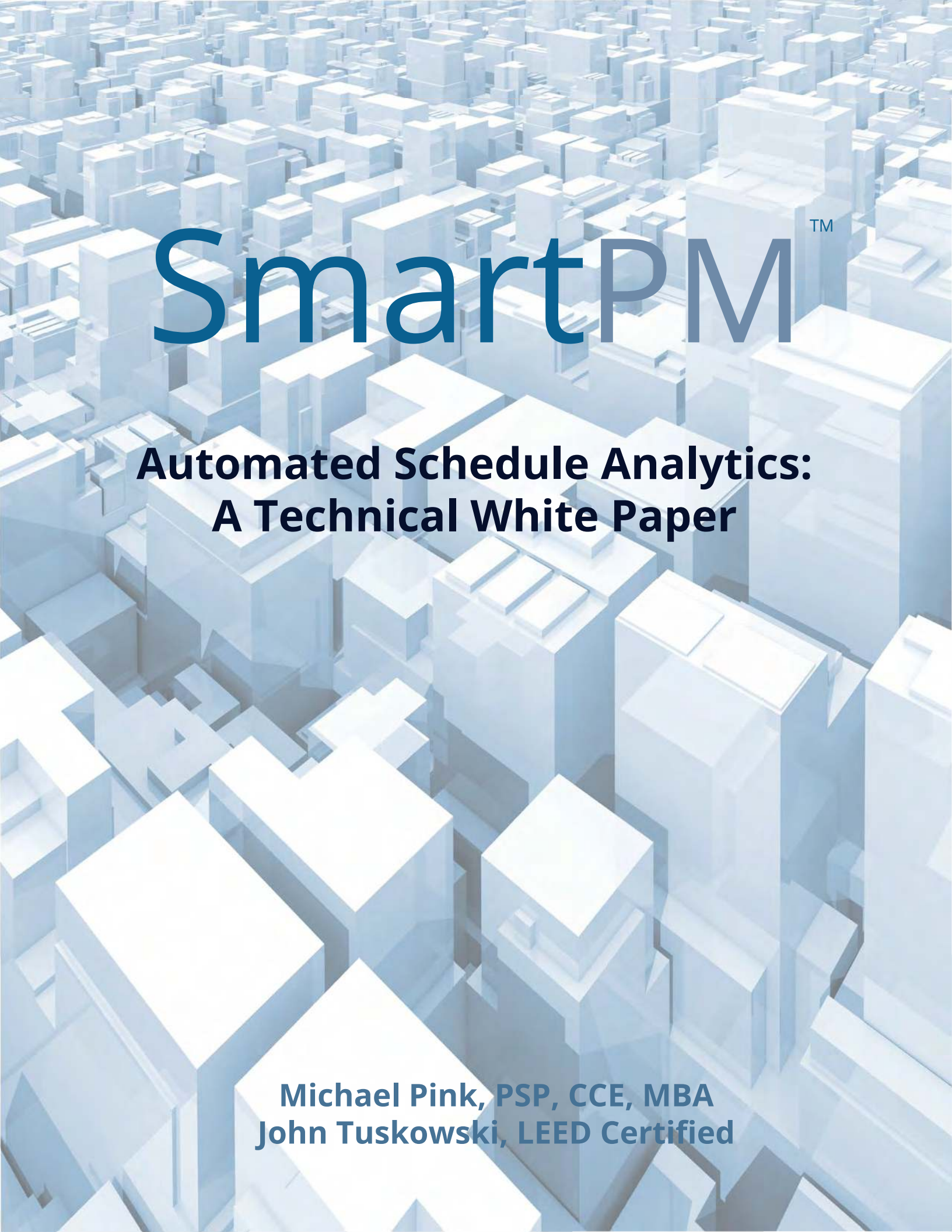

SmartPM™

Automated Schedule Analytics: A Technical White Paper

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Table of Contents

Executive Summary

SmartPM™ is a "first in kind" data analytics platform for the Construction industry, designed by industry professionals who specialize in performance management and process improvement. SmartPM™ examines available data extracted from systems utilized on construction projects to generate meaningful analytics and useful insights that stakeholders can rely on to manage, avoid, and overcome challenges related to overruns, delays, and disputes.

SmartPM™ utilizes the most useful and important data set in construction, the project schedule, to analyze the most-costly issues that affect project success. SmartPM™ employs a 5-step approach to analyzing construction schedules from the initial baseline through to the most recent update, providing critical information to support risk management and effective decision making.

SmartPM™ was developed by industry veterans who spent their careers analyzing schedule and project data related to large commercial construction projects to assist stakeholders in identifying issues and root causes for delays and overruns.

Why the Schedule?

Industry studies exist and the numbers speak for themselves; construction projects have continually failed to meet their desired objectives and timelines. The old saying that time is money holds true in construction. According to a recent study by FMI, global construction waste amounts to a financial loss of $1.4 Trillion. In addition, similar industry articles state that approximately 60% of this loss is caused by project delays, which is why it is critical to fully understand construction project schedules. But to do so requires a deep analysis of the interdependencies amongst stakeholders and the activities they are responsible for. Only by fully understanding the schedules can one accurately identify and understand causes and effects of overruns, delays and subsequent cost impacts. The construction schedule is the most comprehensive and informative single data set that exists on most construction projects today to assist project teams and stakeholders in this analysis. The schedule is the only project document that contains a roadmap linking all the stakeholders and their respective activities and responsibilities.

By closely and systematically evaluating the project schedule over time, one can learn a lot about progress, performance, delays, and future risk. This supports stakeholders' (Owners and Decision Makers at Construction Management firms) need to make the most informed business decisions – ones which simply can't be made using a cost accounting system alone. No performance assessment is complete until a full analysis of the schedule has been performed. Further, the schedule is the only document where a comparison of the planned to actual workflow, the identification of key delays and various decisions related to resequencing, can be accurately evaluated. If regularly and appropriately maintained, the schedule paints the most "accurate" picture of progress and performance over time across all activities, which is imperative to understanding costly setbacks, while forecasting future impacts. Since the schedule is typically utilized to support progress payments, there are also inherent controls in place to ensure the schedule remains accurate throughout the construction lifecycle – meaning that schedule data is also the most accurate data.

> "77% of megaprojects around the globe are 40% or more behind schedule"
>
> -McKinsey Global Institute

> "Large projects typically take 20% longer to finish than scheduled"
>
> -McKinsey Global Institute

> "9.9% of every dollar is wasted due to poor project performance"
>
> -PMI's Pulse of the Profession

To summarize, better scheduling analytics discipline across the project lifecycle results in enhanced accountability, better performance, increased communication, improved decision making, and a higher likelihood of meeting expected outcomes.

The 5-Step-Process of Schedule Analysis Required to Minimize Risk of Overruns and Delays

While the industry generally recognizes the importance of planning and scheduling, the schedule is often overlooked as the key tool to managing projects. Too frequently, schedules are generated at the beginning of a project with unrealistic timelines, inadequate logic or sequencing, undefined activities, inexperienced, incomplete or strained resources, and a lack of team input. As the project progresses into execution, the schedule unfortunately becomes an afterthought or considered a “necessary evil” rather than a tool to better manage the project. Delays occur and are often accepted without clear accountability or transparency; overly optimistic recovery efforts are forecasted without regard to historical performance. Most project teams start with using the schedule to plan the work but fall short of using the schedule to manage the work well.

> *Schedule integrity should be assessed as the schedule is updated; verifying the integrity of the schedule after each update will ensure that the schedule remains reliable after activities are added, removed, broken down into smaller activities, or sequenced differently from the last period.*
>
> -GAO Schedule Assessment Guide: Best Practices for Project Schedule

Missing in most processes is the continuous and contemporaneous analysis of the project schedule as it pertains to:

- Schedule Quality (was it built using best practices?),
- identification of the driving critical activities directly delaying or impacting key milestones,
- recovery decisions that were potentially overoptimistic, aggressive or even haphazard,
- misleading information that may compromise future performance, (ie. what changes were made that were questionable or infeasible – or used to hide delays to the project?),
- the amount of compression built into the schedule (and when did it cross the line from being achievable to unachievable?),
- updating the project to reflect reality as more information is learned, and
- providing forecasts to delays and delay issues given what is known at the time (since patterns of delay are rarely extrapolated to future activities).

When the schedule analytics above are managed, in part or in total, the results have proven to be very useful in minimizing delays, overruns and potential disputes. Project control teams, consulting experts, scheduling gurus and dispute advisors who consistently and contemporaneously evaluate the project schedule and implement techniques to monitor and control project schedules have proven to successfully impact project outcomes through these measures. However, this oversight and analysis typically comes at a high cost to a project or an organization – as schedule analytics is a very time-consuming process. Traditionally, performing these analyses properly has been a manual effort, which required significant time, resources, and costs on the part of all stakeholders. A few tools exist that focus on analyzing schedule quality and changes, and one allows users to run predictive analytics; but, most of these solutions require a specialist, are relatively, poorly designed, and lack automation and objectivity. Further, there is no user-friendly solution that allows users to systematically analyze the above analytics, along with delay, compression, and feasibility all in one place…until now.

Step 1

Schedule Quality

Ensuring that a schedule has been developed with sound quality and best practices is the foundation for project success. This may be obvious, but unfortunately, the industry has yet to master this concept; and typically, the less sophisticated a company is, the greater the chance that a schedule is mediocre, at best.

The Defense Contract Management Agency (DCMA) has established standards for analyzing the quality of a schedule by highlighting the existence and frequency of certain “bad practices” including but not limited to: missing logic, high numbers of constraints, activities with high durations, large amounts of positive and negative lag, among others. What is necessary when building a schedule is assurance that all activities are appropriately tied together to form a “reactive” schedule; one that clearly illustrates impacts and delays, so that problems are accurately diagnosed and can be easily identified. Without this control in place, schedules may be developed with erroneous critical paths, which leads to identifying the wrong items as critical delays; masking where the real problems are likely embedded and misrepresenting the real short-term and long-term effects. While solutions exist that analyze some of these components, most do not explain to what extent a schedule’s deficiencies have reached a level of concern – which leaves individuals responsible for interpreting the data themselves – and people are subjective.

Step 2

Recovery Analysis

Delays frequently occur in Construction. From the beginning of the project to the end. Nothing seems to go as planned, ever. That is just construction. The reality is that the baseline schedule is merely a “plan”. Separately, there is the reality of the issues that emerge during execution. To manage reality, a common practice is to make changes to schedules (via the updates to get the project back “on track”. From a high level this appears to be a reasonable approach, but that’s only true if the changes made are feasible and agreed to by the parties involved. All too often, changes are made to schedule updates without key stakeholders fully analyzing whether they are realistic or feasible. Rather, these decisions are frequently made with hope and over optimism (and in some cases even manipulation).

While many industry schedulers and PM’s think it’s ok to be optimistic, they don’t realize that many costly decisions are made based on the forecasted end date, and many stakeholders are financially dependent and/or tied to important milestone dates listed in the schedule. If that date is incorrect, it is financially damaging to all parties involved. Therefore, it is imperative that there is a control mechanism that allows users to better understand the reliability and accuracy of the recovery decisions that are being made. Unfortunately, to do this well can take hours or days evaluating and analyzing the potential effects of these decisions. Current Industry Programs accelerate analyses, but none of these systems are built with the intelligence to recommend a path toward a solution. Rather, these systems provide a "data dump" of all changes without context as to the feasibility and risk level of each change. SmartPM™ provides both the analysis and context in an automated fashion.

Unless schedule variances are monitored, management will not be able to reliably determine whether forecasted completion dates differ from the planned dates.

-GAO Schedule Assessment Guide: Best Practices for Project Schedules

Step 3

Critical Path Delay Analysis

Critical Path Delays are one of the key contributors to and drivers of, schedule overruns. Overruns related to delays are among the most heavily disputed of all cost overrun issues. One reason is that identifying critical path delays is a difficult task. For any given project, there are likely multiple delays occurring at once, and understanding all of them requires significant time to study the data and develop a complete picture. The challenge is wading through the minutiae to derive supportable analytics on what was delaying the project overall versus what was delayed but didn’t impact the end date in a specific period. There are proven methodologies that exist, which consultants utilize to make sense of this data, but they are part of a manual, time consuming, and subjective process, which often leads to further disputes around assumptions and methods. (This is why consultants are paid top dollar to conduct critical path delay analyses.)

The reality is that delays will always occur and the parties responsible for the delays that drove the job will continue to be contractually obligated to pay damages. The problem is with so many delays happening concurrently, no one believes or wants to admit that the delays they caused might be among the critical ones.
One final note on delay analysis; it is obviously affected by the quality and feasibility of the schedule and therefore only reliable when these items are fully understood. This is one of the reasons it is important to discuss delays as they occur, and to make meaningful decisions related to delays in real time. Unfortunately, this doesn’t usually happen for a variety of reasons. It could be that one of the parties is unaware that a delay has occurred, because the end date didn’t change to reflect it. The most common scenario is that the parties involved cannot agree upon what delayed the job – without hiring a consultant….and doing so is an expensive and often last resort option.

Step 4

Feasibility Analysis

In layman's terms, Schedule Feasibility Analysis is the study of whether the plan laid out in the project schedule is achievable, given the logic and durations of the activities involved. Since so much money is at stake, including both the capital investment and the revenue to be generated from the asset, it is imperative to study the schedule to ensure it is achievable. At the beginning of a project, when the baseline schedule is submitted, it is nearly impossible to address feasibility – particularly because the durations need to be tested. If they are consistently off, the future durations are affected. If there is missing logic and common sequential activities, then trades stack into levels where resource requirements can't be met. This needs to be studied early and often and throughout the entire construction lifecycle in order to effectively mitigate financial risks related to construction.

Bottom line, when Schedule Quality, Delay Analysis and/or Recovery methods are not done well, Schedule Feasibility suffers. It suffers when a project schedule is of bad quality. It suffers when too much recovery is built in to combat delays. It suffers when consistent delays keep happening and issues aren't extrapolated to future activities. And when Schedule Feasibility suffers, everyone loses. Owners suffer from projects not being turned over soon enough, resulting in impacts to revenue generation and added construction costs. Contractors suffer from reductions to their profit margins, being unable to effectively plan resources across many projects and by losing credibility in the marketplace. By ensuring that schedules are feasible, stakeholders can be more confident that there is reliable information to plan their business around and to ensure that ROI and business growth is maximized on every project.

Step 5

Predictive Analysis

The industry suffers greatly by not having a simple way to effectively and accurately predict project/milestone completion dates or understand the drivers of risk towards achieving them. Running Predictive Analytics on a project schedule not only helps to inform owners and contractors of the estimated completion date, which enables all parties to plan better, and thus minimize cost exposure due to uncertainty. Predictive analytics also informs stakeholders of the likely path towards the successful achievement of the major milestones. By constantly analyzing historical performance and variance, one can identify key trends, which can then be used to more accurately predict future end dates. FYI – we are not talking about the current scheduled critical path here. We are talking about the likely critical path going forward - given all that we have learned from performance history to date - the good, the bad, the ugly - and running thousands of scenarios to identify the most likely outcomes and the factors that drove them. This type of analysis is probably the most powerful type in construction. Unfortunately for stakeholders, one must go through the gauntlet of studying quality, performance, delay, compression and feasibility to accurately predict future outcomes. So, it is often the last thing people invest money in.

Without trend analysis, management will lack valuable information about how a program is performing. Knowing what has caused problems in the past can help determine whether they will continue in the future.

-GAO Schedule Assessment Guide: Best Practices for Project Schedules

How SmartPM™ Overcomes Data Integrity ("Garbage In / Garbage Out") issues and allows users to model delay information to better understand cost and schedule variances

While the old saying "Garbage In Equals Garbage Out" holds true for many systems, SmartPM™ allows the user to make modifications to the data to amend, correct, and improve the data imported – all while maintaining the original integrity of the data.

When data is imported into SmartPM™, that data becomes the basis for analysis. This "Original Data" is maintained in the system in the file format that it was imported and is not corrupted in any way by SmartPM™. Once the data is stored in the system in its original form, the system allows the user to make copies of the data into separate "What-If" analyses where the following data points can be manipulated:

i. Activity Data – SmartPM™ allows users to change start dates, finish dates, progress and calendar data of all existing activities in the schedule, for purposes of analysis. SmartPM™ also allows users to add and remove activities from the analysis.
ii. Logic Data – SmartPM™ allows users to add or remove logic at different points in time, from any existing activities, for analysis purposes.
iii. Change Data – SmartPM™ performs a complete audit of all changes that were made in the schedule from one update to the next. Any and all changes to schedule data from one schedule to the next can be accepted, rejected or moved to an earlier or later period – for purposes of analysis.

SmartPM™ also has built-in indicators, such as the Schedule Quality Index, Schedule Recovery, Change Audit Log, the Compression Index and an End Date Predictor to guide the user towards correcting data deficiencies in the schedule that could otherwise result in an erroneous analysis.

By utilizing the Schedule Corrections and Scenarios' features, users are also able to analyze specific subsets of schedule data contained within the original data set. Users can remove various aspects of the project schedule, whether it be Phase, Area, Trade, or Network Logic preceding a specific activity or milestone.

Once schedule "Corrections" or "Improvements" or "Changes" have been made, (for purposes of analysis) SmartPM™ runs the same analytics on the revised set of data as the original data – in the same manner as outlined in the methodology and process sections above.

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SmartPM™ Use Cases

SmartPM™ is designed to provide project analytics that support the entire construction lifecycle. SmartPM™ not only performs powerful analytics, but it also converts this information into digestible intelligence for the user. This means that SmartPM™ is not just a tool to assist seasoned schedulers and analysts in performing more in-depth analytics faster, but is also designed to assist non-schedulers in better managing risk of overruns and delays through informational intelligence. More specifically, SmartPM™ is utilized for the following:

i. Schedule Review/Approval – SmartPM™ provides key insights that may be difficult to detect in the baseline schedule and update review process. To date, SmartPM™ is not a system that tells you if the schedule has the correct activities, with the correct durations, in the correct order, rather SmartPM™ informs you if the schedules have been built with best practices. SmartPM™ analyzes the structural integrity of the schedules to ensure that they are properly constructed to effectively manage a complex construction project. This is the hard part of baseline and update schedule analysis and should be an iterative process throughout the construction lifecycle. SmartPM™ ensures that quality is evaluated and maintained throughout construction execution and allows the users to develop a historical trend of the quality of schedule updates. In addition, SmartPM™ analyzes schedule changes over time and organizes changes in an intelligent manner, allowing users to detect high risk and/or infeasible changes; changes that were specifically designed to significantly mitigate historical delay that weren't necessarily vetted properly – resulting in compression, inefficiencies and more delays going undetected.

ii. Project Governance, Performance Oversight and Risk Management – Without in depth analytics of iterative and cumulative activity progress and performance over time as compared to the original plan, stakeholders are forced to rely on high level (often unsupported) progress metrics, opinions of the project team, and/or gut intuition to gauge progress, performance, and impacts thereof. This reliance on high level explanations without supporting data analytics is not an optimal method to oversee performance of high dollar, high risk undertakings. SmartPM™ transforms the analytical process into a simple format by automatically performing delay analyses, schedule feasibility checks and predictive analytics with key performance indicators to direct stakeholders to identify root causes of performance and develop action plans to mitigate future issues. With relatively little effort, stakeholders are prepared to discuss schedule quality, project performance, project delay issues, recovery strategies and data-driven "expected" milestone completion dates (as opposed to relying simply on what the schedule says). This information is very useful throughout all of construction and relevant to all stakeholders, particularly because this level of understanding and insight ensures transparency, objectivity, accountability and greatly enhances collaboration across all levels.

iii. Dispute Avoidance and Resolutions – The aforementioned applications of SmartPM™ are designed to minimize the risk of delays and overruns – which in turn minimizes the risk of disputes. However, when disputes are unavoidable, SmartPM™ has the capability to perform forensic schedule analyses to support the dispute resolution process, either after the fact or if there is a current question about delays during project execution. Since a large portion of disputes have a delay component, SmartPM™ is useful to all project stakeholders in identifying root cause issues that ultimately resulted in delays and overruns. SmartPM™ has been utilized by stakeholders throughout the construction project lifecycle to help settle time extension requests and as a basis for settling delay, disruption, inefficiency and acceleration claims.

While the above use cases alone are very powerful, the most powerful aspect of SmartPM™ is the level of accuracy and the objectivity that it provides. In an industry where stakeholders spend a lot of time on expressing opinions, which quite often are argued ad nauseum, SmartPM™ provides a means to resolution through objective data analytics.

Customization of Analytics

SmartPM™ has features and functions that allows users to customize analyses in many ways. Below are some of the current and planned customizable features:

Schedule Quality Index	Current	Allows users to establish various thresholds and grading criteria for metrics built into the schedule.
Project Analysis – SmartPM™	Current	Allows users to make changes to various schedules, add, or reject historical changes and select which subsets of data to be analyzed. This allows users to view data analytics output in different ways for different evaluation purposes.
Activity Metrics	Current	Users can modify activity progress data, start and finish dates within the program.
Activity Attributes	Current	Allows users to set “retained logic” and “progress override” on an activity by activity basis.
Organizational Structure	Current	Allows users to set the organizational structure of schedule summary graphics, based on WBS structure, activity codes, or user-defined criteria.
Filters	Current	Allows users to filter activities by characteristics (e.g. critical, high duration, etc.) or user-defined criteria.
Near Critical Parameters	Planned	Allows users to set parameters for “near critical” in terms of the number of days of “total float” that would constitute a near critical activity.
Predictive Analysis	Planned	Allows users to determine the criteria for which activities should be associated. This includes identification of like activities based on WBS structure, Activity Codes, or a user-defined system of association.

The SmartPM™ Value Proposition

It has been well-documented that the Construction industry is viewed as one of the more inefficient and least digitized industries today. This inefficiency has led to an industry epidemic of delay and cost overruns, which impacts project stakeholders in different ways. For Owners this translates into paying more for assets delivered long after their projected end date, significantly undercutting ROI. Contractors risk not being paid for additional time spent on projects that were delayed for reasons outside of their control, negatively impacting profitability. For public and government entities, delays and cost overruns translate into additional burdens on their constituents. Stakeholders of these groups and others have developed methods for managing these risks, but they are all manual, time-consuming, and/or costly.

SmartPM™ automates these processes, which delivers significant value to all project stakeholders. While the specific benefits differ slightly for each stakeholder group, they all fit into three types of value propositions: Cost Savings, Time Savings, and Scalability.

Value Proposition For Owners

An Owner may be defined as the entity that is funding the construction of a commercial asset, has a vested interest in the constructed asset, or takes ownership of the asset upon completion. An Owner's risk of a delayed project comes in three forms: 1 funding the overrun and delay, 2 lost revenue of the asset, and 3 dispute resolution costs, liquidated damages, and consultant fees.

Owners are at risk of spending or losingmillions on even a small commercial project. As project budgets increase, these risks grow exponentially. In order to effectively manage these risks, schedule analytics are imperative throughout the construction lifecycle. SmartPM™ provides a full suite of analytics specifically designed to manage the risk of delays in an automated fashion.

The number of hours that an experienced project controls specialist would need to perform the same level of analytics as SmartPM™ on a $25M-$50M project over a 24-month construction duration may be estimated as follows:

Analysis	Estimated Hours	Total Estimated Hrs
Schedule Review / Approval	• 40hrs for Baseline Review • 8hrs per month for project duration	240
Project Governance, Oversight & Risk Management	• 32hrs per month to effectively oversee progress, performance of a project, while analyzing delay, feasibility and performing predictive analytics	760
Dispute Avoidance & Resolution	• 400hrs+ to analyze both time extension requests and perform delay analysis across the entire project duration and all schedule updates • This does not include analyzing delay and disruption claims	300+

Based on this example, in order for an Owner to effectively manage a $2.5M+risk on a $25M-$50M project, it would require roughly 1000 hours over a 2-year period with the possibility of at least 300 additional hours to manage a dispute. Generally speaking, most owners don't hire enough people or engage enough consultants to manage this process effectively. Owners continue to be affected by this and cope with it through a contingency budget.

SmartPM™ breaks this paradigm. SmartPM™ can perform the same level of analytics in roughly 2 hours per month on a $25-$50M project – or a total of 50 hours over a two-year period – making it possible for owners to manage the process in house and/or engage a consultant at a price that is digestible. Further, SmartPM™ analyzes larger more complex projects in relatively the same time as the example, thereby increasing the value of using SmartPM™ on larger, more complex projects.

SmartPM™ greatly reduces the time spent to achieve the same level of analytics, translating into time savings, cost savings, and vastly improved scalability to oversee a greater number of projects. Additionally, existing scarcity of experienced project controls specialists to effectively manage this process will be minimized. Extrapolating this from a project by project basis to a portfolio of projects, the ROI increases exponentially when using SmartPM™.

Value Proposition For Construction Managers

For Construction Managers, the risks associated with a delayed project are not only the cost of the overruns, in terms of extended general conditions and overhead costs that may not be recovered from the Owner, but also damages on delays they didn't cause but are unable to prove were not their fault. For simplicity sake, assume that this can total the same $2.5M+ risk on a relatively small $25-$50M project. This risk value grows exponentially as the project budget grows. In addition to cost risk, the damage to a business that does not effectively manage delay, including its relationships, its reputation, future lost business, and its brand, is significant and difficult to quantify.

Through the same process of Schedule management, oversight and analytics that SmartPM™ provides, Contractors can effectively manage these risks. This would require a similar amount of manhours (1000+) to effectively manage. However, using SmartPM™, project controls and scheduling personnel can accomplish in 50 hours what would require 1000 hours for even a seasoned analyst to complete. In addition, SmartPM™, if utilized effectively throughout construction, will minimize time spent (for consultants) preparing, reviewing and responding to claims as well.

Based on the above, it is easy to see that SmartPM™ can provide at least a 10X return on investment to a firm that currently invests heavily in project analytics, and this number is much greater for organizations with room for improvement in these areas.

Value Proposition For Financial Institutions and Insurance Companies

Organizations that are tied into projects financially, such as financial institutions, hedge funds, REITS, Asset Managers and Insurance companies, are also at risk due to overruns, delays and disputes. By utilizing SmartPM™ as a portfolio analytics tool, these types of organizations benefit as follows:

a. By enforcing system use by Owners and/or Contractors, the risk of delays, overruns and resultant disputes is reduced greatly.
b. Visibility of performance of entire portfolios in one place provides owners with the ability to know where to focus their attention.
c. SmartPM™ provides an early warning system on identifying projects that have heightened levels of risk (before it's too late).
d. In the event additional money is requested for delays, overruns, etc., these institutions will have a quick way to analyze the data to confirm that such requests are supported by the schedule data.

Value Proposition For Consultants

Consultants who are regularly hired to perform these functions are accustomed to performing most of the analytics available in SmartPM™ manually. Using the SmartPM™ system, in lieu of manual analysis, consulting firms benefit as follows:

a. Staff Level professionals can perform analyses previously only done by senior staff practice members.
b. SmartPM™ allows consultants to perform the same analytics in one tenth the time; this enables firms to gain a competitive advantage on price while achieving higher margins (and greater client satisfaction) through fixed fee / value-based arrangements.
c. With SmartPM™ consulting firms can offer large program oversight services at a fee that is affordable and scalable.
d. Visibility into all projects contained in a large program enables consultants to identify real problems to fix across the entire portfolio, which may not have been visible previously.
e. SmartPM™ allows consultants to perform “What-If” scenarios on delay analyses that otherwise can’t be performed using traditional approaches because they would take too long and cost too much – which until now, minimized assumptions and created inaccuracies of data.

About the Authors

Michael Pink possesses over 17 years of experience in the construction industry providing Program Management, Risk Advisory and Dispute Resolution Services. Michael has provided these services on capital construction programs and projects all over the globe representing an assortment of industries, both public and private, including Power & Renewable Energy, Gas/Pipeline, Industrial and Manufacturing, Commercial and Residential buildings, Healthcare, Education, Transportation, Entertainment & Retails sectors.

Michael specializes in data analysis, with a specific focus on schedule management & analysis. Most recently, Mr. Pink has developed technology designed to regularly analyze schedule quality, delay, compression, feasibility and risk on commercial construction projects.

Mr. Pink received his BS in Industrial Engineering from Georgia Tech and his MBA from The Stern School of Business at New York University. He has spent most of his career working as a consultant in the “Big Four” consulting environment working closely with owners, contractors, attorneys, and lenders on complex consulting assignments. Mr. Pink is currently certified as a Planning and Scheduling Professional (PSP) and a Certified Cost Engineer (CCE) and has authored multiple published articles on the subject matter.

John is an experienced Construction Industry executive with 20+ years of experience providing strategic analyses, advice, and guidance to owners, developers, investors, and contractors undertaking growth and expansion initiatives with large capital programs and projects. John possesses a diverse background across nearly all market sectors and extensive experience on projects ranging from $5M to $2B+. Prior to joining SmartPM™ as Vice President of Customer Success.

Mr. Tuskowski spent over 15 years in the “Big Four” consulting domain working closely with clients and providing key stakeholders with insights and analyses to support critical decisions throughout the program and project lifecycles. John served as the Southeast lead for construction advisory services and was responsible for developing and maintaining client relationships as well as leading client engagement teams. John’s experience encompasses the construction, real estate, risk management, accounting, valuation, and tax domains with a focus on project governance and controls, risk management, process improvement, claims and dispute support, construction auditing, construction accounting and tax planning, and transaction advisory.

John received his undergraduate degree in Civil Engineering from Bucknell University and is currently a LEED Accredited Professional, a member of the PMI Institute, and a member of AACEI. When he’s not facilitating the success of clients, John enjoys spending time with his wife and two children and is a board member for a non-profit special needs school in Marietta, Georgia.