Predictive Project Analytics (PPA)

Enabling project success through analytics

June 2015
1950’s 1st Generation PM
Beginning of the modern project management era
Original integration of project planning, control & management
Mathematical project-scheduling models were developed e.g. Critical Path Method

1980’s 2nd Generation
Developed out of professional PM Organizations (PMBOK, APM)
Program Management processes become distinct from product processes

1990’s 2nd Gen Sub Model
Project Management declared as a core business competency by senior management.
Project Management process partly mixed with technical/business management.
Supported by global intranet providing manuals, procedures, tools, templates in all-in-1 package

Early 2000’s
Address business issues and pursuit of innovation and value from projects
Program/Project/Portfolio Management structure
Organizational PMO maturity model
Organizations adopted heavy methodologies

Present
Introduction of analytics in Project, Program and Portfolio management
Focus on execution and low tolerance for failures
Leverage of project intelligence

Where to next?: Questions our clients are asking us today
What is different about projects today?
Why analytics now?
How do we get better at delivering projects?

The Project Management Journey
PPA’s Value to Projects

What if there was a way to predict and avoid performance strains in projects?

PPA is an analytical project risk management capability that examines a project’s characteristics and assesses whether it has the appropriate level of oversight and governance:

- Identifies project performance execution shortfalls
- Avoids/mitigates execution performance strains and risks
- Decreases likelihood of schedule overruns
- Minimizes financial and reputation losses
- Provides quantitative and defensible data to drive management decisions

Ensures appropriate project controls are in place to improve project performance and probability of success.

What are the likely impacts of failed projects?

Significant cost overruns, operational failures, regulatory noncompliance, customer dissatisfaction, or loss of competitive advantage.
PPA’s Value to Projects (con’t)

• **Objective findings** – analytical based findings with quantitative risk data decreasing subjective element from project reviews

• **Low-impact and high-value** - flexible and scalable solution to supplement existing project management methodologies and control functions

• **Intelligent reporting** - analytical based findings with quantitative risk data decreasing subjective element from project reviews

• **Immediate benefits** - improved capital efficiency with tangible ROI for various stakeholders

• **Approach is based on extensive research** - insight into level of manageable project complexity and risk given organization’s current capabilities

• **Comparative analysis** – database contains diversity in project size, project type, industries, and geography

• **Transparency** - Improved transparency & integration amongst Project Control Functions
PPA Assessment Impact – Construction examples

**Project Predictive Analytics**

**Capital Project Stage Gate 2 reviews** – Conducted project reviews for 5 large capital projects ($25B invested capital) with the objective of showcasing the value and insight project analytics provides.

**PPA Impact** – Provided holistic framework to ensure coverage of non-technical risks and identified transformational opportunities to enhance processes and mechanisms to enable value add analysis of quantitative project data.

**Greenfield Landfill Construction Project** – Develop a scalable, flexible and consistent Project Assessment methodology.

**PPA Impact** – Developed industry leading analytically intelligent approach providing timely, specific, benchmarked, and actionable recommendations. PPA identified critical systemic issues that included On-sight safety, Contingency management, Safeguarding capital assets, and Inappropriate resources & organizational support.

**Large Infrastructure Construction Capital Project** – Assessed a $5B infrastructure project in the design phase and execution phase for current state of the project management environment.

**PPA Impact** – Identified non-technical risks overlooked by engineering procurement, and construction management process, quantified risks, & identified overage root causes.

**Construction & consolidation project review** - Conducted current state of the project management environment, including relationships between key project management teams.

**PPA Impact** – Risk-based assessment was critical for management providing tangible recommendations, including soft factors (e.g. team experience and morale) which improved the project’s efficiency and, enhanced likelihood of success.
PPA samples
Findings sample: Onsite safety management

Description
- The project has a potential health and safety issue due to lack of a full-time [client] on-site presence to oversee contractors executing construction at the work site.
- Although sponsor retains ultimate ownership of the site, and a site specific safety plan has been created, no full-time staff are onsite resulting in H&S compliance resting with third party contractors.
- Current timelines are aggressive for site handover, which may create increased pressure for contractors to meet schedule commitments.
- Site is located over fifty miles from sponsor’s office, resulting in significant lag time for resources to access site to manage issues & incidents.

Impact
- [Client] retains ultimate responsibility and liability for incidents on the construction site, and as such, without a full-time on-site resource overseeing construction activities, there is a heightened risk exposure and related liability in the event of an H&S incident.
- This approach is not compliant with H&S standards to report incidents.

Project Mitigating Actions
- Emergency response & safety program has been developed in accordance to H&S standards including expected materials such as the Field Risk Assessment.
- Responsibility for H&S has been assigned to the Safety Manager.
- In addition, all team members are on-boarded to the project with the mandatory requirement to complete Health and Safety training.
- PM and core team make frequent weekly visits to site to oversee construction progress and ensure compliance to XXX H&S standards.
- 3rd Party Engineering firm [name] to be on-site to perform Quality Assurance/Quality Control (‘QA/QC’) for contractors.

Recommendation
- A corporate standard for H&S oversight on projects of this nature should be defined.
- Allocation of dedicated resource to manage and provide oversight to contractors operating on site.

PPA Supporting Details: Of the PPA execution factors we examined, the following under-performing factors are related to the health and safety finding with additional proposed recommendations that may improve overall project performance.

<table>
<thead>
<tr>
<th>No.</th>
<th>Procedure</th>
<th>Factor</th>
<th>Measurement Level</th>
<th>Score</th>
<th>Actual</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.12</td>
<td>Resource Commitment</td>
<td>Resources over allocated management</td>
<td>How are over allocated resources managed?</td>
<td>25%</td>
<td>Not managed</td>
<td>Managed collegially with sponsors</td>
</tr>
<tr>
<td>3.5</td>
<td>Scheduling</td>
<td>Resource loading</td>
<td>How is resource load managed in the Schedule?</td>
<td>33%</td>
<td>No resource management</td>
<td>Resources force loaded from requirements</td>
</tr>
<tr>
<td>5.1</td>
<td>Resource Selection</td>
<td>Resource planning</td>
<td>What resource planning approach is used?</td>
<td>40%</td>
<td>As needed resources</td>
<td>Core team, with resource schedule for defined roles</td>
</tr>
<tr>
<td>1.18</td>
<td>Accountability Model</td>
<td>Resource commitment</td>
<td>How are resourcing issues managed and resolved?</td>
<td>50%</td>
<td>Ad hoc issue based</td>
<td>Escalated to Steering Committee</td>
</tr>
<tr>
<td>1.6</td>
<td>Governance Approach</td>
<td>Priority management</td>
<td>How are priorities managed in the Project?</td>
<td>50%</td>
<td>Priority assigned to the &quot;noise&quot;</td>
<td>Priority assigned to the next thing on the plan</td>
</tr>
<tr>
<td>5.4</td>
<td>Resource Selection</td>
<td>Team selection</td>
<td>How are teams selected?</td>
<td>50%</td>
<td>Closest to the problem</td>
<td>Sponsor relationship</td>
</tr>
<tr>
<td>1.2</td>
<td>Governance Approach</td>
<td>Delegation of authority</td>
<td>How well is authority delegated/retained by the Steering Committee?</td>
<td>67%</td>
<td>Steering Committee too distant</td>
<td>SC operating at the right level of detail, but not allowing delegation</td>
</tr>
<tr>
<td>1.15</td>
<td>Accountability Model</td>
<td>Holding Project Manager accountable</td>
<td>What mechanism is used to hold the Project Manager accountable?</td>
<td>75%</td>
<td>Issue based oversight</td>
<td>Clear direction</td>
</tr>
</tbody>
</table>
Findings sample: Contingency Management

**Description**
- At the time of the review, the project contingency remained at the originally approved amount.
- The project is currently in the process of finalizing an estimated in budgetary changes associated with the contract.
- These changes are offset by savings in other material quantities, as evidenced by the change request (CR) having no observant or budgetary impacts. As a result management anticipates that the contingency will not be affected.
- While contingency is noted in the AFE, there are no guidelines on a contingency draw down process.

**Impact**
- Without accurate visibility into project financials and budget status, the newly appointed project sponsors may not have the appropriate information to make well-informed decisions.
- [Client] should ensure that estimating inaccuracies are captured during the lessons learned process to verify where possible project costs, which are used for future estimating, reflect accurate quantities.

**Project Mitigating Actions**
- The current contract is not fixed and is based on estimated volumes and rates.

**Recommendation**
- The project team should implement a defined contingency draw down process to provide consistent management of contingency.
- [Client] should confirm the drawdown thresholds requiring escalation to the steering committee and the Board of Directors.

**PPA Supporting Details:** Of the PPA execution factors we examined, the following under-performing factors are related to the **contingency management** finding with additional proposed recommendations that may improve overall project performance.

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<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.13</td>
<td>Accountability Model</td>
<td>Delegated authority of the Project Manager</td>
<td>What decision rights are delegated to the Project Manager?</td>
<td>20%</td>
<td>No clear delegation - vague</td>
<td>Resource control and budget allocations</td>
</tr>
<tr>
<td>1.38</td>
<td>Budgets</td>
<td>Budget changes</td>
<td>How are changes to the Project budget managed?</td>
<td>25%</td>
<td>No approach</td>
<td>Scope and impact evaluation and budget signoff</td>
</tr>
<tr>
<td>1.9</td>
<td>Governance Approach</td>
<td>Project monitoring and control systems</td>
<td>What project controls are in place?</td>
<td>40%</td>
<td>Intuitive controls, explainable by PM</td>
<td>Standard controls, plus some ad hoc success drivers</td>
</tr>
<tr>
<td>1.37</td>
<td>Budgets</td>
<td>Budget ownership</td>
<td>Who owns and controls the budget?</td>
<td>50%</td>
<td>Executive with drip feed</td>
<td>SC with scope control</td>
</tr>
<tr>
<td>1.36</td>
<td>Budgets</td>
<td>Budget control</td>
<td>How is the Project budget controlled?</td>
<td>60%</td>
<td>Budget with end reconciliation</td>
<td>Actuals accurate and timely, forecast is estimated</td>
</tr>
<tr>
<td>2.3</td>
<td>Executive Support</td>
<td>Executive engagement</td>
<td>What level of Executive engagement does the Project have?</td>
<td>75%</td>
<td>Issue based</td>
<td>Steering Committee attendance</td>
</tr>
<tr>
<td>3.43</td>
<td>Planning</td>
<td>Contingency planning</td>
<td>How are plans to address contingency created?</td>
<td>75%</td>
<td>Simple plan on paper</td>
<td>Simple project plan</td>
</tr>
<tr>
<td>6.13</td>
<td>Contingency</td>
<td>Contingency risk management</td>
<td>How are contingency plans prepared and used to manage risk?</td>
<td>75%</td>
<td>Ad hoc as needed</td>
<td>Documented and tracked</td>
</tr>
</tbody>
</table>
PPA Visualization and Dashboards
Complexity Summary

- Average project complexity is 6.5
- Multi disciplinary team
- Requires board attention

Complexity Details

Project Performance Summary

- Governance Approach
- Ownership
- Delivery Management
- Business Unit
- Resource Management
- Risk Management
- Contracting Approach

<table>
<thead>
<tr>
<th>% of factors outside of expected results</th>
<th>Below</th>
<th>Above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>23%</td>
<td>21%</td>
</tr>
<tr>
<td>Ownership</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Delivery Management</td>
<td>13%</td>
<td>26%</td>
</tr>
<tr>
<td>Business Unit</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Resource Management</td>
<td>0%</td>
<td>14%</td>
</tr>
<tr>
<td>Risk Management</td>
<td>50%</td>
<td>0%</td>
</tr>
<tr>
<td>Contracting Approach</td>
<td>21%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Summary Analysis

Actual vs. expected project practices for the project is 100% which is within the range of expected success, however there were key areas that showed controls/performance below what is expected.
Reporting Results & Visualization – Program Level

**Performance Cliff Analysis**

- Understand at what level of complexity projects begin to decrease in effective execution within an organization.
- Leverage existing data to uncover organizational project management capability strengths and weaknesses.

**Complexity Distribution of Project Portfolio**

- Provide additional insight in project prioritization and fiscal planning.
- Better manage risk levels related to complexity across portfolio projects.

**Project Performance Comparison**

- Identify systemic issues within project execution and management.
- Identify areas that are consistently over controlled.
- Enable risk balanced adjustments to maximize capital efficiency.

Explore the data you have • Reveal better Insight • Ask new questions
Risk Assessment Heat Map

Risk Category:
1. Governance and Ownership
2. Risk Management
3. Delivery Management
4. Resource Management
5. Vendor Contract & Relationship Management
6. Change Management / Business Unit Impact

Movement of risk classification
Shift between Date 1 & Date 2: Minimal/No Change

Velocity (risk manifestation):
Slow, Medium, Fast

Risk Factor

Next Generation Risk Assessment Heat Map

Impact

Likelihood

1 2 3 4 5

Project Predictive Analytics

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Project Execution Assessment

Project Execution Area

- Business Unit: 48% Business Unit Impact, 80% Business Unit Support
- Contracting Approach: 89% Contracting Approach, 82% Vendor Management
- Delivery Management: 80% Acceptance Model, 57% Delivery, 73% Design, 65% Managing Uncertainty, 75% Planning, 65% Scheduling, 71% Stakeholder Management
- Governance: 91% Accountability Model, 69% Benefits Management, 92% Budgets, 80% Governance Approach, 90% Issue Management, 84% Role Management
- Ownership: 76% Direction, 86% Executive Support, 47% Performance Management

Performance Group:
- Overestimated
- Expected
- Underperforming
- Of concern

Project Type: Innovation Project
Project Owner: Patrick Williams
Project Description: Enterprise Data Warehouse
PPA Process
PPA Overview

A project risk management methodology based on a quantitative analytical engine.

Navigator Project Database

- Database contains over 2,000 successfully completed projects from various industries, sizes, complexities and magnitude ranging up to US$5B

Complexity Assessment

- 28 complexity factors, within 5 areas, are based on research that has identified the key characteristics that drive complexity on all projects

Risk Assessment/Health Check

- Comprehensive assessment of project performance and use analytics to highlight priority areas for improvement based on the project’s unique complexity

PPA Overview

Analytical tool with “Big Data” capabilities

- PPA provides insights derived from systemic, scientific, and statistically-significant methodologies allowing for evidence based decision making.
Navigator Database/Algorithm

- Over 2,000 successful* projects; range US$1M - $5B
- Developed through years of research employing:
  - scientific methodologies of problem disaggregation
  - field and hypothesis testing
  - statistical modeling
- Statistically derived correlations between each complexity factor and each control factor

What makes up the PPA database?

- **Industry View**
  - Financial Services: 10%
  - Energy & defense: 20%
  - Telecommunications: 30%
  - Other: 40%

- **Project Types**
  - IT & business process: 10%
  - Public sector infrastructure & engineering: 30%
  - Other: 60%

* Success is defined as on time, on budget, and met all objectives

The logic behind the algorithm

- Inference engine uses a correlation table to create a probability distribution curve for the expected controls/ performance
- Correlation table contains statistically derived correlations between each complexity factor and each control factor.
- Inference engine assembles in real time a probability curve one control at a time.
- It does this by looking up the correlation weight from the table for the current complexity factor for the current control factor and adding that correlation to the associated bin that matches the complexity score.
- Correlation weight for each complexity factor is loaded into the probability curve until all are completed.
- Probability mean is then calculated from the distribution of probabilities across bins.
- The score is then de-normalized back to the range of the control and the score loaded into the expected data set.
Complexity Assessment

OVERVIEW OF COMPLEXITY CHARACTERISTICS

Unique Project Complexity Profile

+250MM possible permutations of unique project complexity profiles

The first stage of the review assesses the complexity of the project against a predefined set of inherent risk categories. Complexity is measured across 28 factors in five categories.

Areas that increase overall complexity average, require enhanced governance

Factor that reduces overall complexity (e.g. areas that are routine for the specific project)

The average level of complexity across all factors

For the level of complexity determined in stage one, an expected level of project oversight/governance is generated using predictive project analysis.
Based on project complexity, the Analytical Engine determines the level of execution performance control necessary to achieve success.

- Capability could be used in conjunction with other complexity assessments
- Enhances current process to analyze a project(s)
- Benchmarks the project against projects of a similar complexity profiles
- Indicates whether overall level of project controls are above/below expectations and if they resemble projects that went on to be successful
- Identifies areas of over investment

**Assesses project execution practices across 7 business domains**

- 7 domains are subdivided into 27 categories for more detailed analysis
- Supported by 172 individual performance execution characteristics
- Characteristics considered critical to drive project success by the research institute and Deloitte.
### Risk Assessment / Health Check

#### 172 FACTORS FOR CONSISTENTLY MEASURING PROJECT PERFORMANCE

Based on project complexity, the Analytical Engine determines the level of execution performance control necessary to achieve success.

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<table>
<thead>
<tr>
<th>Category</th>
<th>Of concern</th>
<th>Under performing</th>
<th>As expected, acceptable range for success</th>
<th>Over investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountability Model</td>
<td></td>
<td></td>
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<tr>
<td>Benefits Management</td>
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<tr>
<td>Budgets</td>
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<tr>
<td>Governance Approach</td>
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<tr>
<td>Issue Management</td>
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<tr>
<td>Role Management</td>
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<td>Direction</td>
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<td>Executive Support</td>
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<td>Acceptance Model</td>
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<td>Delivery</td>
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<tr>
<td>Design</td>
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<tr>
<td>Managing Uncertainty</td>
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<tr>
<td>Planning</td>
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<td>Scheduling</td>
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<tr>
<td>Stakeholder Management</td>
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<td>Business Unit Impact</td>
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<tr>
<td>Business Unit Support</td>
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<tr>
<td>Performance Management</td>
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<td>Resource Commitment</td>
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<tr>
<td>Resource Selection</td>
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<tr>
<td>Skills and Experience</td>
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<tr>
<td>Contingency</td>
<td></td>
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<tr>
<td>Management of Risks</td>
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<tr>
<td>Technical Risks</td>
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<tr>
<td>Contracting Approach</td>
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<tr>
<td>Vendor Management</td>
<td></td>
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</tr>
</tbody>
</table>

- **Black** Actual Performance (Sub-Categories)
- **Dark Blue** Average Project Performance
- **Red** Minimum acceptable level

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**Technical Evolution Management**

Rapidly evolving technologies create particular risk for projects, especially where the development of the technology is outside the control of the Project and developments are likely within the life of the Project. The approach used by the Project to plan for these risks should be based on the potential impact on the Project and breadth of possible technology developments.

What approach is used to plan for the challenges of rapidly developing technology?

<table>
<thead>
<tr>
<th>Actual Level of Control</th>
<th>Expected Level of Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Risk Analysis</td>
<td>Simple scenario planning and pattern matching against similar technology paths</td>
</tr>
</tbody>
</table>

**What approach is used to plan for the challenges of rapidly developing technology?**

- None
- Simple risk analysis
- Advanced risk analysis
- Simple assumption testing and design sensitivity modeling at start
- Advanced assumption testing and design sensitivity modeling and tracking
- Simple assumption testing and design sensitivity modeling and tracking
- Advanced scenario planning and pattern matching against similar technology paths
- Advanced scenario planning and pattern matching against similar technology paths
How are priorities managed in the Project?

- No priority management - all issues equally important
- Priority assigned to the "noise"
- Priority assigned to the next thing ready to be done
- Priority assigned to the next thing on the plan
- Priority assigned to intuitive critical path
- Priority assigned to the calculated critical path
- Priority assigned to the calculated critical path and elements at risk of becoming critical path

Issue prioritization

How are issues prioritized?

- Actual Level of Control
  - Whatever is "noisy"

- Expected Level of control
  - Risk-based issue priority
The Project Review team uses a structured approach and methodology to accelerate information gathering and data analysis. This approach paired with the analytical algorithm delivers detailed and tailored recommendations over an extensive selection of critical project areas in an condensed timeline.

### PPA Review Methodology (4-6 weeks)

<table>
<thead>
<tr>
<th>Activities</th>
<th>Complexity Assessment</th>
<th>Project Execution Assessment</th>
<th>Analysis and Synthesis</th>
<th>Reporting</th>
</tr>
</thead>
</table>
| Interviews & Document Review | • Develop an understanding of the project and organization  
                           • Interviews with core project team members  
                           • Interviews with key stakeholders  
                           • Detailed review of core documents (e.g. plans, reports and logs)  |  |  | • Deliver findings of review  
                           • Identify prioritized recommended actions |
|                     | • Perform a Project Complexity Assessment to understand the project’s unique complexity profile  | • Assess project execution performance using Predictive Analytic capability and Capital Project SME inputs.  | • Analyze output from interviews, document review and predictive analytic tool  
                           • Develop broad and deep view of the key unmitigated project risks  
                           • Identify control improvements most correlated with a successful outcome  | |
|                     |  |  |  | |
| Activities          | Complexity Assessment | Project Execution Assessment | Analysis and Synthesis | Reporting                  |
| Key Outputs         | • Develop an understanding of the project and organization  
                           • Detailed Project Complexity Profile with documented project risk drivers.  | • Actual vs. Expected levels of performance across 7 business domains.  | • Detailed findings the identification of themes, systemic project issues and root causes of project challenges.  | • Recommendations for improvement and final report. |

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PPA Case Studies

“Deloitte is consistently working toward finding and producing new Risk Management solutions, using analytics to help clients solve complex risk problems. The latest example is the Project Predictive Analytics tool, which applies risk analytics to large projects and internal audit planning and offers a risk-sensing analytics solution.”

Source: Gartner - MarketScope for Global Risk Management Consulting Services 2013

- PPA has assessed over $US 100 billion in invested capital!
A snapshot of industry case studies

OIL & GAS - Deloitte was engaged to complete retrospective project reviews on 5 large Capital Projects to define complexity levels and expected project performance. The PPA capability for review demonstrated the power of quantitative risk data and its ability to provide a foundation for an analytically driven project management framework. PPA partnered with a One Deloitte cross functional team for future phases, will support its continued journey to enable world class project planning and risk intelligent process improvement.

TRANSPORTATION - Working with Internal Audit, Deloitte was engaged to review a large IT implementation project early in the execution phase. The objective of the review was to identify enhancements to planned project management activities to improve performance and set this critical project up for success. The PPA review framework evaluated the project across a broad spectrum of execution areas, which allowed Internal Audit to thoroughly cover all key areas of potential project risk. Furthermore, the use of PPA will enable efficient and effective reviews by leveraging the baseline assessment throughout the project phases and through go-live.

DEFENSE - Conducted a proof-of-concept pilot to demonstrate that PPA could predict the issues that ultimately affected the success of a key defense project. The PPA diagnostic capability accurately identified program management factors that contributed to the termination of the project. PPA is an applicable diagnostic capability within the defense industry predicting areas lacking the appropriate controls, thereby identifying risks to project success.

BANKING - After a successful pilot of PPA a bank implemented a managed service arrangement with Deloitte to have PPA replace its existing project audit methodology. The revised approach for projects allowed the bank to conduct a larger number of project reviews, offer more value, increase risk coverage, add insights and timely recommendations, report consistently, and help improve overall project practices at the bank.

ASSET MANAGEMENT - Deloitte was engaged to provide Project Risk Advisory Services for a core pension system replacement. As part of our advisory role, PPA was utilized to provide the steering committee and executives with enhanced awareness of project complexity drivers and risk data to support project management decisions. PPA provided the project team with a project specific benchmark of expected levels of controls to manage against through the full project lifecycle and to promote more effective project planning.
PPA Framework
Assessing project complexity - the factors

1. Context
   - Number stakeholder groups
   - Stakeholder alignment
   - Power of stakeholder

2. Social Factors
   - Multiple disciplines
   - Cross discipline familiarity
   - Breadth of change across organization
   - Paradigm shift
   - Multi-disciplinary vs. Parallel or sequential
   - Level of paradigm shift vs. Depth of change

3. Ambiguity
   - Approach uncertainty
   - Assumption/decision uncertainty
   - Breadth of assumptions
   - Level of conceptual complexity
   - Risk
   - Cost Estimation
   - Risk level vs. Risk entity level vs. Risk entity numbers
   - Invasiveness vs. Robustness
   - Response Time vs. External interfaces
   - Maturity vs. Effort vs. Number of subsystems

4. Technical Design
   - Integration complexity
   - System development complexity
   - Impact on infrastructure
   - Milestones vs. Tasks
   - Cost Range vs. Time Availability vs. Quality

5. Project Structure and Management
   - Level of accountability
   - Project team experience
   - Project journey
   - Schedule complexity
   - Project team size
   - Project structure
   - Contracting mechanisms
   - Rollout
   - Variation
   - Flexibility
   - Resources
   - Timeframes
   - Financial Cost
Each of the three projects reviewed had a different level of complexity and, therefore, required different levels of project management execution in order to achieve success.
PPA provides coverage across key areas of program management, which through research are found to be statistically significant control points linked to project performance.

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<tr>
<td>Role Management</td>
<td>Direction</td>
<td>Organization Impact</td>
<td>Vendor Management</td>
</tr>
<tr>
<td>Issue Management</td>
<td>Executive Support</td>
<td>Organization Support</td>
<td>Contracting Approach</td>
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<td>Governance Approach</td>
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</thead>
<tbody>
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<td>Stakeholder Management</td>
<td>Skills &amp; Experience</td>
<td>Technical Risk</td>
</tr>
<tr>
<td>Scheduling</td>
<td>Resource Selection</td>
<td>Management of Risk</td>
</tr>
<tr>
<td>Planning</td>
<td>Resource Commitment</td>
<td>Contingency</td>
</tr>
<tr>
<td>Delivery</td>
<td>Performance Management</td>
<td>Approach to Risk</td>
</tr>
<tr>
<td>Managing Uncertainty</td>
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<td>Acceptance Model</td>
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Assessing project execution-factors

1. Governance approach (11 factors)
   - Steering committee, scope, and monitoring
   - Delegated authority and performance
   - Prioritizing, escalating, resolution
   - Roles and experience
   - Business case and documentation
   - Ownership, control, and changes

2. Accountability model (7 factors)
   - Engagement, alignment, management
   - Strategy, internal governance, boundaries

3. Issue management (9 factors)
   - Project metrics, journey, leadership
   - Requirements gap, stakeholder expectations
   - Design approach, issues, change control
   - Attitude to planning and critical path issues

4. Role management (3 factors)
   - Integrity, sequencing, lifecycle, management
   - Scope, technical maturity, emergence

5. Benefits Management (4 factors)
   - Identification, change management
   - Strategic and tactical support
   - Impact and risk management
   - Planning, structure, team selection
   - Project team member experience

6. Budgets (5 factors)
   - Internal resource commitments and allocation
   - Team initiation and performance management
   - Pre-project and risks managed
   - Strategic, tactical, identification, reputational
   - Challenges, maturity, evolution

7. Executive Support (5 factors)

8. Direction (9 factors)

9. Delivery (14 factors)

10. Acceptance Model (5 factors)

11. Design (14 factors)

12. Planning (11 factors)

13. Scheduling (12 factors)

14. Managing Uncertainty (4 factors)

15. Stakeholder Management (8 factors)

16. Business unit support (2 factors)

17. Business unit impact (2 factors)

18. Resource selection (4 factors)

19. Skills and experience (5 factors)

20. Resource commitment (3 factors)

21. Performance Management (2 factors)

22. Approach to risks (4 factors)

23. Management of risks (5 factors)

24. Technical Risks (3 factors)
PPA Portal
PPA Portal

• As part of our deployment scenarios, we have created and can customize a secure Portal solely for a specific client.

• The Portal allows the client to submit complexity and detailed project data; as needed.

• These will be assessed by the Deloitte PPA team and analyzed through the database in order to provide the client with customized and detailed reporting.

PPA Portal
- Customized for the use of the client.
- Leading security practices:
  - Data center has an unqualified SOC 1 opinion.
  - Industry-leading firewalls and intrusion detection and prevention systems monitored and managed.
  - Data is transmitted via sFTP.
  - Log capture and data access audit techniques to protect data.

PPA Applications
- Complexity Assessment.
- Expected Controls.
- Actual Controls.

Presentation Layer
- Multi-Dimensional Reports.
- Executive Dashboards.
- Ad Hoc Reports.
- Mobile Analytics.