

APPROACHES USED IN FOREIGN COUNTRIES TO IMPROVE THE MANAGEMENT EFFICIENCY OF CONSTRUCTION ENTERPRISES

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The construction industry plays a vital role in the economic development of any country, serving as a foundation for infrastructure, urbanization, and job creation. However, it is often associated with inefficiencies, delays, and budget overruns. To address these challenges, many foreign countries have adopted innovative and strategic management approaches to enhance operational efficiency, improve quality, and increase competitiveness. This article explores best practices implemented globally to improve the management efficiency of construction enterprises.

One of the most significant advancements in construction management is the widespread use of digital technologies. In countries like the United States, the United Kingdom, and Japan, Building Information Modeling (BIM) has become a standard tool for enhancing collaboration, reducing rework, and optimizing project timelines. BIM enables all stakeholders to visualize the entire lifecycle of a construction project in a virtual environment, which improves accuracy in design and minimizes delays during execution.

Moreover, countries such as South Korea and Germany have incorporated Artificial Intelligence (AI), drones, and Internet of Things (IoT) technologies to automate inspection, monitor safety in real time, and predict equipment maintenance needs. These tools have significantly increased project transparency and efficiency.

Developed countries have embraced lean construction as a core management philosophy. Lean construction, widely adopted in Scandinavia and North America, aims to minimize waste, maximize value, and streamline workflow across all project phases. It emphasizes continuous improvement, collaborative planning, and just-in-time delivery of resources.

For instance, Finland has implemented the Last Planner System (LPS), a lean-based scheduling methodology that promotes realistic planning and accountability among team members. This has led to improved coordination and timely project delivery.

In many foreign countries, particularly in Australia, Singapore, and Germany, the focus on workforce development has played a central role in improving management efficiency. These nations invest heavily in construction-



specific training, professional certification, and leadership programs for site managers and project engineers.

Such countries have recognized that efficient project execution depends not only on technology but also on the expertise and motivation of the personnel involved. As a result, they maintain national construction skill councils and incentivize innovation at the workforce level.

With increasing global attention on environmental sustainability, construction enterprises in countries like the Netherlands, Canada, and Sweden have adopted green building management standards. They align their management practices with sustainability benchmarks such as LEED (Leadership in Energy and Environmental Design) and BREEAM (Building Research Establishment Environmental Assessment Method).

Table-1
Comparative analysis of key management efficiency approaches in the construction sector across selected countries (2024)

Country	BIM Adoption (%)	Lean Practices (%)	Sustainability Focus (%)
USA	90	75	85
UK	85	70	88
Japan	80	65	80
Germany	88	60	83
Finland	82	90	90
Singapore	87	80	86

The chart provides a comparative visualization of three key management efficiency approaches—BIM adoption, lean construction practices, and sustainability focus—across six advanced countries: the USA, UK, Japan, Germany, Finland, and Singapore.

The data indicates that Building Information Modeling (BIM) has been most widely implemented in the United States (90%) and Germany (88%), highlighting their commitment to digital transformation in construction. Lean practices are most prevalent in Finland (90%), reflecting its strong emphasis on workflow efficiency and collaborative planning. Meanwhile, sustainability focus is consistently high across all countries, with Finland and the UK leading at 90% and 88% respectively—suggesting that environmental considerations have become a core component of strategic construction management.



Overall, the chart demonstrates that countries investing in a balanced mix of technological innovation, operational efficiency, and sustainability are better positioned to enhance the long-term performance of their construction industries. These findings suggest a potential roadmap for emerging economies to follow, emphasizing the importance of integrated and adaptive management strategies.

These frameworks have redefined efficiency—not merely in terms of speed and cost, but also in terms of ecological impact and resource optimization. As a result, construction projects are increasingly evaluated on their energy performance, carbon footprint, and material circularity.

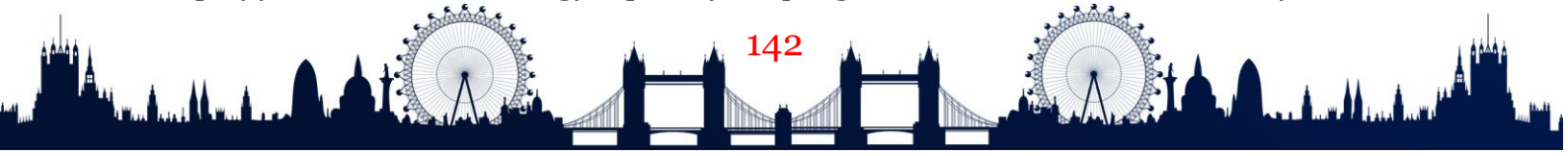
Effective public policy has been a key enabler of management efficiency in construction across foreign countries. Governments in countries such as the UK and Singapore have introduced national digital construction strategies, mandated BIM usage on public projects, and facilitated access to smart infrastructure funding.

Additionally, regulatory bodies provide guidelines on project risk management, quality assurance, and procurement procedures, ensuring that firms align their operational processes with best practices and international standards.

Foreign countries offer a wide range of effective approaches to improving the management efficiency of construction enterprises, centered around digital innovation, lean principles, human capital investment, sustainability, and regulatory support. These methods have led to greater cost-effectiveness, reduced construction timelines, and improved project quality. For emerging economies, analyzing and adapting these approaches can provide a roadmap for modernizing their construction industries and achieving long-term development goals.

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