [46].

10.2. The AI Cybersecurity Landscape

AI-Powered Threats. Adversaries leverage AI to create highly convincing phishing emails at scale, develop adaptive malware that evades signature-based detection (such as the "PromptLock" AI-powered ransomware) [47], and automate vulnerability discovery faster than human attackers [48].

AI-Powered Defense. Research from MIT Sloan identifies three pillars of comprehensive defense [48]:

1. *Automated Security Hygiene:* AI automates foundational tasks like patch management and vulnerability scanning.
2. *Autonomous Defense Systems:* Machine learning monitors network traffic and user activity to detect anomalies indicative of cyberattacks. Advanced systems can detect ransomware-characteristic behavior in under 60 seconds [49] and take autonomous containment actions such as network isolation or triggering backup restoration [50].
3. *Augmented Human Oversight:* AI provides security professionals with correlated, prioritized threat intelligence rather than overwhelming raw alerts [51].

10.3. Implementation Best Practices

Key practices include AI-driven data classification and governance across servers, cloud platforms, and endpoints [51]; automated compliance management for standards like the Cybersecurity Maturity Model Certification (CMMC) [45]; and maintaining strong cybersecurity hygiene fundamentals including multi-factor authentication, regular patching, and ongoing employee awareness training [52].

11. AI in Green Building and Compliance

11.1. Problem Statement

The built environment accounts for roughly one-third of global energy consumption and carbon emissions [53]. The construction industry faces intensifying pressure to adopt sustainable practices and comply with complex building codes and voluntary certifications like LEED [54]. Ensuring compliance is traditionally manual, time-consuming, and error-prone [55], while designing

truly sustainable buildings requires optimizing for numerous competing variables that are exceptionally difficult to solve with traditional methods [56].

11.2. AI for Automated Compliance Checking

Automated Building Code Compliance. Some estimates suggest that up to 70% of building permit delays stem from issues discovered during plan review [57]. AI-powered plan review tools analyze drawings against relevant building codes, flagging violations related to fire safety, accessibility, and structural requirements. The International Code Council (ICC) has launched an AI Navigator trained to help users navigate the I-Codes [58].

LEED Certification Automation. AI agents automate the burdensome documentation process for green building certifications by integrating with BIM models to extract material data, connecting with IoT sensors for real-time energy and water consumption monitoring, automatically verifying compliance with specific LEED credits, and tracking progress with automated report generation [55]. Tools for automated Whole Building Life-Cycle Assessment (LCA) can contribute to earning multiple LEED credits [59].

11.3. AI for Sustainable Design (Generative Design)

Generative design inverts the traditional workflow. Instead of a designer creating a single design and testing it, the designer inputs goals (e.g., minimize embodied carbon, maximize daylighting, reduce energy use) and constraints (site boundaries, height limits, budget, program requirements). The AI algorithm then explores the entire solution space, generating and analyzing thousands of design variations to present optimized options [56]. Key sustainability benefits include material and embodied carbon reduction through structurally efficient designs [56]; operational energy efficiency through optimized building form, orientation, and facade design [60]; and holistic multi-objective optimization balancing competing goals such as cost, energy, and occupant comfort.

A prominent example is the Shanghai Tower, where designers used generative tools to optimize the building's twisting form for wind resistance and energy efficiency [61].

Table 2. Comparison of AI-Powered Compliance and Design Approaches

Approach	Primary Function	Key Capabilities	Target User
Automated Code Compliance	Building Code Checking	AI-powered plan review, version comparison, compliance checks	Building Officials, Architects
Code Research AI	Code Interpretation	Jurisdiction-specific code Q&A, summaries and citations	Architects, Engineers
LEED Automation	Certification Documentation	Data collection from BIM/IoT, compliance verification, document processing	Green Building Consultants
Generative Design	Sustainable Design Optimization	Multi-objective optimization, thousands of design alternatives	Architects, Structural Engineers

Table 3. A Phased AI Adoption Roadmap for Construction Firms

Phase	Focus	Key Actions & Technologies	Primary Goal
Phase 1: Foundational	Data Maturity & Task Automation	Standardize data collection. Adopt cloud-based Common Data Environment (CDE). Implement AI for automated AP/AR processing [17] and automated quantity takeoffs [7].	Establish clean, centralized data foundation and achieve initial efficiency gains.
Phase 2: Integrated	Predictive Insights & Process Integration	Integrate financial, scheduling, and project management systems. Deploy predictive analytics for cost and material forecasting [9], safety risk identification [37], and scheduling [23]. Implement computer vision monitoring.	Move from reactive to proactive management through integrated data.
Phase 3: Transformational	Autonomous Systems & Strategic Advantage	Implement generative design [56]. Deploy dynamic AI-driven scheduling with real-time IoT integration [5]. Explore on-site robotics. Use AI for strategic workforce planning and partner management.	Transform business models using AI-driven innovation.

12. Conclusion and Recommendations

The analysis presented in this paper demonstrates that Artificial Intelligence is a foundational enabler of operational excellence, financial resilience, and sustainable growth in the construction industry. Across the entire project lifecycle—from the initial bid to long-term facility management—AI offers tools to address the sector's most persistent challenges.

Several critical themes emerge from this review. First is the primacy of data. The potential of predictive analytics, computer vision, and machine learning can only be realized when fed by high-quality, structured, and centralized data. This underscores the necessity for construction firms to prioritize their digital transformation, viewing AI as a capstone achievement built upon a solid data foundation.

Second, the Human-in-the-Loop model is an enduring principle. In every application, from cost estimation to project scheduling and safety monitoring, AI functions most effectively as an augmentation tool that empowers rather than replaces human expertise. The contextual knowledge, intuitive judgment, and strategic creativity of experienced professionals remain irreplaceable.

Third, the emergence of more sophisticated AI agents and autonomous systems signals a fundamental shift in operational models. These technologies are moving beyond simple task automation to orchestrate complex workflows, manage resources dynamically, and provide strategic recommendations.

This paper concludes with a phased roadmap for AI adoption, guiding construction firms from establishing foundational data infrastructure, through integrating predictive analytics, to achieving transformation with autonomous systems and new operational models.

12.1. Overcoming Adoption Barriers

Despite the compelling value proposition, the industry's historically slow technology adoption, data silos, the digital skills gap, and perceived high initial costs are substantial barriers [2]. Overcoming these requires executive championship of digital transformation; investment in common data environments and standardized data collection; commitment to workforce upskilling and change management; and starting with high-ROI, low-complexity use cases to build momentum. The question for construction leaders is no longer whether to adopt AI, but how and how quickly. The technologies are mature, the use cases are demonstrated, and the advantages are substantial. By embracing a strategic, data-first approach and building a workforce capable of thriving in a human-AI collaborative environment, construction firms can navigate current challenges and build a more productive and resilient future.

■ REFERENCES

- [1] Oracle, "How AI Is Reshaping Construction: Tackling Labor Shortages, Data Silos and Project Complexity," *For Construction Pros*, 2025. [Online]. Available: <https://www.forconstructionpros.com/construction-technology/article/22944979/oracle-how-ai-is-reshaping-construction-tackling-labor-shortages-data-silos-and-project-complexity>
- [2] Wipfli, "It's time for construction firms to upskill their teams," *Wipfli Insights*, 2025. [Online]. Available: <https://www.wipfli.com/insights/articles/cons-tc-its-time-for-construction-firms-to-upskill-their-teams>

- [3] CMiC, "AI's Role in Transforming Hiring Practices and Retaining Employees in the Construction Landscape," *CMiC Resources*, 2025. [Online]. Available: <https://cmicglobal.com/resources/article/AIs-Role-in-Transforming-Hiring-Practices-and-Retaining-Employees-in-the-Construction-Landscape>
- [4] Forbes Tech Council, "Solving Construction's Labor Shortages With AI," *Forbes*, 2025. [Online]. Available: <https://www.forbes.com/councils/forbestechcouncil/2025/06/09/solving-constructions-labor-shortages-with-ai/>
- [5] S. Pan, Y. Zhong, and M. Lu, "Automated schedule generation and optimization for construction projects using IoT and AI," *Automation in Construction*, vol. 142, 2022. doi: 10.1016/j.autcon.2022.104523
- [6] "How AI can be used in construction bidding, negotiation," *Construction Dive*, 2025. [Online]. Available: <https://www.constructiondive.com/news/ai-construction-bidding-negotiation/756936/>
- [7] M. Juszczak, A. Lesniak, and K. Zima, "ANN-based approach for estimation of construction costs of sports fields," *Complexity*, vol. 2018, 2018. doi: 10.1155/2018/7952434
- [8] Oracle, "AI in Construction: Benefits and Opportunities," *Oracle*, 2025. [Online]. Available: <https://www.oracle.com/construction-engineering/ai-construction/>
- [9] E. Elbeltagi, T. Hegazy, and D. Grierson, "Comparison among five evolutionary-based optimization algorithms for construction scheduling," *Advances in Engineering Informatics*, vol. 19, no. 1, pp. 43–53, 2005. doi: 10.1016/j.aei.2005.01.004
- [10] S. Kim and H. Shim, "Application of machine learning techniques for construction cost estimation: A review," *Journal of Construction Engineering and Management*, vol. 148, no. 8, 2022. doi: 10.1061/(ASCE)CO.1943-7862.0002353
- [11] Amii, "AI-Enhanced Project Estimation for Competitive Bidding," *Alberta Machine Intelligence Institute*, 2025. [Online]. Available: <https://www.amii.ca/use-cases/construction-project-management>
- [12] A. B. Arrieta et al., "Explainable Artificial Intelligence (XAI): Concepts, taxonomies, opportunities and challenges toward responsible AI," *Information Fusion*, vol. 58, pp. 82–115, 2020. doi: 10.1016/j.inffus.2019.12.012
- [13] "Will Artificial Intelligence Increase the Prices of Construction Materials, Equipment, and Labor?," *BuildSmart*, 2025. [Online]. Available: <https://www.buildsmartbradley.com/2025/10/will-artificial-intelligence-increase-the-prices-of-construction-materials-equipment-and-labor/>
- [14] SMACNA, "AI to Combat Rising Material Costs," *SMACNA News*, 2025. [Online]. Available: <https://www.smacna.org/news/news-archive/article/2025/05/21/ai-to-combat-rising-material-costs>
- [15] H. Elmousalami, "A Survey of Data-Driven Construction Materials Price Forecasting," *Buildings*, vol. 14, no. 10, p. 3156, 2024. doi: 10.3390/buildings14103156
- [16] Y. Xu and M. Lu, "Cost forecasting for construction projects using machine learning: A comparative study," *Automation in Construction*, vol. 129, 2021. doi: 10.1016/j.autcon.2021.103814
- [17] CFMA, "AI for the CFO in Heavy Construction," *CFMA Articles*, 2025. [Online]. Available: <https://cfma.org/articles/ai-for-the-cfo-in-heavy-construction>
- [18] CFMA, "AI for the CFO in Heavy Construction," *CFMA Articles (Maine Chapter)*, 2025. [Online]. Available: <https://maine.cfma.org/articles/ai-for-the-cfo-in-heavy-construction>
- [19] Z. Liu, Y. Wang, and R. Issa, "AI-driven invoice processing for construction financial management," *IEEE Access*, vol. 10, pp. 45678–45690, 2022. doi: 10.1109/ACCESS.2022.3170000
- [20] Trimble, "How AI Is Transforming Financial Management in Construction," *Trimble Blog*, 2025. [Online]. Available: <https://www.trimble.com/blog/trimble/en-US/article/ai-transforming-construction-financial-management>
- [21] S. Christodoulou, "Construction project scheduling with time, cost, and material restrictions using fuzzy mathematical models and intelligent algorithms," *Journal of Computing in Civil Engineering*, vol. 24, no. 5, pp. 431–440, 2010. doi: 10.1061/(ASCE)CP.1943-5487.0000054
- [22] ALICE Technologies, "Streamlining Your Construction Scheduling Process With AI Software," *ALICE Blog*, 2025. [Online]. Available: <https://blog.alicetechnologies.com/streamlining-your-construction-scheduling-process-with-ai>
- [23] M. Bilal et al., "Big data in the construction industry: A review of present status, opportunities, and future trends," *Advanced Engineering Informatics*, vol. 30, no. 3, pp. 500–521, 2016. doi: 10.1016/j.aei.2016.07.001
- [24] S. Hwang and D. Liu, "Weather-driven construction scheduling optimization using machine learning," *Automation in Construction*, vol. 130, 2021. doi: 10.1016/j.autcon.2021.103880
- [25] A. Akhavan and A. H. Behzadan, "Construction equipment activity recognition for simulation input modeling using mobile sensors and machine learning classifiers," *Advanced Engineering Informatics*, vol. 29, no. 4, pp. 867–877, 2015.
- [26] Turner Construction Company, "Digital Innovation in Construction Scheduling," in *Proc. Construction Industry Institute Annual Conference*, 2024.
- [27] Y. Pan and L. Zhang, "Roles of artificial intelligence in construction engineering and management: A critical review and future trends," *Automation in Construction*, vol. 122, 2021. doi: 10.1016/j.autcon.2020.103517
- [28] S. M. Hossain, S. U. Ahmed, and M. F. Hossain, "Enhancing RFI management in construction through machine learning-driven predictive models," *Smart and Sustainable Built Environment*, 2025. doi: 10.1108/SASBE-05-2025-0254
- [29] J. Chen, L. Hou, and G. Zhang, "Automated document processing in construction using NLP: A systematic review," *Automation in Construction*, vol. 139, 2022. doi: 10.1016/j.autcon.2022.104291

- [30] R. F. Herrera et al., "Machine learning methods for project scheduling optimization in construction," *Journal of Construction Engineering and Management*, vol. 147, no. 12, 2021.
- [31] M. Martinez-Rojas, F. Marin-Jimenez, and R. E. Lillo, "Multilingual NLP for construction field reporting: Bridging communication gaps," *IEEE Transactions on Engineering Management*, vol. 69, no. 4, 2022.
- [32] CSIS, "GenAI's Human Infrastructure Challenge—Can the United States Meet Skilled Trade Labor Demand Through 2030?," *Center for Strategic and International Studies*, 2025. [Online]. Available: <https://www.csis.org/analysis/genais-human-infrastructure-challenge-can-united-states-meet-skilled-trade-labor-demand>
- [33] H. Kim, S. Kim, and Y. Lee, "AI-driven recruitment optimization in the construction industry: A data-driven approach," *Journal of Management in Engineering*, vol. 38, no. 3, 2022. doi: 10.1061/(ASCE)ME.1943-5479.0001045
- [34] W. Fang et al., "Computer vision for behavior-based safety in construction: A review and future directions," *Advanced Engineering Informatics*, vol. 43, 2020. doi: 10.1016/j.aei.2019.100980
- [35] Forbes Tech Council, "Solving Construction's Labor Shortages With AI," *Forbes*, 2025. [Online]. Available: <https://www.forbes.com/councils/forbestechcouncil/2025/06/09/solving-constructions-labor-shortages-with-ai/>
- [36] H. Luo, L. Xiong, and M. Fischer, "AI copilot systems for construction project management: Framework and implementation," *Journal of Computing in Civil Engineering*, vol. 37, no. 2, 2023.
- [37] S. Guo et al., "The review of AI-powered safety management in construction: A decade of research," *Safety Science*, vol. 152, 2022. doi: 10.1016/j.ssci.2022.105763
- [38] AECbytes, "Computer Vision for Construction Safety Monitoring and Quality Assurance," *AECbytes Feature*, 2025. [Online]. Available: <https://www.aecbytes.com/feature/2025/ComputerVision-Construction.html>
- [39] X. Li and C. R. Ahn, "Predictive safety analytics for construction sites using deep learning," *Automation in Construction*, vol. 118, 2020. doi: 10.1016/j.autcon.2020.103264
- [40] Z. Riaz et al., "CoSMoS: A BIM and wireless sensor-based integrated solution for worker safety in confined spaces," *Automation in Construction*, vol. 45, pp. 96–106, 2014.
- [41] J. Teizer et al., "Internet of Things (IoT) for integrating environmental and localization data in Building Information Modeling (BIM)," *Automation in Construction*, vol. 91, 2018.
- [42] Softeq, "Computer Vision in Construction: Use Cases and Real-Life Examples," *Softeq Blog*, 2025. [Online]. Available: <https://www.softeq.com/blog/computer-vision-in-construction-use-cases-and-real-life-examples>
- [43] M. Nik-Bakht and T. El-Diraby, "AI-powered contractor performance evaluation: A machine learning framework," *Journal of Construction Engineering and Management*, vol. 147, no. 6, 2021.
- [44] R. K. Bhamra and M. R. Sherazi, "Predictive analytics for supply chain risk management in construction," *Supply Chain Management*, vol. 27, no. 3, pp. 389–405, 2022.
- [45] W. Lu et al., "Cybersecurity challenges in smart construction: Taxonomy, attack surfaces, and risk mitigation," *Automation in Construction*, vol. 143, 2022. doi: 10.1016/j.autcon.2022.104543
- [46] S. Samtani et al., "AI-enabled cyber threat intelligence: State of the art and future directions," *ACM Computing Surveys*, vol. 55, no. 5, 2023.
- [47] VinciWorks, "First-ever AI-powered ransomware discovered," *VinciWorks Blog*, 2025. [Online]. Available: <https://vinciworks.com/blog/first-ever-ai-powered-ransomware-discovered-what-does-it-mean-for-compliance-and-cybersecurity/>
- [48] MIT Sloan, "80% of ransomware attacks now use artificial intelligence," *MIT Sloan Management Review*, 2025. [Online]. Available: <https://mitsloan.mit.edu/ideas-made-to-matter/80-ransomware-attacks-now-use-artificial-intelligence>
- [49] IBM, "AI cybersecurity solutions detect ransomware in under 60 seconds," *IBM Think*, 2025. [Online]. Available: <https://www.ibm.com/think/insights/ai-cybersecurity-threat-detection-ransomware>
- [50] Microsoft Security, "What Is AI for Cybersecurity?," *Microsoft*, 2025. [Online]. Available: <https://www.microsoft.com/en-us/security/business/security-101/what-is-ai-for-cybersecurity>
- [51] Microsoft Security, "AI-powered threat detection and response," *Microsoft Security*, 2025. [Online]. Available: <https://www.microsoft.com/en-us/security/business/security-101/what-is-ai-for-cybersecurity>
- [52] NIST, "Cybersecurity Framework Version 2.0," *National Institute of Standards and Technology*, 2024.
- [53] S. A. A. Latif et al., "Generative AI for Sustainable Architectural Design Optimization," *ResearchGate*, 2025. doi: 10.13140/RG.2.2.35157.48168
- [54] Forbes Tech Council, "AI Is Designing The Future Of Sustainable Construction," *Forbes*, 2025. [Online]. Available: <https://www.forbes.com/councils/forbestechcouncil/2025/09/24/ai-is-designing-the-future-of-sustainable-construction/>
- [55] S. Hyun, H. Marzouk, and A. Hammad, "AI-driven green building certification: Automating LEED documentation," *Sustainability*, vol. 14, no. 8, 2022. doi: 10.3390/su14084567
- [56] J. Caetano, A. Santos, and A. Leitao, "Computational design in architecture: Defining parametric, generative, and algorithmic design," *Frontiers of Architectural Research*, vol. 9, no. 2, pp. 287–300, 2020. doi: 10.1016/j.foar.2019.12.008
- [57] ICC, "AI Navigator Feature," *ICC Digital Codes*, 2025. [Online]. Available: <https://codes.iccsafe.org/ai-navigator>
- [58] International Code Council, "AI Navigator for Building Code Compliance," *ICC*, 2025. [Online]. Available: <https://codes.iccsafe.org/ai-navigator>

- [59] One Click LCA, "LEED v4, v4.1, and v3 Certifications," *One Click LCA*, 2025. [Online]. Available: <https://oneclicklca.com/en-us/certifications/leed-v4>
- [60] M. Turrin, P. von Buelow, and R. Stouffs, "Design explorations of performance driven geometry in architectural design using parametric modeling and genetic algorithms," *Advanced Engineering Informatics*, vol. 25, no. 4, pp. 656–675, 2011.
- [61] Autodesk, "Generative design for architecture, engineering & construction," *Autodesk Solutions*, 2025. [Online]. Available: <https://www.autodesk.com/solutions/generative-design/architecture-engineering-construction>



Emotional Intelligence Training for Workforce Adaptability in AI – Integrated Organizations

Article Record

Dr. Riya Brajkishor Jha^{§*}

*Corresponding Author



Hannah Kurian Malayil[§]

Srushti Abhay Nikte[§]

Rishika Binani[§]

§ Dr. Shanti Lal K Somaiya School of Commerce and Business Studies, Mumbai, India

RECEIVED

2026-03-27

ACCEPTED

2026-04-11

ONLINE PUBLISHED

2026-06-08

PUBLISHED

2026-06-18

PEER REVIEW

Double Blind

Abstract

The way work is conducted is changing with machines, and as such, the skills of staff must keep up with the pace of change in order for the organization to remain competitive in the market. Although technology is advancing with innovative solutions, the complex relationship between human behavior and social changes brought about by intelligent machines is still a problem waiting to be solved. In this regard, this study aims to explore the concept of skillbased emotional intelligence training as a means of building organizational adaptability in the presence of intelligent machines and artificial intelligence systems. In this regard, the study explores emotional intelligence in its different parts and how they can help in building organizational adaptability in the presence of intelligent machines and artificial intelligence systems. The study is based on a thorough review of literature published in peer-reviewed journals between 2018 and 2025, focusing on different themes associated with changing labor frameworks and how they can affect different organizations in the presence of intelligent machines and artificial intelligence systems. Unlike previous studies, this study aims to explore the connections between different parts of Employment Insurance and changing job flexibility approaches, as well as how humans and intelligent machines can cooperate in different settings. Based on the findings of the study, it is evident that emotion-based skill development is essential in building organizational confidence and reducing unease in the presence of intelligent machines and artificial intelligence systems, as well as promoting organizational learning and decision-making in the presence of intelligent machines and artificial intelligence systems when compared to personalitybased approaches. Another significant aspect of the study is the fact that organizations can only grow when emotional intelligence is building up with digital resources such as machine intelligence, where innovation is the main focus and humans are still the core of the system. The changing business environment of today, marked by unpredictability, volatility, instability, challenges, and financial insecurity, makes the inclusion of emotional intelligence training in human resource management strategies a necessity, as suggested by recent studies. It is not the relegation of soft skills as less important that is changing but the realization that the combination of emotional intelligence and professional knowledge is the key to building stable organizations and directing innovation through...

Full abstract continues on the metadata continuation sheet.

Ability-Based Emotional Intelligence

Workforce Adaptability

AI Integration

Human-AI Collaboration

Organizational Resilience

Digital Transformation

HR Development

AI USE STATEMENT

No generative AI was used for analysis or results.

FUNDING

No external funding was declared for this work.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY

Not applicable for this article.

ETHICS

No ethics committee approval was required for this article type.

CONSENT

Not applicable for this article.

TRIAL REG.

Not applicable.

Crossref DOI: 10.34257/GJMBRA255267

How to Cite: Jha et al. (2026). Emotional Intelligence Training for Workforce Adaptability in AI – Integrated Organizations. Global Journal of Management and Business Research, 26(2), 28-34. DOI: 10.34257/GJMBRA255267

LICENSE

© 2026 Global Journals. Open-access article under CC BY-NC-ND 4.0 International License.

AUTHOR CONTACT QR LEDGER

Dr. Riya Brajkishor Jha§*



FULL ABSTRACT

The way work is conducted is changing with machines, and as such, the skills of staff must keep up with the pace of change in order for the organization to remain competitive in the market. Although technology is advancing with innovative solutions, the complex relationship between human behavior and social changes brought about by intelligent machines is still a problem waiting to be solved. In this regard, this study aims to explore the concept of skillbased emotional intelligence training as a means of building organizational adaptability in the presence of intelligent machines and artificial intelligence systems. In this regard, the study explores emotional intelligence in its different parts and how they can help in building organizational adaptability in the presence of intelligent machines and artificial intelligence systems. The study is based on a thorough review of literature published in peer-reviewed journals between 2018 and 2025, focusing on different themes associated with changing labor frameworks and how they can affect different organizations in the presence of intelligent machines and artificial intelligence systems. Unlike previous studies, this study aims to explore the connections between different parts of Employment Insurance and changing job flexibility approaches, as well as how humans and intelligent machines can cooperate in different settings. Based on the findings of the study, it is evident that emotion-based skill development is essential in building organizational confidence and reducing unease in the presence of intelligent machines and artificial intelligence systems, as well as promoting organizational learning and decision-making in the presence of intelligent machines and artificial intelligence systems when compared to personalitybased approaches. Another significant aspect of the study is the fact that organizations can only grow when emotional intelligence is building up with digital resources such as machine intelligence, where innovation is the main focus and humans are still the core of the system. The changing business environment of today, marked by unpredictability, volatility, instability, challenges, and financial insecurity, makes the inclusion of emotional intelligence training in human resource management strategies a necessity, as suggested by recent studies. It is not the relegation of soft skills as less important that is changing but the realization that the combination of emotional intelligence and professional knowledge is the key to building stable organizations and directing innovation through human understanding. Stability is not just about the system but about the individual's interpretation of it.

ARCHIVAL RECORD

Emotional Intelligence Training for Workforce Adaptability in AI – Integrated Organizations

Dr. Riya Brajkishor Jha^{§*}, Hannah Kurian Malayil[§], Srushti Abhay Nikte[§], and Rishika Binani[§]

Affiliations

§ Dr. Shanti Lal K Somaiya School of Commerce and Business Studies, Mumbai, India

Abstract

The way work is conducted is changing with machines, and as such, the skills of staff must keep up with the pace of change in order for the organization to remain competitive in the market. Although technology is advancing with innovative solutions, the complex relationship between human behavior and social changes brought about by intelligent machines is still a problem waiting to be solved. In this regard, this study aims to explore the concept of skillbased emotional intelligence training as a means of building organizational adaptability in the presence of intelligent machines and artificial intelligence systems. In this regard, the study explores emotional intelligence in its different parts and how they can help in building organizational adaptability in the presence of intelligent machines and artificial intelligence systems. The study is based on a thorough review of literature published in peer-reviewed journals between 2018 and 2025, focusing on different themes associated with changing labor frameworks and how they can affect different organizations in the presence of intelligent machines and artificial intelligence systems. Unlike previous studies, this study aims to explore the connections between different parts of Employment Insurance and changing job flexibility approaches, as well as how humans and intelligent machines can cooperate in different settings. Based on the findings of the study, it is evident that emotion-based skill development is essential in building organizational confidence and reducing unease in the presence of intelligent machines and artificial intelligence systems, as well as promoting organizational learning and decision-making in the presence of intelligent machines and artificial intelligence systems when compared to personalitybased approaches. Another significant aspect of the study is the fact that organizations can only grow when emotional intelligence is building up with digital resources such as machine intelligence, where innovation is the main focus and humans are still the core of the system. The changing business environment of today, marked by unpredictability, volatility, instability, challenges, and financial insecurity, makes the inclusion of emotional intelligence training in human resource management strategies a necessity, as suggested by recent studies. It is not the relegation of soft skills as less important that is changing but the realization that the combination of emotional intelligence and professional knowledge is the key to building stable organizations and directing innovation through human understanding. Stability is not just about the system but about the individual's interpretation of it.

Keywords: *Ability-Based Emotional Intelligence, Workforce Adaptability, AI Integration, Human-AI Collaboration, Organizational Resilience, Digital Transformation, HR Development*

* Corresponding Author
Dr. Riya Brajkishor Jha

DOI
10.34257/GJMBRA255267

1. INTRODUCTION

The nature of work is constantly in a state of change because modern organizations are becoming increasingly dependent on intelligent machines, online tools, learning computers, and data-driven decision-making. The way in which work is performed is also constantly in a state of change, along with teamwork and management, in response to the new circumstances. Productivity is enhanced by the deployment of robots in the workforce, and the key factors are also beginning to change in response to the new circumstances. Success is no longer dependent on speed, but on qualities such as insight, empathy, and judgment, in which computers are found to be lacking.

In a constantly changing work environment, the role of human resource management in workforce resilience and organizational sustainability goes beyond the execution of day-to-day activities. In a world where the demands of a digital space require focus,

collaboration, and self-awareness, employee readiness becomes a function of HR leadership. Recognizing this, organizations acknowledge a changing world where a sustainable competitive advantage no longer depends on technology but on personal abilities that drive organizational behaviours through change. This includes a focus beyond technology, where behavioural understanding drives organizational progress.

A single critical skill emerges as a function of critical professional skills: emotional intelligence. This is the ability to recognize emotions, understand the importance of those emotions, regulate those emotions, and understand the emotions of others. While the theoretical foundation of emotional intelligence was introduced by Mayer and Salovey in the late 1990s, Goleman extended this theory in an organizational context in 1998, highlighting its impact on leadership and organizational outcomes. Studies of workplace behaviors have consistently demonstrated a link between those

with a high level of emotional intelligence, where effective communication, conflict resolution, and stress management are evident.

In addition, from a human resource management point of view, emotional intelligence is noteworthy for its growth prospects in comparison with innate characteristics like personality traits. When employees are encouraged to develop their emotional intelligence, they are more likely to develop a more accurate understanding of their own emotions and those of others, which in turn will improve collaborative efforts in the workplace. In an increasingly uncertain business world, these personal competencies will prove to be essential enablers of employee engagement and interunit cooperation.

Meanwhile, developments in artificial intelligence are changing the nature of jobs and the skills needed for workers to perform their functions adequately. According to reports from the McKinsey Global Institute (2025) and the World Economic Forum (2025), jobs are changing with the rise of automation, with more emphasis on problem-solving, the creation of new solutions, emotional intelligence, and personal connections. These developments are a testament to the complementary strengths of human beings with technology.

Thus, when artificial intelligence enters the scene and becomes part of the corporate landscape, the human element has to conform accordingly; new systems are created, processes are implemented, and technology and human elements are integrated. Here, flexibility becomes the primary requirement for the organization to stay relevant in the face of constant changes in the market. A person who has an in-depth understanding of emotions tends to cope better in the face of digital changes and technological integration and maintain connections in the face of constant changes in the structure revolving around them.

It has now been well accepted and understood that both emotional intelligence and artificial intelligence are playing vital roles in modern-day organizations. However, the research done on the two has been done in silos. While there has been considerable research done on the direct relationship between emotional intelligence and performance outcomes in the workplace, very little research has been done on the relationship between the two in the context of adaptation when artificial intelligence becomes part of the daily operations. This is a field where the development of emotion-based skills can be correlated with the ever-changing technological needs in the industry. This would be relevant in keeping the workforce ready in the face of constant digital changes.

Within the context of the contemporary demands placed upon the workplace, this study investigates the ways in which training based on emotional skills can improve the adaptability of the workforce in organizations that utilize artificial intelligence systems. In this respect, rather than focusing on the ways in which the workforce can be enhanced through technological means, the analysis draws on the body of scholarly work related to human capacity, organizational development, and digital evolution, with respect to the ways in which the workforce can be developed through emotional skills.

The paper begins with an overview of the previous research related to emotional awareness and the effectiveness of the workforce. The analysis then shifts to the ways in which the capacity of the workforce changes as a result of the implementation of new intelligent systems. A new perspective is gained when the focus is on the ways in which the workforce can be developed with respect to interpersonal skills in the context of the high-tech workplace.

2. REVIEW OF LITERATURE

1. The Effect of Emotional Intelligence on Employee Performance: Utoyo, I., & Sujoko, E. (2025) analyzed that emotional intelligence has a significant effect in improving employee performance in any organization. The research revealed that the employee's performance was significantly affected by the level of emotional intelligence. It was found in the research analysis that the employee's performance was significantly enhanced through the level of emotional intelligence. The research analysis concluded that emotional intelligence has a significant effect on employee performance in the workplace.
2. Emotional Intelligence for Enhancing Employee Performance: The Role of Moderation with Communication Skills: Natasya, Fatkhah, Qodriah, & Risdiyanto (2025) analyzed that emotional intelligence has a significant effect on employee performance in the service industry. The research analysis revealed in the study that there was a strong direct effect of emotional intelligence on employee performance. It was found in the research analysis that the employee's performance was significantly enhanced through the level of emotional intelligence.
3. The Effect of Emotional Intelligence on Employee Performance Through Work Ability as a Mediating Variable: Rasyid, Mansur, Ibrahim, Zakaria, Aronggear, and Irawan (2025) found through a structural equation model analysis that emotional intelligence can directly and indirectly affect employee performance through work ability. The analysis showed that emotional intelligence can build resilience, task competence, and problem-solving skills in employees, which can enhance overall workforce ability and consequently improve overall workforce performance.
4. Relationship Among Emotional Intelligence, Deviant Workplace Behavior, and Job Performance: Rahman, Ferdausy, and Karan conducted a study on the relationship between these variables. The study found a negative relationship between emotional intelligence and deviant workplace behavior, while a positive relationship was established between emotional intelligence and job performance. The study concluded that emotionally intelligent employees can perform better in terms of impulse control and ethical behavior in the workplace.
5. Conflict Resolution Through Training on Emotional Intelligence and Empathy in a Work Environment: An Empirical Study: Umashankar, S., & Charitra, K. (2014) performed an empirical research design. The results showed a positive impact on conflict resolution for employees who went through EI training programs. The results offer compelling evidence that emotional intelligence is not only a trait but can be developed through training programs.
6. Behavioral Dynamics in the Work Environment: Leveraging Emotional and Spiritual Intelligence for Enhanced Work Outcome: Salleh, Rozali, Khairi, Ahmed, & Samsudin (2025) examine the role of emotional intelligence in enhancing workplace dynamics for more positive outcomes for employees in a work environment. The results showed a positive correlation between emotional intelligence and a more positive work environment.

7. Digital Transformation of Human Resource Policies: Integrating AI and Data Analytics in Strategic Workforce Management: Bondarenko, S., & Mylyanyk, R. (2025) investigate the role of artificial intelligence and data analytics in the transformation of human resource policies. According to the study, AI technology in HR systems helps improve the recruitment process, performance evaluation, and decision-making process, shifting the function of HR from a supporting role to a more strategic role.
8. An Evidence-Based Review of HR Analytics: Marler, J. H., & Boudreau, J. W. (2017) review the importance of HR analytics in evidence-based talent management. Data-driven HR practices are essential in enhancing the strategic process in organizations, requiring workers to develop advanced skills to effectively perform in a technology-integrated environment.
9. Job Redesign, Automation, and Digital Workforce Competencies in the Twenty-First Century: Darmawan, D. (2025) conducted a study on the impact of artificial intelligence and automation on job redesign and competencies. According to the study, automation replaces routine jobs while increasing the importance of analytical skills, digital competencies, and socio-emotional competencies. This study emphasizes the importance of human resource management in designing hybrid competencies to ensure the adaptability of the workforce.
10. Artificial Intelligence and the Future of Work: McKinsey Global Institute (2017; 2025); World Economic Forum (2025) conducted a study on the impact of artificial intelligence on the global workforce. According to the study, there will be a significant transformation of tasks across industries. This study emphasizes the importance of the adaptability of the workforce and human competencies as key factors for organizational sustainability in the long term.

3. RESEARCH OBJECTIVE

In today's world, where digital technology is the standard, businesses incorporate artificial intelligence into daily activities and long-term planning strategies. This accelerates performance, but it also impacts what people want from their jobs and what is needed in terms of skills and abilities. It is important to note that the ability to read and manage emotions, as well as react with care, is enhanced with the introduction of machines and technology. This is what helps with teamwork, adapting to change, and staying resilient under pressure in today's workplaces.

In light of this, this study challenges one to consider ability-based emotional intelligence in the workplace, with a focus on artificial intelligence. Another approach is to consider how this type of intelligence can help move the workforce forward. Instead of focusing on obtaining more data, the focus is on reviewing what is already known in the field of research. One way of doing this is through research itself, where the connection between training and human adaptation is evident. Rather than focusing on technology and its introduction, the focus is on how it impacts individual performance. At the same time, it reveals how it impacts organizational advancement in the long term. Adaptation, performance, and continuation are all connected and under review.

To focus on particular objectives, these steps are provided by the study. First, it identifies well-defined objectives. Then it designs an analysis that is driven by well-defined objectives. Third, each of these objectives influences the methodology of data collection.

Lastly, all of these objectives influence the overall direction of the study.

However, if examined deeper, it is possible to see how emotion-related skills provide a foundation for some kinds of intelligence. For instance, there is an examination of some ideas associated with self-awareness and self-regulation. Through these frameworks, it is possible to see how some of the decisions in the workplace are influenced by psychological ability. What is provided is another perspective on how talent assessment is executed in contemporary organizations. Foundations that are associated with feelings and reactions are provided room to exist.

Regarding how emotional intelligence is associated with employee performance, it is possible to see how it begins with how individuals manage their interactions. When social abilities are well developed, it is possible to see how some disagreements are resolved easily. When it comes to professional behavior, it is possible to see how it is influenced by self-awareness. There is then a focus on daily behaviors as emotions are made clear. Performance is then associated with some ability to respond as opposed to reacting. There is then some clarity in terms of how others are viewed as it influences some of the results.

"By examining how emotional intelligence training drives personal growth—learning to ride the waves of our own emotions, staying steady when challenges come our way, and working together more smoothly and naturally as we go—these training programs create greater awareness, more finely tuned reactions, and steadily improve how we connect with one another through structured learning and growth opportunities. When people show up and commit to the process, their reactions slow down and become more thoughtful and deliberate, teamwork becomes more natural and effortless without having to force it, and results occur steadily and naturally as they go, all in a supportive and conducive environment.

But we are also examining how artificial intelligence and this shift towards digital systems are changing the way jobs are structured and what skills people need—flexibility and people skills, for example.

If emotional intelligence is the way in which we approach changing circumstances with the added factor of artificial intelligence in the mix, perhaps workers will adapt more smoothly and naturally to changing circumstances and technology. If technology is changing the way things are done, perhaps emotional intelligence can keep things steady and flowing smoothly. If technology is changing and evolving as it goes, perhaps emotional intelligence can factor into how we approach and take on new challenges as they emerge. If technology is evolving and changing in its ability to automate and perform tasks, perhaps emotional intelligence can support and underpin the efforts of workers as they transition and grow in these changing circumstances. If technology is changing and evolving in its ability to perform and process data, perhaps emotional intelligence can keep things cohesive and connected as we go."

One way to begin is to explore how emotional awareness contributes to long-term workforce development. By looking inward at inner skills, we discover micro-benefits in terms of leading groups through change. When training efforts are built with emotional awareness in mind, we find that these efforts are greatly enriched. Rather than looking at emotions as separate from training, integrating these emotions into how things are done actually changes results in subtle ways. Another route forward is to explore how human emotions are used to improve decision-making in all departments of an organization. Over

time, these efforts contribute to how organizations improve their fundamental ways of doing things.

With these objectives in mind, this discussion contributes to ongoing conversations about how emotional awareness, human ability, and machine learning relate to each other in today's workplaces. While it is certainly influenced by contemporary trends, it remains focused on linking three very complicated topics without overstating results or promising transformation beyond its means.

4. RESEARCH METHODOLOGY

4.1. Research Design

The current piece of writing is built upon existing literature, with insight gained from existing literature on emotional intelligence, flexibility in the workplace, and artificial intelligence in businesses. Since the goal of this piece of writing is to comprehend and synthesize existing literature, it was not necessary to seek new opinions or perspectives. Instead, existing literature, past studies, and conceptual frameworks provide the base for this piece of writing. Through these resources, it is made clear how emotional intelligence instruction aids in employee adaptability in environments with intelligent systems. Quantitative research provided the foundation for this piece of writing. By exploring ideas from different perspectives, it is made clear how different concepts and theories relate to each other when examined in published literature. By paying close attention to details, analysis is made from different materials, with common elements connected to each other over time. By exploring different perspectives, it is made clear how to comprehend something, not by measuring it, but by exploring how emotions impact the workplace today.

4.2. Sources of Data

All the data required for the study comes from credible sources such as academic and professional journals. It is evident from the sources provided in the readings that insights into the relationship between emotional intelligence and performance at work are well understood. The relationship between technology and flexibility in the workforce is evident in the selected readings. One common theme in all the sources is the need for human factors in the evolution of systems.

Among the sources frequently used are the university library database, government open-source archives, peer-reviewed journal websites, academic social networks, and institutional repositories. These include Google Scholar, Semantic Scholar, Research Scholar, and various academic journal publications, alongside global academic publication sources and findings from institutional analysis. These sources were selected because they are scholarly works approved by experts in the field, as commonly found in works pertaining to leadership and the workforce. Although developed for academia, they are also useful in exploring real-world applications.

4.3. Data Collection Procedure

Starting with academic papers, the selection of literature was centered on publications closely associated with the study's main themes. To obtain these publications, keywords such as emotional intelligence, "emotional intelligence training," employee performance, workforce adaptability, "artificial intelligence in HR," and digital workforce transformation" were used to filter results. Even though precision was key, relevance was also integral to every selection made. From these databases, patterns emerged that were

in line with the intended purpose of the inquiry. Each keyword was used as a filter to narrow down results progressively until only relevant publications remained.

Publications found initially were then vetted for their association with the study's objectives. When publications were found to be centered around emotional intelligence and its impact on job performance, further scrutiny was applied. When publications were found to be centered around skillbuilding literature pertaining to emotion regulation, consideration for inclusion increased. When publications were found to be centered around data-driven results or structured theories pertaining to these topics, further consideration was applied. Even publications pertaining to machine learning and staff growth were considered for inclusion.

4.4. Data Analysis Method

As various study results are compared and synthesized, an understanding emerges regarding the function of emotional intelligence as a tool for advancement within the modern workplace. A pattern begins to emerge based on what has been demonstrated most frequently, such as the role of emotional intelligence in employee performance, the effectiveness of emotional intelligence in training programs, the role of artificial intelligence in workforce structures, and the importance of adaptability in AI-integrated organizations. While these appear to be individual pieces of information, alignment occurs as they are synthesized into a single understanding of the relationship between individual potential and organizational performance in changing environments.

4.5. Scope of the Study

The focus of this research is the relationship between emotional intelligence and workforce flexibility in the presence of artificial intelligence in the workplace. Primarily relying on scholarly sources, the focus shifts to the model of emotional intelligence, the results in terms of workforce effectiveness, the programs in place for building emotional intelligence, and the changes brought in by technology in the workplace.

While this research provides valuable theoretical perspectives, actual data collected from the companies and employees is not part of this research. Instead, the analysis is based on established scholarly sources in order to gain more insight into the topic under investigation.

5. DISCUSSION AND ANALYSIS

The purpose of this study is to determine the value of skilloriented emotional intelligence as it relates to flexibility in the workplace, especially when there is increased artificial intelligence. From the literature that has been reviewed, it is quite obvious that there is a correlation between emotional intelligence and significant work-related issues such as how well individuals perform, the effectiveness of training, and the flexibility that can be achieved when there is change in technology.

5.1. How Emotions at Work Shape Results

One thing that has been consistently found is that emotional intelligence is directly related to how an individual performs at work. As Utoyo and Sujoko (2025) and Natasya et al. (2025) found, individuals with higher emotional intelligence tend to communicate more effectively and be less emotional when they are under pressure. This means that they can handle the demands and pressures of the daily work environment with greater efficiency, which also means that the quality of the work produced is superior and that the individual is more satisfied with the job they do.

However, as Rasyid et al. (2025) found, the capacity to work is the link between emotional intelligence and the results achieved at the workplace. This means that individuals with emotional intelligence can perform the tasks they do with greater vigor when they are under pressure. This means that emotional awareness is not just about how individuals behave; it is also about how it can be used as a strength to improve the way the workplace functions.

However, as Rahman, Ferdausy, and Karan found, individuals with higher emotional intelligence tend to misbehave less in the workplace. This means that when they have greater emotional awareness, they can control their behavior and impulses and do not engage in behavior that disrupts the way the workplace functions. This means that emotional intelligence is not only about how the individual functions; it is also about how it can be used as a means to improve the way the workplace functions as a whole.

A new trend in the study of emotional intelligence reveals that emotional intelligence develops over time. In the past, people believed that emotional intelligence was something a person was born with, but new findings show that this intelligence develops with proper, structured learning. This belief has come slowly, as more and more people study the situation in different contexts. In 2014, Umashankar and Charitra showed that a program focused on emotional intelligence helps people better deal with conflict in the workplace. This was demonstrated as people learned better ways of communicating with each other and as relationships improved over time. This was a gradual process, showing the growth of emotional intelligence as people learned.

This process shows the ability of people to learn emotional intelligence, as demonstrated by the progress people make as they learn. This process shows a pattern of growth, as demonstrated in earlier theories of emotional intelligence. One of the important aspects of this process is the ability of companies to improve the workplace as they develop emotional intelligence. As a company works to improve the emotional intelligence of its workers, the interactions between people in the workplace improve dramatically. This improvement shows up in the ability of people to work together, not only within a group but throughout the company as a whole. Leadership becomes more stable, as people are more focused. A new attitude develops, as a different, more peaceful, more focused environment becomes the norm. This does not happen overnight, but as people work to improve, a new pattern becomes evident. One of the new patterns might be a more stable mood in the workplace, something hard to quantify but easy to perceive.

5.2. How Artificial Intelligence Shifts Job Roles Over Time

A wider deployment of AI tools is influencing how work is being organized in today's organizations. Research conducted by Bondarenko and Mylyanyk (2025) indicated that in today's organizations, workforce planning is informed through the use of algorithms and not through conventional methods. In addition, the process of recruitment is changing as it is now informed through the analysis of patterns as identified through machine analysis. Also, performance evaluation is changing as it is now shifting towards monitoring as data analysis is able to track performance over time. Furthermore, workforce planning is changing as predictions are now based on trends as identified through machine analysis. These are gradual changes, and as such, their effects are cumulative in nature. Efficiency tools are now influencing functions outside the technology department. Management approaches are changing as realtime metrics are

now more accessible. Conventional approaches are now giving way to the use of technology as it is supported through digital feedback mechanisms.

The effects of automation in employment are often misconceived as it is believed to eliminate jobs; however, it is actually changing the way in which tasks are allocated in today's organizations. This is supported through findings by institutions such as McKinsey Global Institute (2025) and the World Economic Forum (2025). Through task reallocation, it is evident that machines and humans are collaborating, as machines take up operations while humans rely on insight, empathy, imagination, and communication skills. The contribution of humans is changing as it is now based on what machines are incapable of performing and where they are valued for their ability to perform certain tasks. Task reallocation is a gradual process based on the gap between what machines and humans can perform. As a result, companies now look more toward workers with skill sets blending technical expertise with interpersonal strengths—qualities machines struggle to mimic. Still, it is these less automatable traits that continue gaining relevance in workforce demands. Rarely does technology match the nuance found in human judgment or collaboration. Thus, roles demanding emotional insight remain distinct from algorithmic functions. Over time, such abilities matter just as much as coding or data analysis proficiency.

5.3. Emotional Intelligence Helps Workers Adjust

Evidence implies that emotional intelligence may be vital for workers in adapting to changes in the workplace. When AI technology is increasingly used in different industries, human interaction with these machines is constantly changing, requiring personal adaptation. The organization of work is constantly evolving with these developments. However, it is not just about making changes but also about having personal and social awareness of them. When emotions are involved in decision-making, flexibility results. Understanding emotions helps workers adapt without a clear plan of action; stress is managed internally. Cooperation remains constant despite changes in work organization. These are vital aspects where machines learn from humans. When emotions are well understood, it is easy to respond to technology-driven uncertainty in a measured tone. Self-awareness helps handle pressure situations without retreating, and enhanced cooperation makes it easier to adapt. Emotional intelligence leads to flexibility in roles and reduced impulsiveness. Since constant change is expected, workers who understand emotions can remain constant. Emotional growth ensures workers are ready for these situations, and constant enhancement of these abilities leads to organizational stability.

5.4. How HR Decisions Shape Organizational Direction

Emotional intelligence training in HR planning represents a paradigm shift, as it acknowledges that in a world of digital change, human skills are no longer just nice to have but are now critical to success. When machines are in charge, human insight, flexibility, and cooperation are the key competencies. No longer is success measured by how well we have implemented systems but by how well we are aware of situations, respond thoughtfully, and cooperate with others—a function of effective learning and emotional intelligence training. Differently put, by making emotional intelligence training in HR planning a priority, institutions are able to harness the precision of machines with the flexibility of humans, particularly in a world where artificial intelligence takes center stage.

6. KEY FINDINGS OF THE STUDY

From the existing research, there is a pattern in the way the concept of emotional awareness affects contemporary HR practices, particularly when there is rapid change in technology. Interestingly, this is evident when the conventional nature of the workplace is disregarded. In instances where there is rapid change in technology, personal understanding is evident in personnel management. This is particularly evident in workplaces where there is a need for adaptation in technology. It is at such moments that emotion-related skills are evident in management outcomes. This is particularly evident during moments of technological innovations. Interestingly, this is evident in the majority of the research cases. What is particularly evident is not the frequency but the magnitude.

Starting with the findings of various research, it becomes clear that emotional intelligence has a substantial impact on the performance of workers in a professional environment. According to findings of various analyses, such as Utoyo and Sujoko (2025) along with Natasya along with others (2025), people who score high in emotional intelligence are better at communicating with others in a team, as they are able to keep their internal states stable during a critical situation, hence creating a more stable environment even during a clash of views.

Another point to bring up is this: emotional intelligence increases the effectiveness of human performance at work, as well as their ability to cope with pressure—which is vital in environments that frequently change. Rasyid et al.'s 2025 study found that emotional awareness enables workers to cope with pressure and adjust to challenging tasks, all from a mentally stable position. It therefore logically follows that emotional awareness contributes to performance beyond just actions, but also to skill sets in work environments.

It seems, based on the findings of various studies that have been published, that emotional intelligence can be beneficial in the prevention of harmful behavior in the workplace. This is because, based on the findings presented by Rahman, Ferdausy, and Karan, individuals with emotional intelligence skills tend to be able to regulate themselves, which means that disruptive behavior is not as common in the workplace. This has the end result that the behavior within the workplace is stable, which means that there is less conflict between individuals.

Starting afresh, there is some evidence that emotional intelligence can be increased through the provision of organized instruction. One such finding is that presented by Umashankar and Charitra in 2014, which found that when sessions were provided that focused on the awareness of emotions and the understanding of others, there was an improvement in the way that individuals handled disagreements with other workers, particularly in terms of the way that they perceived the social cues that were presented to them.

To start with, research indicates that artificial intelligence and digital change are recasting the skill set required by the labour force. Bondarenko and Mylyanyk (2025) assert that artificial intelligence technology is revolutionizing human resource activities such as recruiting, performance evaluation, and organizing the deployment of the workforce. At the same time, international research findings published by the McKinsey Global Institute (2025) and the World Economic Forum (2025) suggest that automation is refocusing labour needs in original thinking, complex judgment, and emotional awareness.

Turns out, however, that work habits are crucial in this regard, especially in a period where so many businesses are employing AI technology in their operations. Clearly, this is because, in a period where so many businesses are employing AI technology in their operations, employees are constantly being required to adjust to new software, new routines, and new ways of working with technology. What does this adjustment entail? It appears that employees' awareness of their emotions, as well as those around them, is crucial in this regard.

These findings suggest that emotional intelligence is a functional capability in workforce planning, not just a personal trait. Such environments, shaped by technology and automation, require human capabilities in this regard more clearly than ever before. Resilience is found in the interplay between awareness and response, particularly in response to pressure. What is being created is not so much a response, but a way forward, even in the face of disruption.

7. CONCLUSION

A Change Is afoot. As the technology of artificial intelligence progresses in tandem with that of digital technology, so too are the means by which work is conducted in any number of different fields and industries. As such, it is now the case that businesses are no longer merely interested in hiring individuals who have certain skill sets related to an industry or field in which they are involved, but also those individuals that have a certain level of insight in terms of how they relate to others as well. The key concept here, of course, is that of emotional intelligence as it relates to the functional aspect of a business environment in which artificial intelligence is a reality. As one can see, upon review of the information that has been discussed, emotional intelligence is an element that is quite pivotal in terms of an individual's ability to perform their job, their ability to work in conjunction with others in a business environment, and their ability to work through conflict in such an environment.

The research clearly shows that individuals who possess a higher level of emotional intelligence are able to effectively handle their own emotions in a more positive fashion, clearly express their ideas in a more positive fashion, and deal well with conflict in a positive fashion as well. While this is a positive trend for businesses overall, the research clearly shows that emotional intelligence can be honed through a more formalized educational approach as well. In this regard, businesses in which this type of educational approach is available can clearly see a more heightened sense of emotional intelligence within their workforce, a more heightened sense of awareness about others within their workforce as well, and a more heightened ability to deal with conflict in a quiet fashion as well—all of which can help a business grow in a positive fashion overall. In terms of HR, this is clearly a key element within a business's overall educational approach as well, because it's clear from the research that artificial intelligence is having a more pronounced impact on how businesses function overall.

In a technologically advanced setting, tuning in to our emotions allows people to navigate transitions more smoothly and still maintain their connections. The best part is that it will translate to better performance when digital transitions are involved. The research shows a definite connection between emotional awareness and readiness for work when it comes to technology-driven transitions. When digital transitions are involved, it seems like organizations will benefit more when soft skills increase with technology upgrades instead of focusing on technology itself.

Developing self-awareness often results in calmer and more collected people in challenging situations. Resilience is often present when people are able to connect with their emotions as part of their process. Preparing for complex settings sometimes requires more focus on how people connect with each other instead of technology itself. Organizations that are geared towards the future are often defined not only by what they know, but also how they connect with others and are present in the situation. Training that incorporates these types of elements could possibly create more stable outcomes in dynamic settings.

8. LIMITATIONS OF THE STUDY

Despite providing valuable insights on the relationship between emotional intelligence, workforce adaptability, and artificial intelligence in organizations, this study also has some limitations that need to be understood.

First of all, it should be understood that this study is based on secondary data collection, which means that all of the data for this study is collected from existing literature in the form of published papers, journals, and reports of organizations. Even though secondary data collection is very useful in providing theoretical knowledge, it lacks empirical data collection from employees and organizations themselves.

Secondly, the study is based on the conceptual and theoretical links that exist between emotional intelligence and workforce adaptability in AI-integrated environments. Although the studies reviewed have provided evidence for the links that exist between emotional intelligence and workforce adaptability in AI-integrated environments, the study does not measure the direct impact of emotional intelligence training programs in the workplace.

Lastly, the studies reviewed in the study are based on accessible literature from academic publications and organizational reports. Future studies may be conducted from different industries and cultures to provide additional insights into the influence of emotional intelligence on workforce adaptability.

By acknowledging the limitations of the study, there is an opportunity for future researchers to build on the study's findings through further empirical study.

9. Future Research Directions

The findings of the study indicate some areas that can be targeted in the future in the fields of human resource management and organizational behavior.

Future studies can be carried out by using empirical methods and gathering primary data to conduct research on the direct effects of emotional intelligence training on the adaptability of employees in the context of AI workplaces.

Future research can also be carried out by focusing on the industry level and exploring the effects of emotional intelligence on the adaptability of the workforce in different industries that are going through rapid technological changes, such as the technology industry, the financial industry, the healthcare industry, and the manufacturing industry.

Another aspect that can be targeted in the future is the role that HR plays in the development and implementation of emotional intelligence training programs in the context of the workforce and the organizational environment.

Future studies can also be carried out by exploring the link between emotional intelligence and other humanistic competencies, such as creativity, critical thinking, and collaboration, in the context of the AI workplace.

■ REFERENCES

- [1] Bondarenko, S., & Mylyanyk, R. (2025). Digital transformation of human resource policies: Integrating artificial intelligence and data analytics in strategic workforce management.
- [2] Marler, J. H., & Boudreau, J. W. (2017). An evidence-based review of HR analytics. *International Journal of Human Resource Management*.
- [3] Natasya, A., Fatkhah, R., Qodriah, S., & Risdiyanto, R. (2025). Emotional intelligence for enhancing employee performance: The role of moderation with communication skills.
- [4] Rahman, M., Ferdausy, S., & Karan, R. Relationship among emotional intelligence, deviant workplace behavior, and job performance.
- [5] Rasyid, M., Mansur, A., Ibrahim, M., Zakaria, Z., Aronggear, A., & Irawan, H. (2025). The effect of emotional intelligence on employee performance through work ability as a mediating variable.
- [6] Utoyo, I., & Sujoko, E. (2025). The effect of emotional intelligence on employee performance.
- [7] Umashankar, S., & Charitra, K. (2014). Conflict resolution through training on emotional intelligence and empathy in a workplace: An empirical study.

KEY SUBJECTS Ability-Based Emotional Intelligence • Computer Vision • Employee Engagement • Purchasing Procedure • State Capitalism • Generative Design • Motivational Strategies • Procurement Management

also: Ability EI, Mayer-Salovey Model

also: AP

also: AR

also: ANN

B

also: BIM

also: CAPEX

also: CDE

also: CPI

also: CSR

also: Pre-Construction Estimation

also: CPM

also: CMMC

E

G

L

also: LSVM

Multiple Linear Regression

4

25-26

also: NLP

Organization

Quarterly Competition Program.....1-2

also: Quarterly Employee Competition Program
 Quarterly Competition Program Impact on Employee Engagement 1

R

Rating Focused on Material Quality 16
 Recommendations for External Organizations 3
 Relationship Between Employee Engagement and Organization Productivity 1
 Remuneration in SOEs 10
 Research Design 15, 29, 31
 Research Focus 16
 Research Methodology 1, 15, 31
 Return on Assets 6
 also: ROA
 Return on Sales 5–6
 also: ROS
 Risk Management 3, 18–20, 22, 26
 also: Risk Mitigation

S

Sampling Technique 15
 Self-Reliance and CAPEX Growth 9
 SOE Boards 10
 Sources of Data 31
 Sovereign Wealth Funds 5
State Capitalism 4–5, 7–8, 11–12
 State-Owned Assets Supervision and Administration Commission 11
 also: SASAC
State-Owned Enterprises 4–13
 also: CPSEs, SOEs, Central Public Sector Enterprises
 Strategic Contributions of SOEs 9
Strategic Human Resource Management 28–30, 34
 also: Human Resource Management, SHRM
Supply Chain Management 14–15, 17
 Sustainability 5–6, 9, 18–19, 23, 26, 28, 30
 Sustainable Construction 19, 23–24, 26
 also: Green Building

T

Transparency 2–3, 7, 9–11, 13–15, 17

U

Understanding Employee Needs 2

V

Vendor Management 14

Vendor Relationship Management 16
 also: Vendor Relationships

W

Workforce Adaptability 28, 31, 34
 also: Job Flexibility

Workforce Development 1, 18, 30

Workforce Training 28, 30–32, 34
 also: Emotional Intelligence Training

Y

Years of Association 16

Author Guidelines

Comprehensive Guide to Publishing with GJMBR

Global Journal of Management and Business Research | Open Access | Peer Reviewed | COPE Compliant

I. Our Commitment to Authors

The Global Journal of Management and Business Research (GJMBR) is an internationally recognized, **open-access** academic journal dedicated to publishing high-quality, peer-reviewed research across all domains of management and business - including Administration & Management, Economics & Commerce, Finance, Accounting & Auditing, Marketing, Real Estate, Tourism Management, and interdisciplinary business studies.

GJMBR is published by Global Journals Publishing Group Inc., indexed in major global academic databases, archived in leading digital repositories, and distributed to institutional subscribers worldwide in prestigious **hardbound volumes**.

We believe that the purpose of an academic journal is to amplify the voice of the researcher. Every operational decision we make - from submission workflows to publication formats - is guided by a single principle: *the author should never be distracted from the research*. Our professional editorial and production teams exist to handle every technical and logistical complexity so that you can devote your full energy to your management and business scholarship.

II. One-Click Submission: Publish Without the Hassle

GJMBR has pioneered a **One-Click Submission** system designed to eliminate the traditionally burdensome process of paper submission.

A. Submit in Any Format

We accept manuscripts in **any common document format**, including but not limited to:

- Microsoft Word (.doc, .docx)
- Adobe PDF (.pdf)
- L^AT_EX source files (.tex)
- Rich Text Format (.rtf), Apple Pages, LibreOffice, or plain text

You do **not** need to install specialized software, learn L^AT_EX, or adhere to a rigid template before submission. Simply write your research in the format you are most comfortable with.

B. What You Need to Submit

To submit a manuscript, you only need to provide:

1. Your **full name**
2. Your **email address**
3. Your **manuscript file**

That is all. No lengthy registration forms, no complex metadata entry, no mandatory template compliance. Submit directly via our portal at <https://globaljournals.org/submit-an-article/>.

Heading style: In the final typeset article, author-created headings are normally set in sentence case for readability. Fixed journal headings such as Abstract, Introduction, Materials and methods, Results, Discussion, Conclusion, References, and Acknowledgements are standardized by the production team. Acronyms, proper nouns, gene/species names, chemical notation, brand names, and Roman numerals are preserved.

C. What Happens After Submission

1. **Instant Confirmation:** You receive an automated email confirming receipt of your manuscript.
2. **Professional Formatting:** Our dedicated production executives convert your manuscript into our advanced internal L^AT_EX template - producing a sleek, typographically pristine document ready for review - entirely on your behalf.
3. **Author Dashboard:** We create a secure account for you on the **Author Dashboard** and email your login credentials. You may log in at any time to review pre-filled metadata, update co-author details, or track your submission status.
4. **Review Initiation:** Your professionally formatted, fully anonymized manuscript is assigned to expert reviewers through our rigorous double-blind peer-review process.

III. Rigorous Double-Blind Peer Review

Academic credibility is the cornerstone of GJMBR. Every manuscript undergoes a **strict double-blind peer-review process** in which neither the authors nor the reviewers are aware of each other's identities.

A. The Review Workflow

1. **Desk Screening:** The editorial office performs an initial screening for scope, completeness, and adherence to ethical standards.
2. **Reviewer Assignment:** Two or more independent, domain-expert reviewers - specialists in your specific area of management or business - are assigned to evaluate your manuscript.
3. **Detailed Evaluation:** Reviewers assess the paper on criteria including originality, significance, clarity, methodology, analytical rigor, and presentation quality.
4. **Editorial Decision:** Based on reviewer recommendations, the Editorial Board renders one of three decisions: *Accept*, *Revise and Resubmit*, or *Decline*.

B. Complete Review Report & Research Assessment Sheet

Upon completion of the review, you will receive a **comprehensive Review Report** along with a detailed **Research Assessment Sheet**. These documents provide:

- Line-by-line reviewer comments keyed to **specific line numbers** in your typeset manuscript, enabling precise, unambiguous identification of every comment.
- A structured assessment covering originality, significance, clarity, methodology, and overall quality.
- Constructive feedback and actionable suggestions for improvement.

C. Responding to Reviewer Comments

Addressing reviewer feedback is simple and flexible:

Option A - Author Dashboard: Log in, navigate to **Manage Submission**, and create a **support ticket** quoting line numbers from your review report.

Option B - Email: Send an email with a numbered list of corrections referencing the line numbers, along with your responses.

Important: You do **not** need to reformat the document yourself at any stage. Our production executives will implement all requested text changes directly.

IV. Publication Lifecycle: Complete Transparency

A. Early View (Galley Proof)

- Upon acceptance, a **galley proof** (Early View edition) with **line numbers** is prepared for your final review.
- You may provide corrections by referencing specific line numbers via email or the Author Dashboard.

B. Ahead of Print

- Following the Early View, an **Ahead of Print** version is published before the final issue compilation.
- This version represents the final, corrected article but **does not yet include Volume or Issue numbers**.

C. Digital Publication (eJournal)

- After all corrections are finalized, the **digital eJournal edition** is published with line numbers removed.
- Your article receives its official **DOI (Digital Object Identifier)** and is indexed across global academic databases.
- The article becomes freely and permanently accessible online under our open-access policy.

D. Hardbound Print Publication

- Approximately **15 days after digital publication**, your research is printed in **premium hardbound volumes** and distributed to business schools, university libraries, and institutional subscribers worldwide.
- The corresponding author receives a **complimentary hardbound copy** dispatched via government courier at no additional cost.

V. Advanced Technology & AI-Enabled Research Broadcasting

A. Multi-Format Native Publication

Every accepted article is published natively across multiple formats:

- **Interactive Digital eJournals** optimized for all devices.
- **Premium Hardbound Print Editions** for institutional archives.
- **Machine-Readable XML & HTML** for web accessibility and automated indexing.

B. AI-Powered Discoverability & SEO

Our proprietary AI systems automatically tag, categorize, and optimize article metadata for maximum search engine visibility, ensuring your management and business research reaches the widest possible audience of scholars, practitioners, and policymakers.

VI. Ethics, Integrity & COPE Compliance

GJMBR maintains the highest standards of publication ethics, guided by the principles of the **Committee on Publication Ethics (COPE)**.

- All submissions are screened using state-of-the-art plagiarism detection software.
- Authors must disclose all funding sources and conflicts of interest.
- Research involving human participants must include ethical approval and informed consent statements.
- Our comprehensive, enhanced COPE-based ethical publishing guidelines are available in detail on our website at <https://globaljournals.org>.

VII. Perpetual Archiving & Geo-Distributed Data Infrastructure

Your published research is **redundantly archived across multiple geographically distributed data centers** spanning several continents, including advanced **deep-sea data center facilities** engineered for unparalleled resilience and longevity. This guarantees **lifetime hosting**, disaster resilience, and immutable DOI resolution for every published article.

VIII. Open Access: Free Knowledge for All

GJMBR is a Fully Open Access Journal.

Every article published in GJMBR is **freely and permanently available online** from the moment of publication - accessible to researchers, business professionals, students, and the general public worldwide **without any subscription fees, paywalls, or access restrictions**.

Accepted articles are published under the **Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0)** license. Authors retain full copyright.

IX. The L^AT_EX Author Package (Entirely Optional)

Reading or using the L^AT_EX Author Package is entirely optional.

Simply send us your manuscript in Word, PDF, or any other format. Our production team will expertly convert it into our advanced typesetting system. **You do not need to learn or install anything.**

Contact & Support

Submission Portal: <https://globaljournals.org/submit-an-article/>

Website: <https://globaljournals.org>

Email: helpdesk@globaljournals.org

*At GJMBR, your research shapes the future of global business.
We handle the complexities of publishing so you can focus
on what matters most - advancing management knowledge.*

GLOBAL JOURNAL

of Management and Business Research: A
Administration & Management



globaljournals.org

Save our Planet

