

4 KEY DIMENSIONS

TO ASSESSING YOUR CONSTRUCTION SCHEDULING AND RISK MATURITY



PROVEN PROJECT CERTAINTY.



INTRODUCTION

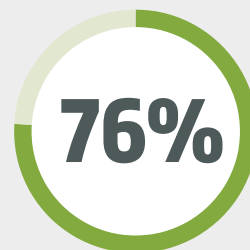
When it comes to figuring out where you stand in your scheduling and risk maturity, the considerations can be mind boggling.

To help you sort it all out, we've chosen the four most common areas or dimensions of concern: risk, collaboration, scheduling and execution. Based on our own construction experience, customer projects and industry reports, we'll cover the pains you face and also the substantial gains in project improvement you can realize by maturing, growing and improving in each dimension.

Ability to better manage risk
Dimension 1



Improved internal collaboration
Dimension 2



Real-World Statistics

If there was ever any doubt about the value of schedule and risk management, the Construction Industry Institute (CII) put it to rest in a landmark survey of 104 international owner and contractor organizations where over 70% of all respondents achieved “significant or greater” impact from their implementation of practices to manage project risk exposure.¹

Increased confidence in project decision-making
Dimension 3



Ability to better manage project schedules
Dimension 4



¹ Probabilistic Risk Management in Design and Construction Projects, Construction Industry Institute, RS280-1.



4 KEY DIMENSIONS

You can't get what you need until you *know* what you need. Gain a truer picture of where you stand in your construction scheduling and risk maturity — and what you stand to gain — by exploring these four key dimensions.

1

Quantifying Project Risk

The focus here is all about calculation of risk exposure on a project and the methods to communicate and mitigate that risk. Organizations that don't take this step are often intimidated by the challenge of modeling such risk. The truth? Ignore risk and you may unintentionally put your project in peril.

2

Consensus and Collaboration

The focus of this dimension is on gaining acceptance and ownership of the schedule through active collaboration, improving visibility and providing the means to capture and incorporate the feedback of experts during the planning process.

3

Schedule Quality and Realism

This area is all about ensuring schedule quality in both its structural soundness and its realism based upon historical performance. To have a schedule you can rely on means you need both a quality plan and one that is reasonable based upon your unique history.

4

Aligning Scheduling and Execution

In this dimension, we'll focus on ensuring that the way you plan to execute the work in the field is consistent with how you assembled the broader schedule, and in alignment with key dates and milestones. When the schedule can be used as the basis for daily plans in the field, the execution team has a framework to plan against.



DIMENSION 1:

QUANTIFYING RISK TO THE PROJECT FOR TIME, DATES AND COST

The focus here is all about calculation of risk exposure on a project and the methods to communicate and mitigate that risk. Organizations that don't take this step often do so because they are intimidated by the challenge of modeling such risk. The truth? Ignore risk and you may unintentionally put your project in peril.

PAINS

Identifying and managing risk is a difficult yet crucial process for many organizations. The reason this is so challenging is because capturing the inputs to risk analysis and interpreting the results has been a time-consuming, confusing and error-prone process executed by academics, not project leaders. But with companies risking US\$135M for every US\$1B spent on projects, it pays to get it right.²

If you experience any of the following challenges, quantifying risk on your project should be a priority:

- One or more projects in your portfolio is plagued with unexpected performance issues
- History of poor performance or issues repeats itself in new projects
- Projects are constantly in fire-fighting mode to stay on track

GAINS

When an organization considers risk identification and response as part of the project planning process, it significantly increases its chances of meeting schedule and cost targets. In that same landmark CII survey, 90% of the organizations implementing probabilistic approaches to project risk management achieved a return on investment (ROI) of at least 1:10, while a third of the respondents noted ROIs exceeding 1:100.³

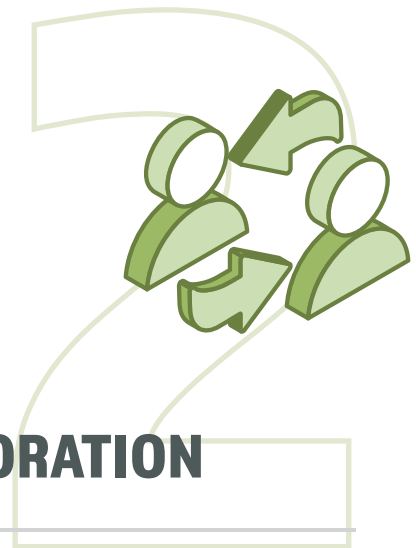
Understanding risk exposure and its source means definitive action can be taken to combat its impact resulting in a more predictable plan, or at minimum, timely adjustment or resetting of project performance expectations.

Project impact you should experience by maturing your approach to project risk:

- Visibility into risk exposure and time to mitigate the impact or to make the informed decision to accept specific risks
- Quantifiable certainty in performance from knowledge that a given date or cost has a 75%, 90% or 100% chance of being achieved
- The ability to take risks identified and mitigations applied on previous projects, and use them to reduce exposure on future endeavors

² *The High Cost of Low Performance: The Essential Role of Communications*, Project Management Institute, May, 2013.

³ *Probabilistic Risk Management in Design and Construction Projects*, Construction Industry Institute, RS280-1.



DIMENSION 2:

ACHIEVING CONSENSUS AND ADOPTION THROUGH TRUE COLLABORATION

The focus of this dimension is on gaining acceptance and ownership of the schedule through active collaboration, improving visibility and providing the means to capture and incorporate the feedback of experts during the planning process.

PAINS

The accuracy and achievability of a schedule is driven by the realities faced during execution. Organizations have expert teams that understand project execution but are often not included during the plan creation process. Reviewing project plans has traditionally required expensive software licenses and in-depth knowledge of how to operate those applications. A recent survey comparing typical projects with top-performing projects found implementing early and frequent stakeholder collaboration to be a primary driver of project performance. The findings: 61% of those projects that did not embrace collaboration finished behind schedule and 49% were completed over budget.⁴

If you experience the following challenges, schedule buy-in and adoption should be a priority:

- Lack of collaboration or feedback on project schedules prior to and during execution
- Immediate deviations from the schedule upon project start because the plan didn't reflect how the work will be delivered or accomplished
- Extended planning sessions manually marking up printed Gantt charts only to rekey the information back into the schedule and determine the impact

GAINS

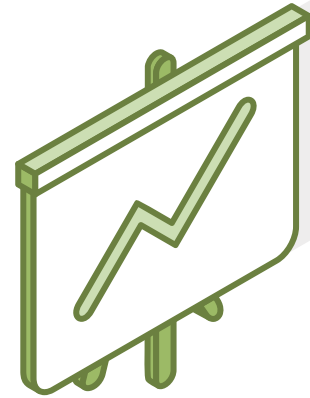
Since your discipline leads and team members are the ones responsible for executing the work, collaborating with them digitally during the schedule creation process will drive "ownership" and responsibility in executing the project in accordance with schedule objectives. Noting important factors to achieving the highest levels of maturity, CII established a *Collaborative Scheduling Maturity* model. In it are two important aspects: 1) Schedule Representation, where the format and level of detail provided to the team is critical, and 2) Communication, stakeholder engagement in the process of capturing feedback.⁵

Project impact you should experience by introducing collaboration to schedule development:

- More reliable schedules that the teams executing the work will take ownership of and adhere to
- An ability to reference the team's recommendations, tracking against actual performance
- Reducing the time required to evaluate and incorporate team member feedback
- Allowing team members to highlight risks that could materially impact project performance

⁴ Best Practices for Improved Project Performance Study, Dodge Data and Analytics, 2016.

⁵ Challenges and Opportunities to Promote Collaborative Scheduling, Construction Industry Institute, RT-362.



DIMENSION 3:

DEVELOPING STRUCTURALLY SOUND SCHEDULES THAT REFLECT HISTORICAL PERFORMANCE

This area is all about ensuring schedule quality in both its structural soundness and its realism based upon historical performance. To have a schedule you can rely on means you need both a quality plan and one that is reasonable based upon your unique history.

PAINS

Building a structurally sound plan can be incredibly difficult given the complexity of today's capital projects. Get the logic wrong and create plans with inadequate detail or artificially lock in dates and the integrity of the schedule is compromised. But a structurally sound plan is just the entry fee! The plan must also be representative of your historical performance.

If you experience the following challenges, schedule quality and realism should be a priority:

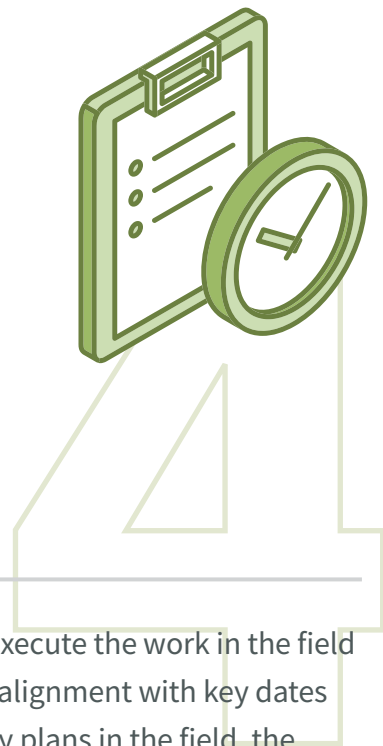
- Schedule dates don't change as expected when progress or status is introduced during execution
- Productivity expectations are derived to achieve a date instead of using historical productivity to inform how long the work will take
- Each schedule gets created from scratch with no reference to historical plans

GAINS

A plan that is structurally sound is reliable and can be trusted to reflect when a project will be completed. When historical performance is used to estimate new work, the degree of confidence in schedule durations and dates is dramatically improved.

Project impact you should experience by introducing a structurally sound schedule to your project development process:

- Reliable plans that react in predictable ways to project changes
- Validated productivity expectations that drive when work will be accomplished
- Accelerated schedule development when using historical schedules as the basis of new plans



DIMENSION 4: ALIGNING SCHEDULE OBJECTIVES FOR SUPERIOR EXECUTION PLANS

In this dimension, we'll focus on ensuring that the way you plan to execute the work in the field is consistent with how you assembled the broader schedule, and in alignment with key dates and milestones. When the schedule can be used as the basis for daily plans in the field, the execution team has a framework to plan against.

PAINS

When there are disconnects between field execution plans and the schedule, project performance becomes unpredictable and downstream impacts are difficult to quantify or remain entirely unknown.

If you experience the following challenges, schedule and execution alignment plans may be a priority:

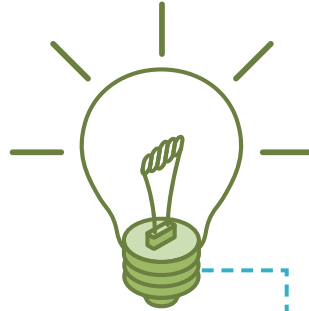
- The schedule is not referenced or is ignored by teams planning for execution in the field
- Difficulty translating performance from the team in the field to status in the schedule
- Delays and downtime due to plans that don't reflect the path of construction

GAINS

Complex projects that have schedule and execution plans operating in concert drive greater stakeholder alignment, better visibility and faster response times to issues that surface in the field. When the schedule is used as the framework for 30-, 60- and 90-day lookahead execution plans, we start from an objective-based view with complete clarity as to expectations.

Project impact you should experience by aligning execution plans and the schedule:

- Less downtime when the schedule is aligned with the execution plan or path of construction
- Visibility from 30-, 60- and 90-day lookaheads to the scope areas in the schedule
- Immediate awareness when misalignment occurs so that adjustments can be made in real-time



If traditional scheduling represents what a driver sees in a car’s rearview mirror, then knowledge-driven planning is the view through the windshield.

DRIVEN BY KNOWLEDGE

DOES YOUR SOFTWARE CHECK THE RIGHT BOXES?

One of the driving forces behind rapid improvement in scheduling practices is the emergence of augmented intelligence (AI) or what we now call knowledge-driven planning. But intelligently mining this knowledge takes the right tech tools. When shopping for risk and scheduling software, make sure you have features that can give you the best outcomes for all four key dimensions.

Software Features	Dimension 1: Risk	Dimension 2: Collaboration	Dimension 3: Scheduling	Dimension 4: Execution
AI-Assistance for Scheduling & Risk	✓		✓	✓
Productivity-Driven Durations	✓		✓	✓
Schedule Check for Quality & Realism	✓		✓	
Enterprise Risk Register	✓	✓	✓	
Knowledge Library	✓	✓	✓	
Team Member Collaboration	✓	✓	✓	
Templated Top-Down CPM Schedule Generation	✓		✓	
Risk-Adjusted Forecasting	✓		✓	
Field Execution Planning (Interval Planning)		✓	✓	✓

READY TO TAKE A DEEPER DIVE?

Download [*The Marriage of Scheduling and Execution: Your Key to Project Certainty*](#) and learn how to practice planning, scheduling and risk analytics that work in the real world.

ABOUT INEIGHT

InEight provides field-tested project management software for the owners, contractors, engineers and architects who are building the world around us. Over 300,000 users and more than 750 customers worldwide rely on InEight for real-time insights that help manage risk and keep projects on schedule and under budget across the entire life cycle. From pre-planning to design, from estimating to scheduling, and from field execution to turnover, InEight has powered more than \$400 billion in projects globally across infrastructure, public sector, energy and power, oil, gas and chemical, mining, and commercial. For more information visit [InEight.com](https://ineight.com).