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Bridging Gaps in PMAY Project Management – A Comprehensive Review

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Abstract: The Pradhan Mantri Awas Yojana (PMAY) aims to provide “Housing for All,” but faces significant challenges in execution, including resource mismanagement, stakeholder misalignment, and project delays. This paper presents a comprehensive literature-based review focusing on inefficiencies in the existing project management framework. Nine critical publications were reviewed to extract insights on construction delays, resource allocation, communication gaps, and the need for digital project tracking systems. The paper identifies recurring themes such as lack of transparency, weak monitoring tools, and insufficient stakeholder coordination. Based on thematic analysis, the study proposes key focus areas that serve as the foundation for further research and digital intervention in PMAY implementation.

Keywords: PMAY, Literature Review, Affordable Housing, Project Management, Stakeholder Communication, Resource Optimization, Construction Delays.

I. INTRODUCTION

India’s growing urban population has led to a critical housing shortage, necessitating strong public policy interventions. In response, the Government of India launched the Pradhan Mantri Awas Yojana (PMAY) in 2015 with the ambitious goal of “Housing for All.” The scheme addresses both urban and rural housing needs through four key verticals: Beneficiary-Led Construction (BLC), Affordable Housing in Partnership (AHP), In-situ Slum Redevelopment (ISSR), and Credit-Linked Subsidy Scheme (CLSS).

Despite robust policy support and structured guidelines, PMAY faces persistent challenges in execution. These include project delays, inefficient communication among stakeholders, unclear task responsibilities, and a lack of real-time digital tracking tools. Fragmented project management structures and inconsistent monitoring further exacerbate the delays, impacting the delivery of housing units to eligible beneficiaries.

This literature-based study explores the systemic gaps within the existing project management framework of PMAY by analyzing a range of scholarly articles, government reports, and case studies. The objective is to identify recurring patterns, underlying issues, and thematic focus areas that contribute to implementation inefficiencies. This review lays the groundwork for developing targeted digital solutions and stakeholder-centric reforms in the subsequent phase of research.

II. LITERATUREREVIEW

The reviewed literature provides a comprehensive understanding of the various dimensions of project management issues, particularly in large-scale affordable housing initiatives like PMAY. One major focus is the resource allocation in large-scale projects, which involves the efficient distribution of materials, finances, and human resources. Several studies emphasize how a lack of optimized allocation can lead to project delays, cost overruns, and inefficiencies. Construction delays are another major concern, especially in the context of PMAY. Many studies analyze the root causes of delays, from poor planning to inadequate communication among stakeholders. Efforts to mitigate delays include the adoption of advanced scheduling techniques and proactive monitoring systems.

The literature also discusses affordable housing challenges such as financial constraints, land acquisition issues, and the need for government intervention to provide housing for low-income families. While PMAY attempts to address these concerns, it faces systemic barriers in execution. The role of policy reforms and governance inefficiencies is explored in several studies, showing that bureaucratic hurdles, regulatory bottlenecks, and a lack of coordination among agencies impede smooth project execution. A key area of focus is the PMAY-specific studies and redevelopment case studies, which demonstrate the

practical challenges faced on the ground, especially with regard to beneficiary identification, funding allocation, and project monitoring. Additionally, several theoretical models for project management have been discussed, particularly from the owner's perspective, helping to shape strategies for improved project monitoring, budgeting, and stakeholder engagement in schemes like PMAY.

A. Optimization Techniques for Resource Allocation

Ebrahimi's study on predictive resource models is particularly relevant to PMAY, where efficient resource allocation is crucial for meeting tight deadlines and reducing costs. The study highlights how intelligent algorithms can be integrated into the planning and procurement phases to predict and optimize the distribution of resources. The findings suggest that using AI-driven tools can vastly improve decision-making in resource management, which is critical for large-scale projects like PMAY. However, the research also points out that these technologies are underutilized in the PMAY framework, where manual processes still dominate, leading to inefficiencies and delays. The conclusion stresses the importance of adopting such technologies for better project outcomes.

B. Construction Delays in India

Saxena et al. explore the pervasive issue of construction delays in India, which directly impacts projects like PMAY. The study identifies several causes of delays, including poor project planning, lack of skilled labor, and delays in material procurement. The authors recommend proactive mitigation strategies such as enhanced project monitoring, better communication channels, and the use of technology to track progress in real time. PMAY, like many government schemes, struggles with these issues, which leads to a significant impact on project timeline and costs. The research suggests that addressing these issues through better management practices and technology could greatly improve the efficiency of such housing projects.

C. Affordable Housing in India

Babariya and Padhya's paper discusses the systemic challenges faced in the affordable housing sector in India, focusing on financial constraints, land acquisition issues, and the absence of a streamlined approval process. They argue that PMAY, while ambitious, does not fully address these challenges due to inefficient governance and funding issues. The authors emphasize the need for greater transparency and digitalization in project management to reduce corruption and enhance stakeholder coordination. Their conclusion suggests that while PMAY has made strides in providing affordable housing, there are still significant barriers that must be addressed for long-term success.

D. Affordable Housing Policy Reforms

Ghumare et al. analyze the policy reforms needed to make affordable housing schemes like PMAY more effective. They identify key governance and regulatory barriers, including bureaucratic delays, complex land acquisition processes, and lack of coordination between various governmental agencies. The paper suggests that a more streamlined and transparent policy framework could greatly enhance the execution of affordable housing projects. The authors also advocate for digital tools that can simplify the approval process and improve communication between stakeholders, which could help PMAY overcome its current shortcomings.

E. Causes of Project Failure in Government Sector

AlSalamin's study sheds light on the common causes of project failure in government-run projects, with a particular focus on communication breakdowns and stakeholder disengagement. These issues are evident in PMAY, where poor coordination between beneficiaries, contractors, and authorities often leads to delays and inefficiencies. The paper argues that improving communication channels and ensuring better stakeholder involvement at all stages of the project can help mitigate these issues. The findings emphasize the need for more structured project management practices to address these ongoing challenges in PMAY's execution.

F. PMAY Scheme Analysis

Halder and Koley critically examine the structural and operational challenges within PMAY, specifically the inefficiencies related to project planning, stakeholder coordination, and resource management. The authors propose that technology-led interventions, such as the integration of digital platforms for project monitoring and stakeholder management, could address these inefficiencies. They argue that PMAY's current reliance on manual processes and outdated systems contributes to its operational struggles. Their conclusion supports the need for greater technological integration to enhance

the scheme's efficiency and effectiveness.

G.Gwalior Housing Delays

Hari and Pandey's case study on housing delays in Gwalior highlights regional challenges that are also common in urban PMAY projects. The paper attributes delays to inadequate infrastructure, land acquisition issues, and poor project management. The authors suggest that a more localized approach, addressing the specific needs and challenges of different regions, could help PMAY overcome these delays. Their findings emphasize the importance of regional planning and coordination for the successful implementation of affordable housing schemes.

H.Mumbai Redevelopment Case Study

Sable et al. focus on the delays, planning issues, and approval bottlenecks in the redevelopment of Mumbai, drawing parallels with the challenges faced by PMAY projects. The study identifies several factors contributing to delays, including regulatory hurdles, land title disputes, and approval processes that take too long. The authors argue that PMAY could benefit from a more streamlined approval system, better coordination between different authorities, and faster resolution of land disputes. Their conclusions emphasize the need for policy reforms to ensure smoother project execution.

I. Owner's Perspective on Project Management

Hendrickson's theoretical framework provides valuable insights into project management from the owner's perspective, focusing on role-based planning, budgeting, and monitoring. These concepts are directly applicable to the operational structure of PMAY, where effective project management is crucial for ensuring timely delivery. The paper suggests that a clearer division of roles, more structured budgeting, and regular project monitoring could help improve the efficiency of PMAY. Hendrickson's work concludes that adopting a more strategic approach to project management, including the integration of these theoretical models, would greatly benefit PMAY's overall execution.

III. SIGNIFICANCE OF REVIEWED LITERATURE

Table I Theme-Wise Weightage Distribution in PMAY Project Analysis

Theme	Weightage
Delays and Inefficiencies	40%
Resource Allocation	25%
Stakeholder Communication	20%
Policy and Governance Reform	15%

The data from the table shows the different reasons that contribute to delays in PMAY projects. It shows that resource allocation issues are seen as a major reason for delays, followed by approval bottlenecks and funding delays. It is based on a systematic analysis of studies related to PMAY project management, affordable housing challenges, and construction delays, among other topics. Each piece of literature was carefully selected to represent different aspects of the PMAY framework, from resource allocation to governance inefficiencies, and from the causes of delays to technological interventions.

To generate the table, relevant data was extracted from these studies, focusing on the methodologies, findings, and conclusions offered by the authors. The information was organized based on themes that directly align with the key issues affecting PMAY. For instance, each study's focus on resource allocation or construction delays was categorized under specific columns in the table, allowing for a clear comparison of how each paper addressed these challenges.

The significance of this table lies in its ability to provide a concise and visual representation of the literature, highlighting the commonalities and disparities between different studies. It allows for an immediate understanding of the research landscape

and identifies gaps in the existing body of knowledge. By correlating findings from various sources, the table demonstrates the recurring themes and challenges in PMAY project management, such as inefficiencies in resource management, delays in construction, and the need for better governance.

Furthermore, the table helps to identify areas where there is consensus among researchers, as well as where further exploration is needed. It serves as a guide for recognizing the strengths and weaknesses of PMAY's current system, supporting the argument for technology-led interventions and better stakeholder integration. In essence, the table is not just a summary of the literature but also a tool that informs the direction of future research and practical solutions to improve the PMAY scheme.

IV. KEYINSIGHTS

The review reveals several critical insights into the challenges and solutions concerning the PMAY project management and affordable housing schemes. One major theme that emerged across the studies is the inefficiency in resource allocation within large-scale projects like PMAY. Researchers such as Ebrahimi suggest the integration of predictive models and intelligent algorithms to optimize resource distribution, which could significantly improve project timeline and reduce costs. However, there is still a gap in effectively implementing such technologies within the PMAY framework, often due to a lack of technological infrastructure and training. Another recurring issue identified in the literature is construction delays, which are a significant concern in PMAY projects. Saxena et al. and other researchers emphasize that delays are caused by factors such as poor project planning, inadequate resource management, and inefficiencies in contractor coordination. They propose proactive mitigation strategies like better schedule management tools and early-stage risk identification processes to address these delays. However, the challenge remains in integrating these tools effectively across the multiple stakeholders involved in PMAY, especially given the complexity of the projects and communication barriers.

The literature also highlights affordable housing challenges in India, where Babariya & Padhya discuss systemic issues such as funding shortages, bureaucratic hurdles, and inadequate urban planning. They argue that while PMAY has made strides, there is still a significant gap in addressing the full spectrum of housing needs, particularly in urban areas where demand far exceeds supply. Digital tools and data-driven decision-making are proposed as solutions to streamline the approval process and ensure that funds are allocated where they are most needed.

In terms of policy barriers and governance inefficiencies, several studies, including those by Ghumare et al. and AlSalam, focus on the lack of coordination between the central and state governments, slow decision-making processes, and ineffective policy implementation. These factors hinder timely project delivery and often result in long-term inefficiencies. For example, Ghumare et al. suggest that clearer policy frameworks and decentralized governance structures could resolve these issues and improve transparency in the execution of PMAY.

Finally, the PMAY-specific case studies reviewed in the above literature, such as those by Halder & Koley and Sable et al., demonstrate the operational and structural challenges faced in real-world applications. These studies identify the bottlenecks in project approval processes, land acquisition issues, and the slow pace of urban redevelopment. They support the idea of leveraging technology to overcome these barriers, recommending solutions such as improved digital systems for tracking progress, transparent reporting mechanisms, and streamlined approvals to enhance PMAY's effectiveness.

V. CONCLUSION

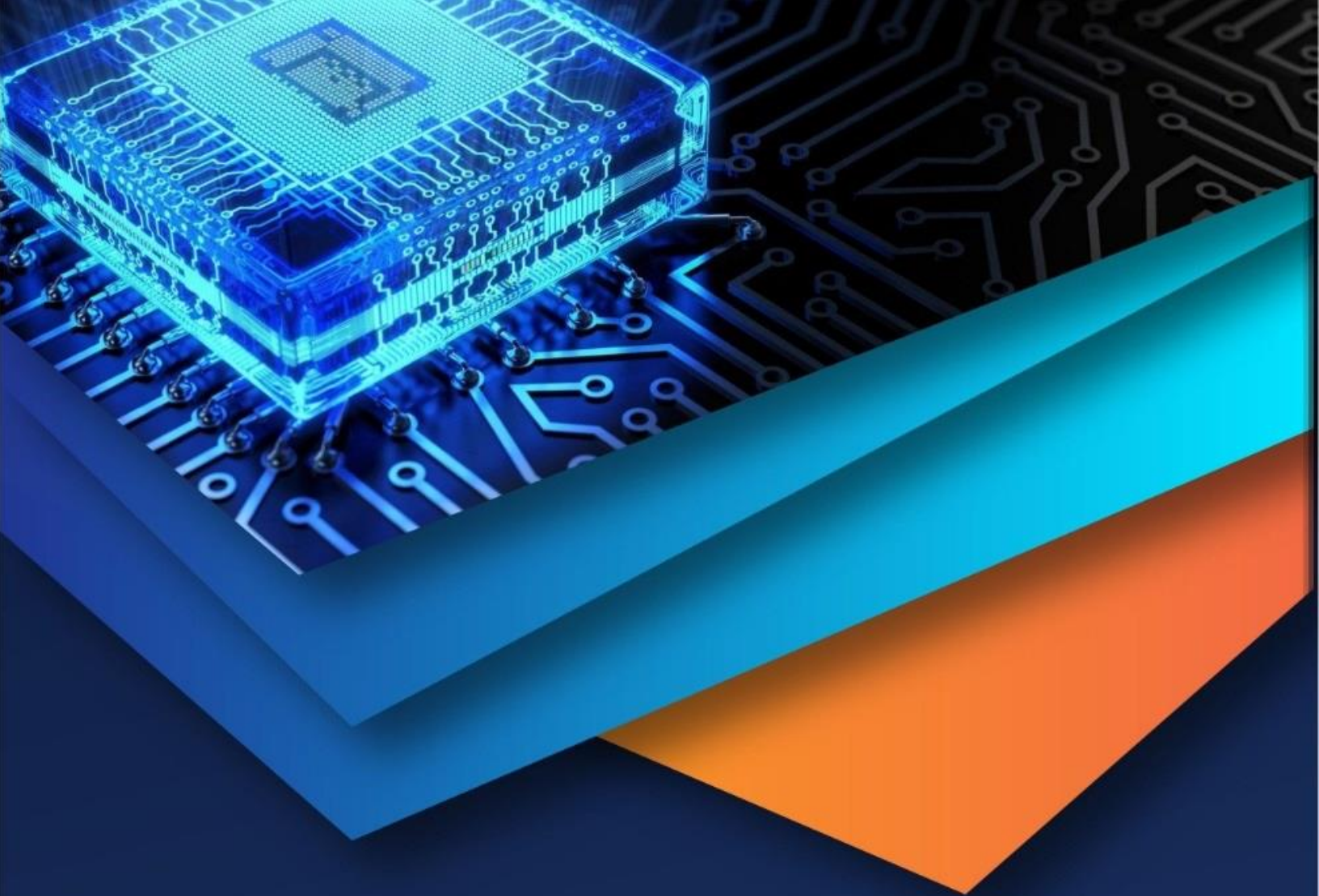
The above review strongly indicates that delays in PMAY are not due to policy design but due to poor project execution and weak coordination tools. This paper synthesizes critical research into a thematic structure that highlights inefficiencies in delays, resource use, and communication. These findings support the foundation of the larger thesis, which aims to propose a digital Task Tracker System specifically tailored to PMAY's needs. The literature review not only justifies the research problem but also frames a focused intervention road map.

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