

Innovation Ecosystems in Construction Industry

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Abstract : The construction sector is a key driver of the global economy, contributing significantly to growth and employment through a diverse array of sub-sectors. However, it faces challenges due to its project-based nature, which often hampers long-term collaboration and broader incentives beyond individual projects. These limitations are frequently discussed in scientific literature as obstacles to innovation and industry-wide change. Traditional practices and unwritten rules further hinder the adoption of new processes within the construction industry. The disadvantages of the construction industry's project-based structure in fostering innovation and long-term relationships include limited continuity, fragmented collaborations, and a focus on short-term goals, which collectively hinder the development of sustained partnerships, inhibit the sharing of knowledge and best practices, and reduce incentives for investing in innovative processes and technologies. This structure typically emphasizes specific projects, which restricts broader collaborations and incentives that extend beyond individual projects, thus impeding innovation and change. The temporal complexities inherent in project-based sectors like construction make it difficult to address societal challenges through collaborative efforts. Traditional management approaches are inadequate for scaling up innovations and adapting to significant changes. For systemic transformation in the construction sector, there is a need for more collaborative relationships and activities beyond traditional supply chains. This study delves into the concept of an innovation ecosystem within the construction sector, highlighting various research findings. It aims to explore key questions about the components that enhance innovation capacity, the relationship between a robust innovation ecosystem and this capacity, and the reasons why innovation is less prevalent and implemented in this sector compared to others. Additionally, it examines the main factors hindering innovation within companies and identifies strategies to improve these efforts, particularly in developing countries. The innovation ecosystem in the construction sector generates various outputs through interactions between business resources and external components. These outputs include innovative value creation, sustainable practices, robust collaborations, knowledge sharing, competitiveness, and advanced project management, all of which contribute significantly to company market performance and competitive advantage. This article offers insights and strategic recommendations for industry professionals, policymakers, and researchers interested in developing and sustaining innovation ecosystems in the construction sector. Future research should focus on broader samples for generalization, comparative sector analysis, and application-focused studies addressing real industry challenges. Additionally, studying the long-term impacts of innovation ecosystems, integrating advanced technologies like AI and machine learning into project management, and developing future application strategies and policies are also important.

Keywords : construction industry, innovation ecosystem, innovation ecosystem components, project management

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