Strategies For Managing Renovation Project Delays: An Integrated Approach To Project Communication And Stakeholder Engagement Using The Critical Path Method

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Abstract.

Delays in hotel renovation projects can significantly disrupt business continuity, increase operational costs, and erode stakeholder confidence. This study investigates the primary causes of delay and the role of stakeholder influence in managing renovation projects, focusing on the Hotel X Jakarta renovation case. A mixed-method approach was adopted, combining quantitative analysis through questionnaires and Exploratory Factor Analysis (EFA), along with qualitative insights from stakeholder interviews. Fifty respondents representing both internal and external actors were selected from a total of 100 identified project stakeholders. The findings revealed three dominant causes of delay: (1) ineffective communication and coordination among project teams, (2) decision-making delays by internal managerial staff, and (3) lack of involvement of key stakeholders in the early phases of the project. The most influential contributors to delay were internal decision-makers, government regulators responsible for permitting, and external consultants who failed to deliver project documentation on time. Stakeholder mapping showed that these actors possessed both high power and high interest, yet their engagement was either misaligned or delayed. These results indicate that project delays are not only technical issues but are also deeply rooted in behavioral, organizational, and structural dynamics. To mitigate such delays, renovation projects should integrate stakeholder engagement strategies with proactive communication planning and scheduling tools such as the Critical Path Method (CPM). This integrated approach provides a more resilient framework for managing complexity in multi-stakeholder renovation environments.

Keywords: *Hotel renovation, project delay; stakeholder engagement; project communication; critical path method and exploratory factor analysis.*

I. INTRODUCTION

Renovation projects in the hospitality industry pose unique challenges compared to new developments. Hotels undergoing renovation must often remain operational while upgrading infrastructure, services, or compliance standards, increasing the risk of disruption. In Indonesia, where the tourism and hospitality sector continues to grow, hotel renovations have become vital for maintaining competitiveness, regulatory compliance, and service quality (Putra & Yulianto, 2020; Yusof et al., 2019). Yet, these projects frequently encounter delays, leading to cost overruns, revenue loss, and reputational risks (Assaf & Al-Hejji, 2006).The renovation project at Hotel X Jakarta exemplifies these challenges. Initially scheduled for completion within twelve months, the project faced substantial delays due to fragmented communication, overlapping stakeholder responsibilities, and delayed decision-making processes. Renovation projects typically involve a diverse set of internal and external actors, including hotel management, contractors, consultants, government regulators, and vendors. Misalignment among these actors, especially when communication is not effectively managed, often leads to compounded project risks and performance setbacks (PMI, 2021; Zulch, 2014).This study aims to address two core issues: (1) what are the primary causes of delays in renovation projects, and (2) which stakeholders have the most significant influence in causing or mitigating those delays.

Using a mixed-method research design, the study collected data from 50 selected respondents representing a broader group of 100 stakeholders identified in the Hotel X project. Quantitative data were gathered through structured questionnaires and analyzed using Exploratory Factor Analysis (EFA), while qualitative data were obtained from semi-structured interviews with selected stakeholders (Hair et al., 2019).The findings reveal that delays were primarily caused by (1) ineffective communication and coordination among project actors, (2) decision-making delays by internal managerial staff, and (3) lack of

involvement of key stakeholders—especially external regulators and consultants—during the early phases of the project. These individuals were identified through stakeholder mapping as holding high power and interest but were under-engaged at critical moments.By examining these dynamics, this study proposes a framework that integrates stakeholder engagement strategies with proactive communication planning and scheduling methods such as the Critical Path Method (CPM). This integrated approach aims to improve stakeholder alignment and mitigate the risk of delay in complex renovation environments (Olander, 2007; Nasir et al., 2015).

II. METHODS

This study adopted a mixed-method approach to investigate the causes of renovation project delays and the role of stakeholder influence in such delays, using the Hotel X Jakarta project as a case study. The approach was designed to combine the strengths of both quantitative and qualitative methods, ensuring comprehensive insights into both the structural and behavioral dimensions of delay (Creswell & Plano Clark, 2018).The research began with the identification of the full population of stakeholders involved in the Hotel X renovation, which consisted of 100 individuals representing both internal and external roles. These stakeholders included hotel managers, project team members, operational staff, contractors, consultants, government agencies, and service vendors.

From this population, a purposive sampling technique was applied to select 50 participants. The sampling criteria were based on the relevance of the stakeholders to project execution and decision-making, while deliberately excluding owners, shareholders, and certain vendor categories to reduce potential bias (Palinkas et al., 2015).To ensure diverse and representative input, the study involved 50 respondents selected from 100 active stakeholders identified in the Hotel X Jakarta renovation project. The selection was based on purposive sampling, aiming to capture key stakeholder roles from both internal and external groups. Table 1 outlines the distribution of respondents across stakeholder subcategories and their representation percentages.

Stakeholder Category	Subcategory	Total Stakeholders	Respondent	Representation (%)
Internal	Owners, Investors & Top Management	7	2	28,57
Internal	Hotel Operational	5	2	40
Internal	Legal Department	2	1	50
Internal	Construction Team	25	25	100
Eksternal	Designers & Consultants	12	6	50
Eksternal	Contractors & Vendors	49	14	28,57

Table 1. Respondent Profile Based on Stakeholder Categories

Quantitative data were collected through a structured questionnaire comprising two sections. The first section, consisting of ten items (Q1–Q10), explored possible delay factors based on existing project management literature. The second section (Q11–Q15) focused on identifying the perceived influence of different stakeholder groups. All items employed a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5), following standard survey design principles for behavioral research (Bryman, 2016). To enrich the quantitative findings, qualitative data were obtained through semi-structured interviews with selected stakeholders from various power-interest levels, including project managers, regulatory officials, and external consultants. These interviews aimed to uncover deeper insights into the dynamics of communication breakdowns, decision bottlenecks, and stakeholder misalignment. Interview responses were transcribed and subjected to thematic coding, allowing triangulation with the quantitative survey results (Braun & Clarke, 2006).

Quantitative data were analyzed using Exploratory Factor Analysis (EFA) to uncover latent variables that explain patterns in the observed delay factors. The adequacy of the data for factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity. Factors were extracted using principal component analysis with varimax rotation (Hair et al., 2019). For the second research objective, stakeholder influence was assessed by mapping the power and interest levels of each stakeholder group, using both survey responses and interview interpretations. This method followed stakeholder mapping

frameworks commonly used in project management research (Olander, 2007; Bourne, 2016).This methodological structure allowed for a robust analysis of both the systemic causes of delay and the human factors that exacerbate them, providing a foundation for the integrated framework proposed in this study.

III. RESULT AND DISCUSSION

This section presents and interprets the findings derived from both the quantitative and qualitative phases of the study. Rather than describing each numerical result in isolation, the discussion focuses on patterns and their implications for renovation project performance.Exploratory Factor Analysis (EFA) was used to identify underlying dimensions of project delay based on the ten survey items (Q1–Q10). Three key factors emerged, explaining 73.3% of the total variance. Table 2 presents the summary of factor extraction results.

Factor	Eigenvalue	% Variance Explained	Sample Items (Q#)
Communication & Coordination Issues	4.13	41.3%	Q1, Q2, Q4, Q6
Internal Decision – Making Delays	2.02	20.2%	Q3, Q5, Q7
Stakeholder Involvement Gaps	1.18	11.8%	Q8, Q9, Q10
Total		73.3%	

Table 2. EFA Results (RQ1: Delay Factors)

The Exploratory Factor Analysis (EFA) revealed three dominant dimensions contributing to project delays. The first and most significant factor relates to communication and coordination failures. Respondents consistently cited unclear instructions, inconsistent updates, and delayed information flow across departments and stakeholders. These findings align with prior studies that emphasize the foundational role of communication in successful project delivery (Zulch, 2014; PMI, 2021). In the case of Hotel X, inadequate information flow led to repeated revisions, conflicting schedules, and late contractor mobilization.The second factor identified was delayed decision-making by internal managerial staff. Survey responses indicated prolonged approval processes, especially regarding design modifications and budget reallocations. These bottlenecks stemmed from overlapping authority and limited availability of key decision-makers, a situation commonly found in hospitality projects with multi-tiered management structures (Sweis et al., 2008).

The third factor reflected insufficient early involvement of critical stakeholders. External consultants, regulators, and operational managers were frequently engaged only after key design and timeline commitments had been made. This reactive engagement pattern led to costly rework and cascading schedule impacts, corroborating research on the importance of early stakeholder alignment in preventing construction delays (Chinyio & Akintoye, 2008).Interview data reinforced these patterns. Stakeholders with high power and interest, such as project managers, hotel executives, and regulators, were often unavailable at critical junctures or lacked synchronized engagement timelines. Although these actors were essential to approvals and implementation, their misalignment contributed directly to project uncertainty. Stakeholder mapping confirmed that engagement was not consistently matched with influence levels, leading to inefficiencies and miscommunication.To further illustrate the influence and engagement timing of key actors, Table 3 presents the stakeholder power-interest mapping, based on survey and interview data.

Quadrant	Description	Number of Stakeholders	Example Stakeholders
Q1	High Power – High Interest (Manage Closely)	15	Executives, Owners, GM, Hotel Ops, Project Manager, Lead Consultant
Q2	High Power – Low Interest (Keep Satisfied)	10	Investors, Legal Team, Procurement Manager
Q3	Low Power – High Interest (Keep Informed)	50	Architecture Vendors, Interior Vendors, Site Managers
Q4	Low Power – Low Interest (Monitor)	25	Lighting Vendors, Sound System Vendors

Table 3. Stakeholder Power-Interest Mapping

Overall, the findings illustrate that renovation project delays are rooted in a complex interplay between technical coordination and stakeholder behavior. Addressing such delays requires not only managerial tools but also a deliberate engagement and communication strategy tailored to the project's power-interest dynamics (Bourne, 2016; Olander, 2007).

IV. CONCLUSION

This study examined the causes of delays in hotel renovation projects and assessed the influence of stakeholders in contributing to or mitigating those delays, using the Hotel X Jakarta project as a case. Based on data from 50 selected stakeholders, analyzed through both quantitative and qualitative methods, three primary delay factors were identified.The first and most critical factor—communication and coordination breakdowns—explained 41.3% of the variance in the delay-related responses, confirming its dominant role in project inefficiency. The second factor, delayed decision-making by internal managers, accounted for 20.2%, and the third, insufficient early stakeholder involvement, contributed 11.8%. These findings underscore the behavioral and structural roots of delays, beyond technical or logistical challenges. Stakeholder mapping revealed misalignment between power-interest positions and actual engagement timelines. High-power stakeholders, including regulatory bodies and consultants, were often under-engaged at crucial project phases. This mismatch increased uncertainty and led to rework and schedule disruptions—highlighting the importance of synchronizing stakeholder roles with project decision points (Chinyio & Akintoye, 2008).The significance of these findings lies in reinforcing that effective stakeholder engagement and project communication management are not supplementary but central to project success. When applied in tandem with tools like the Critical Path Method (CPM), they enable better anticipation of bottlenecks and improve control over renovation timelines (PMI, 2021; Bourne, 2016).

To address the identified challenges, this paper recommends:

1. Actively involving high-power, high-interest stakeholders at the earliest planning stages;
2. Designing and implementing a proactive communication strategy that defines flows, responsibilities, and escalation paths;
3. Integrating CPM simulation with stakeholder mapping to model and preempt engagement-related risks.

These insights offer practical guidance for renovation project managers operating in dynamic, multi-stakeholder environments—particularly within the hospitality industry, where operational continuity and time sensitivity are critical.

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