HOW TO ACHIEVE EFFECTIVE PROJECT ASSURANCE ON MAJOR PROJECTS

EXECUTIVE SUMMARY

Recent research from Oxford University reveals that fewer than one in ten major construction projects are delivered on time, casting doubt on the effectiveness of traditional project assurance models like the widely used Three Lines of Defense (3 LoD). This model, while structured, may not fully address the unique challenges of major projects for several reasons. However, the integration of data analytics and AI offers a more nuanced and adaptive approach, enhancing traditional methods with technology-driven insights. A shift towards a data-driven assurance strategy, focusing on detailed data analysis and the tracking of critical tasks, could significantly improve project delivery success and transform project assurance into a more predictive, efficient practice.

1 Introduction

Project assurance comes in many forms, with the Three Lines of Defense (3 LoD) model being the most structured and widely used framework for major construction projects. Renowned for its comprehensive approach to risk management, compliance, and operational control, 3 LoD has become a cornerstone in the realm of major project delivery. Yet, is it the most suitable framework for the intricate challenges of these colossal undertakings? Possibly not – or at least, not without the sophisticated augmentation of data analytics and AI.

Why? Because **the dynamic, often unpredictable nature of major projects demands a more nuanced, adaptive approach – one that blends traditional assurance methods with the cutting-edge insights of technology.** Let's take a closer look at why integrating data analytics and AI might be the game-changer in harnessing the full potential of project assurance.

2 The Pitfalls of Misleading Metrics

Imagine a world post-2008/9 financial crisis – a period marked by uncertainty and the realization that many organizations lacked a structured approach to managing risk. This was a time when ensuring that risks were being identified and controlled at the board level became more critical than ever. In response, January 2013 saw the Institute of Internal Auditors introduce the 3 LoD model. It wasn't just a framework; it was a comprehensive blueprint designed to revolutionize how organizations manage risk and exercise control.

Setting up a 3 LoD system is a journey – one that's neither simple nor always guaranteed to reach its destination successfully.

Take the case of Crossrail: a project that, despite having a robust 3 LoD system, faced a staggering 4-year delay and cost overruns, initially underlined announced as a 9-month delay in August 2018. The project was reportedly 97% complete, but this figure masked a reality far from completion. This leads us to an essential question: why, even with stringent assurance and governance, did such a critical project lose track of its schedule?

To answer this, we need to understand the 3 LoD model in the context of major projects.
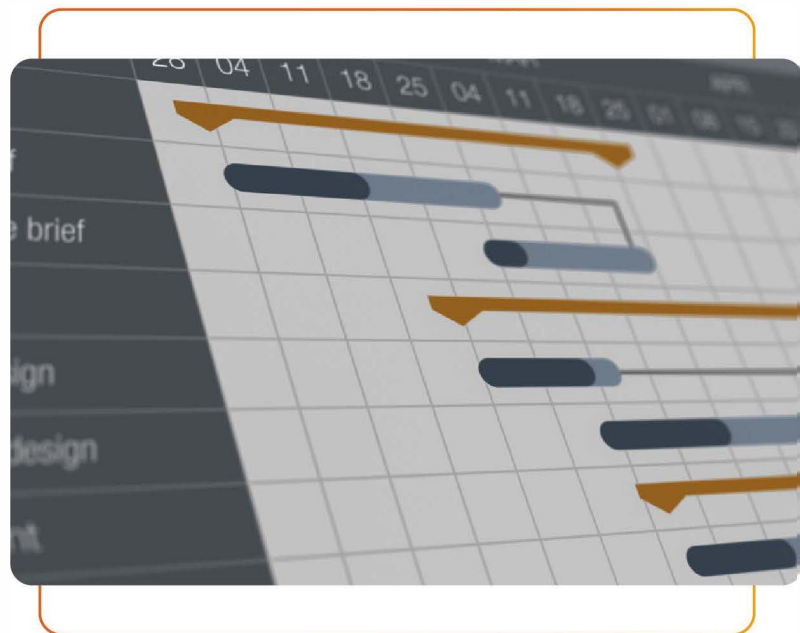
3 Understanding the 3 LoD Project Assurance Model

• **The first line – the frontline of risk management:** Here, we have the management or process owners. They're in the trenches, dealing with the day-to-day operational risks. Their role is multifaceted – they're not just managing risks but also designing, operating, and implementing the necessary controls. It's a hands-on approach where every decision directly impacts the project's progress.

• **The second line – the oversight experts:** This layer is where emerging risks are identified and managed. It's less about direct management and more about providing the essential frameworks, policies, tools, and techniques to support risk and compliance management. Think of it as a support system that ensures the first line doesn't miss anything crucial in their risk management duties.

• **The third line – the independent assessors:** The third line steps back further to provide an objective, independent view. Their primary task is to evaluate how effectively the first and second lines are functioning. It's like having a watchdog to ensure that everyone is playing their part correctly and that the project stays on track.

It's easy to see the financial sector's influence on this model. It's all about compliance, handling the daily operational activities, and managing risks.

4 The 3 LoD Model in Major Construction Projects

However, when we shift this model to a major project setting, things get a bit more complex. There are designs to follow and regulations to comply with, but there are also external risks like supply chain stability, labor shortages, and fluctuating costs. There's also one important differentiator: **in major projects, time is a critical factor. It's not just about managing the risks that are part of any framework; it's about dealing with the constant pressure of time.** This is where the traditional 3 LoD model gets tested – controlling the complex schedule, and the subsequent impact on costs, is difficult at best. Let's unpack the reasons behind this.

Schedule Control While a significant amount of effort in major projects is dedicated to controlling costs, it's important to realize that cost overruns are often a direct outcome of time slippage. When projects fall behind schedule, the effects are far-reaching.
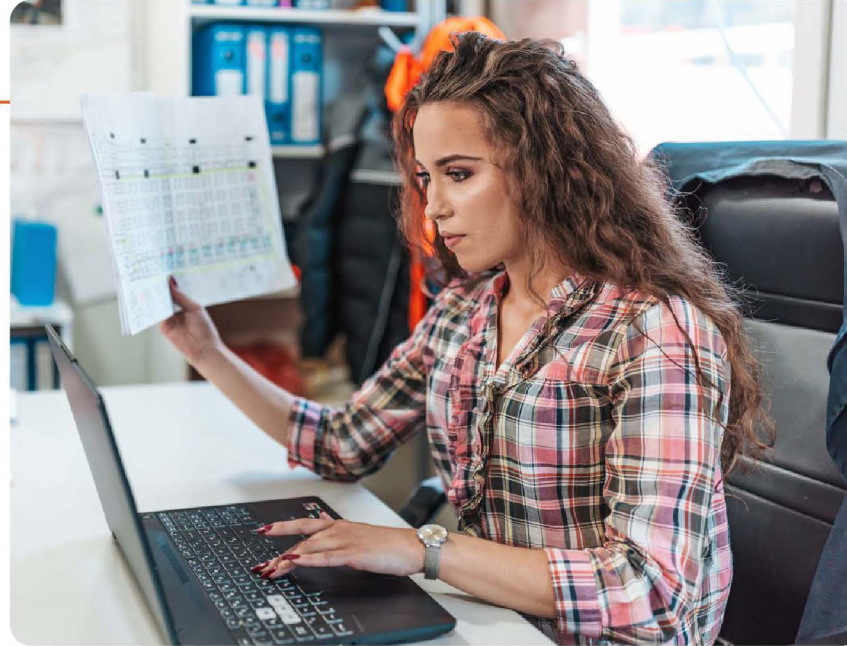
Quality issues, for instance, not only require costly rework but also delay other project activities. To put this into perspective, a major international organization undertook a study across thousands of its projects and found that time contingency is worth twice that of budget. In other words, **if we were to put as much effort into schedule control and forward-looking predictive risk assessment as we do cost control, we could see twice the effect.**

The reality, however, is that we rarely do this. Typically, schedule assurance is reduced to monthly meetings where project leads provide updates, often glossing over potential delays. In the 3 LoD model, it is particularly difficult for the second or third LoDs to provide genuine insightful assurance of schedules that are owned and controlled by the first LoD. Yet the result of not doing so, according to research from Oxford University, is shocking: **fewer than one in ten major projects are delivered on time.**

Assessing Value Beyond the Budget

Earned Value Management (EVM) is widely used as a project monitoring tool. However, it primarily serves as a lag indicator, showing what should have been completed and spent. While useful, it does not function as the comprehensive risk management tool that an assurance framework like the 3 LoD model requires. Furthermore, in major projects, even seemingly minor tasks can have major impacts on the overall schedule due to their interdependencies and criticality, leading to a disproportionate impact on time and therefore cost.

So, in major projects, 'value' is not just a measure of budget, but a measure of project schedule criticality and the potential overall impact on the project if delayed.

Managing Complexity

However, major projects are incredibly complex, with countless interdependencies. **The idea of a single critical path in the constantly changing environment of a major project is misleading – the critical path is constantly changing in response to evolving project dynamics, unforeseen external factors, and shifting stakeholder priorities.**

Expecting humans to be able to manage all that complexity and identify the level of criticality of each task in their heads is unrealistic.

Another issue is that traditional methods like periodic auditing, while valuable, struggle in the face of such complexity. Major projects, with their dynamic nature, can veer off course almost overnight. The attempt to manually audit a complex schedule is not just daunting, but also often a futile exercise. Consider Quantitative Schedule Risk Analysis (QSRA) – a process that can span weeks, relying heavily on human judgment, and often tinged with optimism bias or, in more dire situations, strategic misrepresentation.

5 The Role of Data Analytics and AI in Project Assurance

With these factors in mind, let's go back to our example of Crossrail. The previously referred to surprises happened when the problems had been buried deep in the data for months, if not years, unidentified by traditional governance regimes and project management tools. It's not that the 3 LoD model is necessarily unsuitable, but it – **and any project assurance strategy – would have been much more successful if it had been based on a deep assessment of the data and the close tracking of all critical tasks as lead indicators.**

This is where tools like Foresight become indispensable. By assessing value in terms of project criticality, Foresight provides a more holistic view of a project's progress and potential risks. It controls risk by assessing on a near-continuous basis the criticality of every task in the schedule, recommending where to apply strict controls, and identifying what impacts seemingly minor slippages can have. Additionally, it measures task intensity in any given period, enabling resource smoothing. And because Foresight is accounting for every single task, it also gives an extremely accurate percentage of completion. By analyzing the data in this way, surprise delays can be avoided and accurate forecasting achieved – which is a fundamental part of the risk management process and should be the basis of any major project risk framework.

6 Embracing the Future of Data-Driven Project Management

Time is the biggest enemy of major projects, with threats hidden within the vast quantities of project data. AI-enabled data analytics, like those provided by Foresight, have been developed specifically to look deep within the schedule and identify risks that would otherwise not be visible with traditional tools and techniques.

It's time to shift our mindset and embrace the vast potential of data analytics and AI to simplify the complexities that have long plagued major projects. We need to move beyond traditional methods in order to consistently deliver projects on time and within budget.

The future of project assurance isn't just about managing data; it's about making data work for us, placing it at the heart of our strategies, and allowing tools like Foresight to lead the way. It's a future where time, once an enemy, becomes an ally in our quest for excellence in major project management.

To see how Foresight can assist with your project assurance strategy, **book a demo** with one of our experts.

About us

Foresight's construction project management platform helps owners and contractors deliver major projects on-time and on-budget by automatically identifying priorities, risks, and action plans in Primavera P6 or Microsoft Project schedules. We place the schedule at the heart of project execution, enabling project managers, controllers and schedulers to make data-driven decisions. Leveraging AI, machine learning and natural language processing, Foresight unleashes predictive insights about delay risks and work prioritization. Our secure, scalable and user-friendly platform revolutionizes your planning and execution by creating proactive 'look-ahead' action plans, igniting dynamic collaboration, staying head of risks, learning from past projects, and enhancing schedule visibility/reporting.

Contact us to learn more:
www.foresight.works