White Paper: *Project Management Maturity: Using Software to Setup Project Management Processes*

ABSTRACT

It is not necessary to already have achieved mature and robust processes when implementing a project management and project controls solution. Implementing a scalable, robust, and intuitive system can harness industry best practices and support new, improved processes. This type of software, combined with the knowledge and expertise of a strong implementation team, can help drive organizational maturity of project processes and improve project and organizational performance.

INTRODUCTION

A company does not need to reach a certain level of project management or project controls maturity in order to implement a more robust project controls software. In fact, the introduction of a sophisticated dynamic system has been shown to help drive organizational maturity. With the right software and a proper implementation plan, the system can act as a catalyst to drive the organization and its employees to greater maturity.

Section I of this white paper discusses the difficulties present when introducing a robust project controls system in an immature project management environment. Section II overviews the benefits of using the implementation of software to drive project management maturity. Section III discusses how to successfully implement a robust software solution in a manner that will overcome the given challenges and provide the greatest benefits.

I. THE DIFFICULTY OF IMMATURE PROCESSES

Organizations without mature project management and project control processes often incorrectly believe that it is necessary to improve the maturity of the business before introducing more robust project controls software.

Although the implementation process should be adjusted to reflect the maturity of the organization, any company can successfully adopt robust, flexible project controls software. In fact, introducing the right solution will help drive the maturity of an organization.

To better understand the inherent challenges of an immature project management organization, and how software can help overcome them, it is important to understand the five maturity levels of project management.

A. PROJECT MANAGEMENT MATURITY MODEL

The maturity of an organization's project management and project controls can be classified into one of five possible levels. We've based the following model on a combination of SEI's Capability Maturity Model and Thomas & Mullaly's assessed levels of project management maturity:

1. **Initial processes.** This is the lowest level of maturity, in which processes are poorly defined, reactive, and often ad hoc. Organizations at this level have little to no project controls in place. They also typically have no written processes, standard procedures, or project management tools and templates. Changes to scope, budget and schedule are rarely recognized until the project is complete.

2. **Structured processes and standards.** Once an organization reaches Level 2 maturity, processes begin to be documented and structured. Controls may begin to be implemented, but they are still primarily reactive in nature. Often, individual managers and teams come up with their own processes and standards in isolation, which can result in a great deal of variation across the business. Tools such as Microsoft Excel are the most common repository of key project management information and more time is spent collecting and manipulating data than is spent making use of it for analysis and forecasting. Project controls is focused on reporting and not controlling the project.

3. **Organizational standards and institutionalized processes.** By this level of maturity, company-wide processes and standards are being implemented. Consistent and repeatable processes can now be found. Some organizations at this level will start focusing on collecting project data and championing proactive approaches to project management and project controls. Common coding structures are evident for the majority of data, mostly driven by the financial systems. Standard systems are being used across the project organization. Data is often transferred electronically although the interfaces may not be automated.

4. **Managed processes.** To achieve Level 4 maturity, companies need to integrate their project management and project controls processes with overall corporate processes. At this stage, alignment has been achieved between organizational strategy and individual project goals and processes. Organizational estimates may exist, and project data will be collected and used to analyze project performance against these estimates, as well as against industry standards. An emphasis is placed on accurately measuring and controlling project performance. There is less effort required to capture and process data, as automation is used to integrate data between the various systems, providing more time to review and analyze project performance.

5. **Optimized processes.** This is the greatest level of maturity that an organization can attain. At this level, processes have achieved standardization throughout the organization, and the focus is on how to improve them. Companies at Level 5 are focused on continual process improvement and on using industry and organizational best practices to enhance project performance. Enterprise-wide project management and project controls systems are used and are integrated with other project and business solutions found in the company. The data available is well-rounded and reliable, and the focus of the project controls team is forecasting the outcome of the project and providing early warning and guidance when potential issues are identified.

B. IMPLICATIONS OF MATURITY ON SOFTWARE ADOPTION

By the time an organization reaches Level 3 project management maturity, adopting a robust project management or project controls system is relatively smooth. This is primarily because there are documented and defined standards that are consistent company-wide.

Organizations at this level and above understand project management processes and have the structure, training, and knowledge in place to support them. Therefore, introducing a new tool may require technical training, but limited knowledge transfer.

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However, organizations currently at Level 1-2 project management maturity face additional challenges and therefore require additional support for the successful adoption of new software.

Level 1 Challenges

Businesses operating at Level 1 are working from spreadsheets and stand-alone systems, with no project controls in place, and little to no procedural documentation. Introducing a robust project management tool can seem overwhelming and of little use to managers and employees who are lacking sufficient project management knowledge and training. As companies at this level are primarily reactive in nature, the time required to set up and maintain a new system may seem like a poor investment.

Level 2 Challenges

Companies at Level 2 likely have disparate processes across functional and/or project teams. For instance, the scheduling department may break a project down by work order, while the finance department breaks it down by employee, and the project breaks it down by the scope of work. This makes it difficult to view and manage how scope, cost and schedule interrelate. In addition, project managers and teams may have their own processes, standards, and templates for projects.

Organizations at this level may feel that introducing new software across the business is impossible until processes have been sufficiently standardized. Managers and employees may resist having to change their processes to align with others. The company is still primarily reactive and may not yet understand the value of complex project control software.

II. BENEFITS OF DRIVING MATURITY THROUGH SOFTWARE ADOPTION

For an organization to increase its project management maturity, it needs to set-up standardized structures, processes, procedures, and controls, as well as shift the company's focus from reactive to proactive.

While this can be done without implementing new software, often the introduction of a robust system can act as a catalyst and support the change occurring faster and more efficiently.

This result occurs due to the following reasons:

- A knowledgeable and experienced implementation team is available to help determine the best processes, procedures, and controls for your business.
- The act of introducing software and bringing together a multi-disciplinary committee to plan the training and implementation requires a proactive focus. If the software is championed by an influential executive, it can help promote this focus throughout the company.
- Committing to a timeline and making a financial investment can encourage stakeholders to make standardization a priority if it has been set aside in the past.
- Project controls software can support a phased approach of introducing rules and standardizations as new projects are initiated and launched.
- A trusted, off-the-shelf, robust solution includes the functionality and capabilities needed to monitor the adoption of the new processes and procedures.
- Software training, documentation, support, and other resources can introduce project managers and team members to industry best practices. This structured approach can increase their knowledge base faster than otherwise possible.
- Some companies may be stuck in a reactive state due to their employees not having sufficient time to plan ahead. Implementing a new tool that reduces manual labor can remove administrative tasks, improve the visibility of the big picture and allow people the time needed to start being proactive.
- A pre-made and proven robust solution, integrated within the overall business system topography, removes the headaches of data integrity and integration allowing more time to be devoted to improving the overall business processes.

III. HOW TO USE A PROVEN PRE-MADE ROBUST SOLUTION TO DRIVE MATURITY

Implementing a robust project controls solution in an environment without mature project management processes has challenges, as discussed in Section I.B. In order to overcome these challenges, the following two actions should be completed.

A. SELECT THE RIGHT SOFTWARE

It is important to select a project controls solution that is scalable, robust, and intuitive. The ideal software will be flexible enough to support an organization through its current maturity level, all the way to Level 5, one step at a time.

1. Scalability

The selected software must be able to scale up or down with the needs of the organization, as the business expands and changes over time. In addition, if an organization wishes to introduce the new system to only one project or program in the beginning and add others over time, the software should accommodate that.

2. Robustness

It is much more difficult for an organization to skip from Level 1 to Level 5 maturity at once than to slowly increase one level at a time. Therefore, a business may initially only be looking for software capable of supporting a Level 2 or Level 3 maturity. However, if the system selected is not robust enough to support Level 4 and 5 maturity, the organization would only be implementing a short-term fix and future changes will be required.

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If a new software needs to be introduced again in the future, it will result in additional financial investments, as well as more time for training and implementation. Plus, employees may find it difficult to learn and adopt a new tool again, especially if there is not a long span of time between the two implementations.

To avoid this, it is important to look for software that not only fulfills the current requirements, but is also capable of fulfilling any future needs. For instance, an organization may not plan on introducing earned value at this time, but if they wish to implement it in the future, they need to ensure the software selected has this functionality.

One way to select software that is robust enough to meet future requirements is to choose a solution that is already designed around and in support of industry best practices, such as the Project Management Institute's (PMI) and the Association for the Advancement of Cost Engineering (AACE) best practices.

3. Intuitiveness

An organization without mature project management processes may have employees who are not yet familiar with project controls software. If project managers and team members have been working with spreadsheets to date, introducing a complex or hard-to-use system can make adoption more difficult. Instead, organizations should look for a more intuitive software suite that is easier for staff to embrace.

4. Flexibility

While a software solution with advanced functionality is recommended, if employees are not ready to use some of the features, it is important that they can be turned off or skipped. As with the earlier example, an organization may wish to have earned value functionality in the future. However, they need to be able to exclude those fields initially, since their team is not yet ready for that functionality or capability. The ideal software solution should support every level of maturity, so that it can accommodate the level the organization is currently at, while also enabling the transition to the next level. In addition, in the early stages of maturity there is little commonality and repeatability between projects. The software needs to accommodate the needs of a diverse range of Project requirements whilst also promoting the benefits on commonality and consistency, until such time as the organization has reached a level of maturity that can make best use of an enterprise scale solution.

B. PLAN FOR PHASED IMPLEMENTATION

When an organization is established at Level 1-2 maturity, implementation needs to focus on supporting the creation and adoption of proper processes, procedures, and best practices, including those which occur outside of the system.

Implementation should be phased to reflect the company's current level of maturity, its ideal end-state, and its required timeline. When implementing a robust project controls solution in an immature project management environment, the following practices are recommended:

1. Start with a Discovery Phase

Each company will have different requirements and expectations for their new project controls software. Initiating a discovery phase with the software vendor can allow both parties to better understand the current maturity level of the organization, the desired end state, and the gap between the two.

This initial phase can also help bring to light any key struggles within the organization that the software can help overcome. It may also capture any documented or undocumented processes and procedures that ought to be replicated within the tool.

If needed, the vendor implementation team can then help define organizational breakdown structures, groups and standards, and make recommendations regarding how the work breakdown structure should be formed based on the data provided.

This team can also create or update documentation of an organization's processes and procedures at this stage, as well as provide documentation developed to industry standards and best practices.

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2. Replicate the Current State

Taking what an organization is currently doing in Microsoft Excel or another system and putting it into the new project controls software is a good way to introduce employees to the tool. This method allows employees to get comfortable with the software before implementing process and procedural changes.

If functional or project teams are currently tracking and monitoring projects differently, the right software can allow those differences to exist within the new system as well, until one standard method is determined.

For instance, in section I.B., an example was given in which finance and scheduling track a project differently. A flexible tool can map finance and scheduling together, so that the two functions can still work to their individual processes initially, but now management can use the new software to easily see how they interrelate without needing to manually try to match them up.

3. Onboard One Project at a Time

Whether it is implementing the software as a whole or introducing new processes within it, adoption can be improved by first rolling it out to one pilot project. This allows a smaller, controlled implementation that helps demonstrate the benefits of the system.

Implementing one project at a time also allows organizations to determine how to handle differences between project management and control methods. For instance, if an organization is not ready for widespread consistency, it can decide to adjust the rules for each project as they are onboarded. Alternatively, if it does not want to impact current projects, the organization can opt to only implement the new project management software on new projects.

4. Invest in Sufficient Training and Support

If employees lack familiarity with project management best practices and processes, it is imperative to invest in training and support throughout the implementation process. Experienced implementation experts should be able to walk employees through both the software functionality and the project controls fundamentals behind the system.

For employees to get the most out of the project management software, users should gain a deeper understanding of the tool

and learn how it can be better utilized at their organization. Employee training will make for more success and better efficiency in job roles.

A business should select a solution that includes an experienced training and support team. This team ought to provide an end-to-end walkthrough of how to build and control a project within the software, including the following aspects:

- Estimating Tasks and Projects
- Coding Tasks
- Creating Control Account Budgets
- Integrating the Schedule
- Implementing Time Phasing
- Handling Actuals and Accruals
- Handling Commitments
- Handling Progressing
- Tracking Earned Value
- Managing Change
- Reporting
- Integrating with other legacy systems
- Closing Accounts and Projects

For a successful implementation, employees should understand what the steps are and the importance of each step, as well as how to complete them within the software. Support should be provided for determining proper setup within the tool when it comes to rules, processes, and procedures.

For example, if the software has more than 30 different methods for calculating percent complete, an immature organization will have a difficult time determining which one(s) to use, which can lead to frustration and confusion. The vendor's implementation team should be able to support both the technical setup and the decision-making process of determining which options to implement.

5. Phase Integrations

While a robust project controls solution can integrate with your other systems, such as your ERP and scheduling tool, is it recommended that you automate integrations over time. Initially, setting up the new project controls software as a standalone system, with manual or flat file interfaces, allows for greater data control, and can help drive a better understanding of the tool.

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For instance, if an organization does not yet have standard control accounts across functions, then a mapping table will be required within the project controls software. With a mapping table, every time a new account is added to another system, it also needs to be added to the table. If this step is forgotten, mapping errors will occur, and the systems may no longer balance.

If all the tools are automatically synced, an error in mapping may be difficult to pinpoint, especially when the tool is new and people are still learning it. To overcome this, the data can be exported from the other systems, and then imported into the project controls software as an MS Excel file. This will improve the visibility of data and help narrow down where errors are.

6. Introduce Standard Reporting

As a Level 1-2 organization, standard project management reports will not yet exist company-wide. An off-the-shelf, robust project controls solution can provide a series of standard, off-the-shelf reports for management use.

The vendor implementation team should support management decision-making around what data they want to see and in what format (tabular, graphical, dashboard, etc.) While custom reports are generally available, implementing a few standard reports across the organization, based on industry best practices will be more efficient. Standard reports are particularly useful for immature organizations where management may not yet be familiar with all the metrics that they should be tracking and analyzing.

7. Have a Long-Term Implementation Plan

In order to maximize the impact that software adoption has on the maturity of an organization, it is important to plan long-term. If a system is selected that has the capability to support Level 5 maturity, but the full functionality is never used, key opportunities are being missed.

To avoid this, it is critical to plan for the implementation of any features, processes, and procedures that are not introduced during the initial implementation period.

For example, an organization may plan a single prolonged implementation over six months or more, where the vendor support team stays onboard and helps to drive the organization to the highest level of maturity. Alternatively, they may opt to plan for the adoption of one level every six months, and call the team back in for further training and support at agreed upon periods.

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CONCLUSION

Introducing a pre-made, robust project controls solution in an organization that does not currently have mature project controls processes can present unique challenges. However, the introduction of project management software can help a business achieve the desired maturity level in a fast and efficient manner.

Regardless of which of the five project management maturity levels a company is currently working within, a proven, out of the box project controls solution can support better project controls and project management processes.

The knowledge of a skilled implementation team and the functionality of a robust system can lead to smoother implementation, better control and oversight as well as a greater level of adoption of more mature processes and procedures throughout the organization.

In order for project controls software to promote increased maturity within a company, a solution must be chosen that is scalable, robust, intuitive and flexible enough to smoothly adapt to each level of project management maturity.

A phased implementation plan is also important, in order to drive continued maturity over time. The plan should begin with an understanding of the current maturity level, followed by a slow, progressive increase in complexity until overtime the company has achieved Level 5 maturity.

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ABOUT ARES PRISM

ARES PRISM is an enterprise project controls software that manages the complete project lifecycle delivering dependable forecasts, cost control, and performance measurement. Organizations around the world rely on PRISM to manage projects, programs and portfolios of growing size and complexity in a variety of industries. PRISM is a scalable, robust and intuitive system that harnesses industry best practices and integrates all aspects of the project, including cost and schedule, change management, estimating, earned value, contracts & procurement, and field progressing. Achieve superior project management with increased visibility and control, boosted accuracy and efficiency, and improved financial performance.

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