

Technology Adoption in the BRICS Construction Industry: Appraising the use of local currencies amidst the Trade War

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**CITC-15 | NOVEMBER 10 - 14, 2025
HOSTED BY THE INTERNATIONAL UNIVERSITY OF RABAT
RABAT, MOROCCO**

CITC GLOBAL
Construction in the 21st Century



Introduction & Background

- **BRICS**, formed in **2009**, now includes Egypt, Ethiopia, Iran, Saudi Arabia, and the UAE, reflecting growing global influence
- BRICS contributes **over 40% of global economic growth**, with construction as a major **GDP driver**
- The bloc seeks to **reduce dependence on the US dollar** and **promote trade in local currencies** amid global trade tensions
- This shift aims to **enhance technology adoption and collaboration** in the BRICS construction industry.

Aim, Objectives, and Scope

- This study aims to examine the use of local currencies by BRICS countries to foster technology adoption in the BRICS construction industry

Research Design and Methodology

- Based on the Arksey and O'Malley (2005) Scoping review principle
- 14 articles used for the study
- Thematic Analysis based on Braun and Clarke (2006)
- Theoretical Framework-Theory of Constraint by Şimşit et al.(2014)

Results (1)

Challenges of Construction 4.0 Adoption in the BRICS Construction Industry

Author(s)	Country	Challenge(s)
Singh and Misra (2021)	India	Huge costs incurred in implementation and maintenance
Oke et al. (2017)	South Africa	High capital expenditures
Elabd et al. (2016) and Zahedi et al. (2023)	Middle East countries (Saudi Arabia, UAE, Iran)	Cost of adoption, lack of skilled personnel, and inadequate training
Elyamany (2016)	Egypt	High cost of BIM systems and limited company experience with BIM
Demeke Wasse and Dai (2024)	Ethiopia	Lack of knowledge, shortage of skilled workforce, low demand, and high cost of implementing BIM-based services



Results (2)

Benefit of Local Currency Adoption by BRICS Countries

- Financial Sovereignty
- Reduced Currency Risk
- Lower Transaction Costs
- Economic Stability
- Increased Trade Participation
- Support for Regional Cooperation

Results (2)

Implications for the BRICS Construction Industry

- Enhanced Technology Adoption
- Promotion of Local Innovation
- Technology Diffusion and Collaboration
- Reduced Dependence on Western Markets
- Alignment with BRICS 2024 Declaration

Conclusions

The adoption of local currencies strengthens the BRICS' financial independence and reduces their reliance on the US dollar

Technology adoption in construction can be accelerated through intra-BRICS trade and collaborative innovation

Establishing Free Trade Zones (FTZs) and Special Economic Zones (SEZs) can promote knowledge sharing and technology diffusion