



Green Construction Concept Mode in Construction Project Management

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ABSTRACT:

This paper discusses the innovation of green house building in project management. The paper highlights the importance of sustainable construction practices and green building design in reducing the environmental impact of construction projects. It also explores the challenges and opportunities of implementing green building practices in project management, including stakeholder engagement, cost estimation, and risk management. The paper concludes by emphasizing the need for project managers to adopt a holistic approach to green house building, integrating sustainable design principles into every stage of the project lifecycle.

Keywords: environmental impact, innovation, green building, construction.

Introduction:

The construction industry is a major contributor to global greenhouse gas emissions, making it imperative to adopt sustainable practices in project management. Green house building is an innovative approach that involves incorporating sustainable design principles into every stage of the project lifecycle, including the use of environmentally friendly materials and energy-efficient technologies. While there are challenges associated with implementing green building practices in project management, such as stakeholder engagement, cost estimation, and risk management, there are also many opportunities, such as improved health and wellbeing for building occupants and increased property value and marketability. By adopting a holistic approach to green house building, project managers can contribute to a more sustainable future while creating buildings that are environmentally friendly, healthy, and cost-effective. This journal paper aims to explore the innovation of green house building in project management and its impact on the construction industry.

LITERATURE REVIEW:

Tayyab Ahmad et.al (2023) This paper discusses the methodology and findings of a study on innovation in green buildings (GBs). The study used semi-structured interviews with 45 GB professionals from different regions and professional roles. The interviews were manually transcribed and analyzed using content analysis and thematic analysis. The study found that a larger sample size of interview participants was used compared to other studies on GB project innovation. The findings provide insights into the perspectives and factors related to innovation in GBs.

Shashi Kumar Gupta et.al (2023) This paper discusses the needs and implementation of green buildings for prompt effectiveness in developing countries. It emphasizes the importance of sustainable site development, water saving techniques, energy efficiency, and innovative design. The paper also highlights the limitations of conventional buildings and the recommendations for improving green building effectiveness. It calls for increased awareness, government support, and collaboration with environmental principles for successful implementation of green concepts

Omta et.al (2023) This paper discusses the critical success factors and strategies for entrepreneurial innovation in the Dutch glasshouse industry. It explores the role of cooperation and outsourcing in innovation and identifies key drivers and sources of innovative ideas. The study population consists of 44 glasshouse companies that participated in the research. The paper presents hypotheses related to the success of innovation in glasshouse companies and discusses the research design and measures used in the study.

Xudong Yang et.al (2022) This paper discusses the importance of green building concepts in construction management. It emphasizes the need to formulate sustainable building plans, strengthen energy-saving management, and implement pollution prevention and control measures. The paper also highlights the significance of staff training and multi-party support for green building construction. The overall goal is to promote the efficient use of land resources, reduce environmental harm, and achieve sustainable development in the construction industry.

Chandan Swaroop Meena et.al (2022) This paper discusses various studies and research related to green building practices and energy efficiency. It covers topics such as the impact of government policies, the use of sustainable materials, energy consumption in buildings, and the evaluation of green building methods. The paper also highlights the importance of factors like design methods, indoor air quality, and environmental impact assessment in the development of green buildings.

Daniela Baer et.al (2022) This paper discusses the concept of Zero Emission Neighborhoods (ZEN) and Positive Energy Districts (PED) in the context of sustainable urban development. It explores the importance of citizen involvement, stakeholder interaction, and capacity building in enabling social innovation within PED deployment. The paper also highlights the variation in project types and sizes, as well as the involvement of public and private sector partners in the development of PEDs. Additionally, it emphasizes the role of knowledge transfer, education, and training in enhancing capacities among stakeholders involved in PED implementation.

Jhonson Adain et.al (2021) This paper focuses on exploring current innovation practices and performance in the New Zealand building industry. The study used focus groups to gather insights from senior personnel in various organizations. The participants discussed topics such as the definition of innovation, successful international innovations that could be adopted in New Zealand, and drivers and barriers to innovation. The findings highlight the need for shared best practices, case studies, and government policies to drive innovation in the industry.

Pantelis Barouchas et.al (2021) This paper focuses on the training needs and challenges in greenhouse farming. The study collected data through questionnaires from farmers and intermediaries in Greece. The results highlight the top concerns in greenhouse farming, such as knowledge, technology, and type of crop. It also identifies factors that hinder the adoption of cutting-edge technologies, including financial constraints and the lack of long-term planning. The paper emphasizes the importance of training and consulting services to accelerate innovation and improve sustainability in greenhouse cultivation.

Exinor priot et.al (2020) This paper discusses the role of universities in regional development and the importance of infrastructure, urbanization, and political commitment. It emphasizes the need for universities to have a global relevance while also serving the specific needs of the region. The paper also highlights the societal impact of academic institutions and the value of research stations in contributing to regional development.

Yinqi Zhang et.al (2019) This paper provides a comprehensive survey of the historical and current development of green building (GB) worldwide. It analyzes the factors that influence GB development, including external factors such as policy support, economic benefits, and certification schemes, as well as internal factors such as technology implementation, building management, and occupants' behavior. The paper aims to offer guidance for stakeholders in dealing with GB development barriers and provides future trends and tendencies for further academic research.

Leonidas Milios et.al (2019) This paper focuses on the relevance of strategies for using secondary materials in the building sector to decarbonize the sector. It explores the interplay of policy and business model innovation in advancing production strategies with secondary materials. The study employs a mixed-method approach, combining a comparative case study design with a desk study of Life Cycle Assessment (LCA) data. The aim is to estimate the carbon saving potential of different strategies and identify barriers and policies that could facilitate the use of secondary materials.

Joakim et.al (2017) This paper examines the diffusion and adoption of Passive House technology in China. It focuses on the barriers that impede the diffusion of green technology innovation in the construction industry. The study uses a conceptual model to analyze two case studies and identifies the main barriers as bounded rationality and transaction costs. The paper concludes that these barriers create uncertainty and hinder the practical implementation of the Passive Houses concept in China.

Tengyuan Chang et.al (2017) This paper discusses the factors influencing business model (BM) innovation in the context of sustainable building (SB). The study involved interviews with experts in the field and a questionnaire survey. The collected data was analyzed using qualitative methods. The paper provides insights into the history and progress of SB, understandings of BM innovation, solutions adopted by organizations, viewpoints on innovating BM, external factors driving investment in SB, and challenges faced in SB development.

Xiaojing Zhao et.al (2016) This paper explores the effect of business model on Zero Carbon Buildings (ZCB) and proposes a conceptual framework for business model innovation in delivering ZCBs. It identifies the challenges faced by ZCB and examines the elements and mechanism of business model innovation within the context of ZCB. The paper also validates the framework using a case study of a real-life ZCB project and explores the typology of business model innovations for delivering ZCBs.

Dong-Xue Zhao et.al (2015) This paper discusses the social acceptance of green residential buildings. It includes a survey of 116 participants, who provided information on their demographics, income, family size, occupation, and education background. The questionnaire also assessed the importance of various advantages of green buildings, such as saving land, energy, water, and construction materials. The study highlights the need for effective policies and implementation strategies to promote green building acceptance in society.

Bin Wu Liyan Zhang et.al (2013) This paper discusses the diffusion of farmer innovation through network building in China. It explores the role of government intervention and the importance of communication networks in the process of innovation diffusion. The paper also highlights the changes in agricultural innovation policies and the marginalization of farmers in the modern agricultural innovation system.

Khanh lianh et.al (2012) This paper discusses the green innovation in the construction industry in Vietnam. It highlights the achievements and limitations of green innovation in Vietnamese construction enterprises. The number of green projects in Vietnam is relatively low compared to other countries in the region. However, there has been an increase in the number of projects attaining green building certification in recent years. The paper also emphasizes

the need for state management agencies and construction enterprises to improve regulations and policies, provide financial support, and promote green initiatives.

Yang, Jay et.al (2011) This paper discusses the development of sustainable housing through building utilities and transport innovation. It explores the potential benefits of integrating sustainable design elements and transit-oriented development strategies to achieve cost savings in capital and ongoing utilities and transport costs. The paper also highlights the current knowledge gaps in sustainable housing development and proposes a conceptual framework for the Commuter Energy and Building Utilities System (CEBUS).

Frank Reuvers et.al This paper discusses the concept of green innovation and its management practices. It explores different styles of innovation and their suitability for eco-effectiveness and eco-efficiency. The paper also highlights the importance of qualitative research and the use of an illustrative case study in understanding green innovation. It provides insights into the role of management in implementing green innovation and identifies limitations in the study. Overall, the paper aims to help organizations integrate green innovation into their practices.

Auils et.al This paper discusses the concept of green innovation and energy saving in Nordic countries, specifically focusing on energy production, utilization, and saving ideas. The Nordic countries, including Finland, Sweden, Norway, Denmark, and Iceland, have a combined population of about 25 million and share a common history and political systems. However, due to their small population and cold climate, the Nordic model of high living standards and welfare also means high energy consumption per capita. The paper highlights the main factors influencing energy consumption in Finland and explores various energy-saving initiatives, such as windmill installations and the development of renewable energy sources like bioenergy and hydrogen technology.

Conclusion:

The innovation of green house building in project management is crucial for achieving sustainable development in the construction industry. By adopting sustainable design principles and incorporating environmentally friendly materials and energy-efficient technologies, project managers can contribute to reducing greenhouse gas emissions and creating healthier and more cost-effective buildings. While there are challenges to implementing green building practices, such as stakeholder engagement and cost estimation, the benefits, such as increased property value and marketability, make it a worthwhile investment. The construction industry must continue to innovate and adopt green building practices to create a more sustainable future for generations to come.

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