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STRIKE Method: A Problem Management Framework to Accelerate Delivery in Construction Projects

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Abstract: ***This paper presents the STRIKE Method; a structured problem management framework developed in the context of general construction projects. Initially applied in residential construction, this method proved effective in reducing project timelines and improving on-site coordination. The STRIKE Method Solve, Track, Report, Investigate, Keep Executing provides a practical, action-oriented approach to identifying and resolving issues that typically delay construction progress. Its application resulted in a reduction of the average project timeline from 10 to 6 months. By emphasizing proactive issue tracking, rapid decision-making, and continuous execution, the STRIKE Method aligns with Agile principles while addressing the unique demands of construction environments. This paper proposes STRIKE as a scalable and adaptable tool to enhance efficiency and responsiveness across several types of construction projects.***

Keywords: construction management, problem-solving, Agile framework, Lean construction, project efficiency

1. Introduction

Construction projects, whether residential, commercial, or infrastructure-based, often face delays caused by unforeseen issues, material availability problems, coordination failures, and inspection setbacks. Traditional project management approaches frequently focus on long-term scheduling and resource planning yet lack structured methods to manage day-to-day problems that can derail timelines

This paper introduces the STRIKE Method—Solve, Track, Report, Investigate, Keep Executing—as a practical and agile-inspired problem management framework for construction environments. Originally developed by the author while managing residential projects in the United States, the method led to a significant reduction in project duration, from 10 months to 6 months on average. The methodology focuses on speed, visibility, and execution: resolving problems before they cause delays, tracking issues in real time, and maintaining continuous workflow

The STRIKE Method is designed to complement existing scheduling and planning systems by filling the gap in operational-level issue management. Rooted in Agile values such as adaptability, team collaboration, and incremental progress, STRIKE offers a structured yet flexible process for managing problems in dynamic construction settings. This paper positions the STRIKE Method as a new, field-tested tool to enhance efficiency, responsiveness, and delivery outcomes in modern construction project management.

2. Literature Review

The construction industry has traditionally followed linear and rigid project management models such as the Critical Path Method (CPM) and the Waterfall model. However, these frameworks often fail to adapt to the dynamic nature of construction sites, where unforeseen problems can significantly disrupt timelines and increase costs (Aziz & Hafez, 2013). In response to these limitations, modern methodologies such as Lean Construction and Agile Project Management have been explored as alternatives. These models emphasize continuous improvement, waste reduction, and team collaboration (Ballard & Howell, 2003)

Lean Construction, derived from the Toyota Production System, introduces concepts such as pull planning, just-in-time delivery, and value stream mapping to improve construction workflows (Koskela, 1992). However, Lean tends to focus more on process optimization and resource efficiency than structured problem management. While it contributes to improved flow and waste minimization, Lean frameworks often assume that problems are either rare or already controlled by systemic efficiencies (Howell et al., 2017)

Agile Project Management, originally developed for software development, has been adapted to construction to promote flexibility, communication, and early problem identification (Miller et al., 2021). Agile principles such as iterative progress, stakeholder engagement, and continuous feedback are valuable for managing complex construction projects. Yet, few Agile applications in construction provide a detailed approach to systematic problem-solving during the execution phase. The STRIKE Method addresses this gap by proposing a structured cycle for real-time issue identification, tracking, and resolution—while staying aligned with Agile values such as responsiveness and team empowerment (Highsmith, 2009)

In the field of project management research, the importance of early detection and proactive handling of issues is well documented. According to Pinto and Mantel (1990), project failures are often caused not by planning errors but by poor response to unexpected problems. Similarly, the Project Management Institute (PMI, 2021) emphasizes that risk and issue management should be integrated into the daily operations of project teams. The STRIKE Method operationalizes this concept by making problem management a core task at the field level, not just a responsibility of the PM or senior leadership

Problem tracking tools are not new in construction, but they are rarely embedded into site-level routines with structured follow-up mechanisms. Tools like punch lists and RFIs (Requests for Information) often exist in isolation and are reactive by nature (Gao et al., 2020). By contrast, STRIKE emphasizes continuity: problems are not only logged and delegated, but actively reviewed, categorized, and monitored until closure. This persistent tracking aligns with best practices in continuous improvement and organizational learning (Deming, 1986)

In summary, while Lean and Agile have introduced important concepts for improving construction performance, there is a lack of specific methodologies focused on real-time problem management. The STRIKE Method contributes to this discussion by offering a simple, replicable, and action-oriented framework that enhances the responsiveness and adaptability of construction teams.

3. Methodology

The STRIKE Method was developed by the author during project management activities in the construction industry in the United States. The initial context was a company specializing in the construction of single-family homes, where the average project timeline was approximately 10 months. After identifying key inefficiencies related to problem detection, inspection delays, and reactive decision-making, a new methodology was implemented with the goal of improving responsiveness and reducing delays. The result was a measurable reduction in the average construction timeline to 6 months

The STRIKE Method focuses exclusively on problem management, operating independently but in alignment with broader project planning and scheduling tools. Its structure was designed to be simple, repeatable, and applicable across different types of construction projects

STRIKE stands for:

- Solve – Immediate action to address critical on-site issues, even with temporary or partial solutions.
- Track – Documenting each issue in a centralized system with a unique ID, responsible person, and deadline.
- Report – Communicating the problem status during meetings to maintain visibility among all stakeholders.
- Investigate – Root cause analysis for recurring or complex problems to prevent reoccurrence.
- Keep Executing – Ensuring that problems do not interrupt the overall project flow by adjusting tasks or sequences

The method was applied in daily operations. A real-time spreadsheet was used to list all active problems, responsible parties, dates of identification, and current status. This tool was reviewed weekly with the construction team and key subcontractors. Problems were categorized by priority level (critical, high, medium, low), allowing the team to act based on impact. Integration with material requisition planning and inspection scheduling also supported its effectiveness.

4. Results

The STRIKE Method was implemented across multiple active construction projects. Before implementation, the company averaged approximately 10 months from groundbreaking to home completion. Within one year of applying the STRIKE framework, the average construction timeline was reduced to 6 months, representing a 40% improvement in delivery speed

Other notable outcomes include:

- Reduction in inspection rejections: from 18% to 7%.
- Faster problem resolution: from an average of 9.4 days to 3.2 days.
- Increased visibility and accountability through weekly STRIKE log reviews.
- Higher subcontractor alignment due to consistent problem reporting and tracking

These results suggest that the structured problem management approach embodied in STRIKE positively impacted schedule performance, operational efficiency, and team collaboration.

5. Discussion

The STRIKE Method's success reinforces the importance of integrating Lean and Agile principles into construction project management. While existing tools focus on high-level planning, STRIKE provides a ground-level approach for dealing with daily execution issues. Its iterative, cycle-based model aligns with Agile philosophies, promoting adaptability, ownership, and responsiveness (Highsmith, 2009)

The method supports micro-level responsiveness, empowering field teams to manage problems without waiting for centralized decisions. This promotes continuous execution, a core principle of Agile and Lean thinking (Koskela, 1992; Miller et al., 2021).

The method also increases team accountability and engagement. Problems are visible, assigned, and reviewed consistently. This promotes a sense of ownership and fosters collaboration among field personnel and subcontractors (Gao et al., 2020)

Although STRIKE is not a comprehensive project planning tool, it complements existing frameworks by addressing the underdeveloped layer of day-to-day problem management. It can be easily integrated into broader Agile-based tools such as Scrum for Construction or the Last Planner® System.

6. Conclusion

This study introduced the STRIKE Method as a practical, field-tested framework for problem management in construction projects. Developed in response to persistent inefficiencies and delays observed in real-world project environments, STRIKE provides a structured cycle—Solve, Track, Report, Investigate, Keep Executing—that supports teams in proactively identifying, addressing, and resolving on-site problems throughout the construction lifecycle

The implementation of STRIKE in general construction projects resulted in substantial improvements in key performance metrics, including a 40% reduction in construction duration, a significant drop in inspection rejections, and faster resolution times for critical field issues. These results demonstrate the method's potential to enhance not only operational efficiency but also team accountability and collaboration

By positioning STRIKE within the Agile and Lean Construction domains, this paper responds to a notable gap in the literature: the lack of simple, actionable tools for day-to-day problem management in the field. While existing frameworks emphasize planning, scheduling, and risk analysis, STRIKE complements them by offering a lightweight, continuous process focused on real-time issue resolution

Future research should explore broader applications of STRIKE across different types of construction (e.g., commercial, public infrastructure, renovation) and test its performance in diverse project environments. As the construction industry continues to evolve in response to increased complexity and pressure for faster delivery, structured and scalable tools like STRIKE may become essential components of modern project management practice.

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