

Pairing up

by Bryan Shane and Patricia Lafferty

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A new approach to major project management and measurement

PROJECT FAILURE COSTS billions of private and public sector resources each year worldwide – witness many e-procurement initiatives failure to meet expectations. The benchmark failure rate for major projects is 80-90 percent.¹ Obviously we need to develop and implement a new approach to major project management and measurement, one designed to radically improve the probability of success. An integrated and comprehensive solution is to pair up a management approach based on the dynamic baseline model² (DBM), and a measurement approach based upon the excellence driven approach (EDA).³

The dynamic baseline model

Today, regardless of whether a product is being assembled, a building constructed, an IT system developed or a business transformed, there is a tendency to turn to standard project management practices – the “one-size-fits-all” solution.

The DBM concept suggests that not all projects are created equal and that tailoring the project management response to the complexity of a given project scenario, is key. Using the DBM, projects can be logically and simply categorized into one of five discrete levels of complexity, which helps to determine whether to proceed with a project; how best to proceed; and where to focus management attention for optimal performance.

A diagnostic is conducted through interviews with project representatives to characterize the impact of the project concept on its surrounding organizational environment

Note: A more extensive discussion of this approach can be found in the winter issue of *Optimum: The Journal of Public Sector Management* at www.optimumonline.ca.

and the state of technological maturity. This establishes the basis for complexity classification, solution tailoring and measurement approach design.

The initial project assessment places the project in the appropriate project management level:

- **Level 1** has a **standard product** and a stable proven design. Operation would be highly routine and systematized with standard processes and operate within the bounds of relatively fixed rules. Level 1 rule-based solutions feature maximum predictability and outcomes generally surpass initial project expectations.
- **Level 2** has a **tangible product**, an evolving design, stable technology and low integration. Project results are foreseen to operate within broader bounds of relatively fixed methods. This is the level appropriate for the classical project management response addressed earlier. The challenge at Level 2 is in planning and implementing the careful organization of people and materials to ensure the planned outcome. Level 2 methods-based solutions feature reasonably high predictability and outcomes generally approximate the initial project expectations.
- **Level 3** has **evolving requirements and a containable total system** responsibility. It entails closed system engineering with significant internal integration risk. It generally features a **semi-tangible product and leading edge technology**. Level 3 objectives-based solutions feature high unpredictability and a relatively high rate of project failure to meet initial expectations.
- **Level 4** is an **evolution project**. The end product deeply affects many people, changing, in a fundamental way the man-

ner in which they conduct business and with that, their ability to achieve their objectives. These projects must simultaneously consider project issues and severe implications to routine business. Level 4 principle-based solutions have consistently had no chance of achieving initial project expectations. The basis for proceeding is to revitalize the project organization within the surrounding business environment. Initial project targets of cost, time and functionality are not the basis for measuring performance or determining success.

- **Level 5** are **external governance projects** operating outside the bounds of corporate principles. At Level 5, public governance establishes an implementation model for the harmonization of traditional corporate culture with the overarching societal values. This level, though often beyond the realm of normal project concerns, establishes a familiar end point to the complexity continuum.

To sum up: as illustrated in Diagram 1, the lower the baseline in the DBM hierarchy, the simpler the project, vis-a-vis predictability, planning and the likelihood of success.

Excellence driven approach (EDA) to major project measurement

Based upon DBM classification, level 1 and 2 projects are measured using the excellence driven approach (EDA) to major project measurement. EDA is:

- A **philosophy** of continuous learning in which feedback is used to identify achievements and to make adjustments in response to ongoing project changes and risks.
- A **process** in which all aspects of the project plan is linked through a feedback

process. The performance measures provide the feedback necessary to improve decision making in order for the project to progress towards the attainment of its objectives, stage by stage.

- A **structure** in which there are distinct roles and responsibilities that must be played by project management, clients and the project management office (PMO) to gather, analyze and report on project performance.

Overall, the EDA is a project measurement system that provides a balanced and systematic approach to assess project progress. It is a measurement system that looks at how well project deliverables are being carried out from multiple points of view:

- financial,
- functional,
- technical,
- issue management, and
- client satisfaction.

It provides the essential feedback to improve decision making within the project by enabling proactive problem solving and by institutionalizing continuous improvement. Cumulatively, this information provides a causal link between achieving project objectives and the strategic and operational issues interfering with project success.

Under the EDA, major projects are measured using a project measurement index (PMI).⁴ The PMI specifies the design, content and structure of the PM system.

The power of the PMI lies in its ability to aggregate and quantify a series of related

quantitative and qualitative project performance measures to derive an overall score representing all the measures. It is able to match and measure the complexity of the major project in a simple and accurate way.

This EDA approach, as can be seen in Diagram 2, assesses major projects based upon a PMI that has five performance measures and accompanying indicators:

1. **Financial performance** refers to project expenditure, schedule and scope measures:

- **Expenditure performance measures** refer to actual versus planned expenditures as defined in the project plan.
- **Schedule performance measures** refer to the timely completion of project deliverables as compared to a baseline schedule defined in the project plan.
- **Scope performance measures** are primarily concerned with:
 - **Product scope** (the set of functions and features that characterize the product or service), and
 - **Project scope** (work that must be accomplished to deliver the product/service with the specified functions and features).

2. **Functional quality** refers to the quality or correctness of the products and/or services functions/features delivered as a result of the project.

3. **Technical quality** refers to the technical infrastructure that provides the foundation for product and service delivery. In the case of an information technology project, technical performance would be

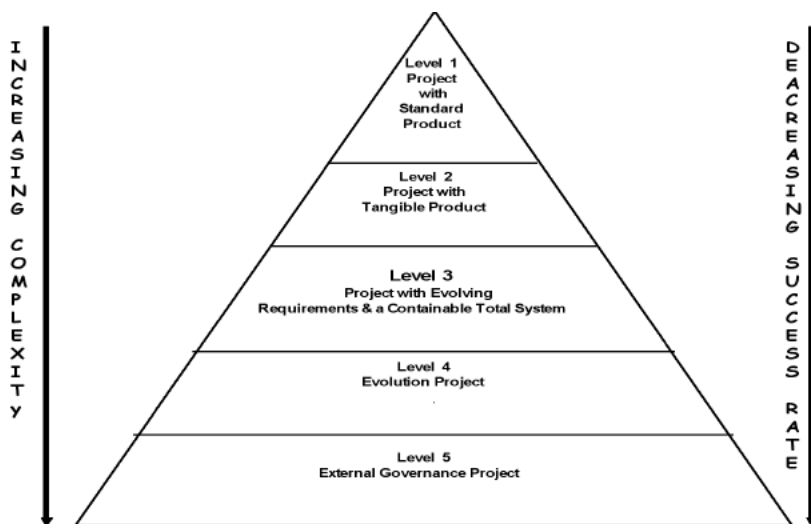


Diagram 1
Dynamic Baseline Model (DBM) for Major Project Management

measured using such indicators as system availability, downtime, problem resolution, and response time and network utilization.

4. **Issue management** refers to the identification and resolution of issues or exceptions that are impacting the successful delivery of the project. The purpose of issue management is to ensure that all matters requiring resolution, decisions or

direction are addressed as soon as possible to avoid negative consequences on project objectives and deliverables (cost, schedule, scope or products/services).

5. **Client satisfaction performance measures.** Often certain project services or products become operational during the life of the project. It is essential that these ongoing products or services be measured as well as ongoing project progress. Fail-

ure to deliver product or service offerings and/or effectively deal with problems during the course of a project will have disastrous results for ongoing project progress.

Pairing the EDA and DBM approaches for project success

The combined DBM and EDA approaches (graphically represented in Diagram 3) to project performance measurement apply to any major project or to an inventory of projects undertaken by a public or private sector organization. In order for this new approach to the management and measurement of a major project(s) to succeed, an implementation strategy is needed. The strategy consists of the following high-level steps:

1. Diagnosis of DBM project complexity.

An initial diagnostic of the current level of project complexity is conducted using the DBM to determine the project classification level.

2. DBM project classification.

Based upon this diagnostic, a project is classified at the appropriate level. Level 3, 4 and 5 projects are significantly complex to warrant using approaches other than the traditional to stabilize the project requirements. Typically, this involves the development and implementation of a strategic project plan, which identifies

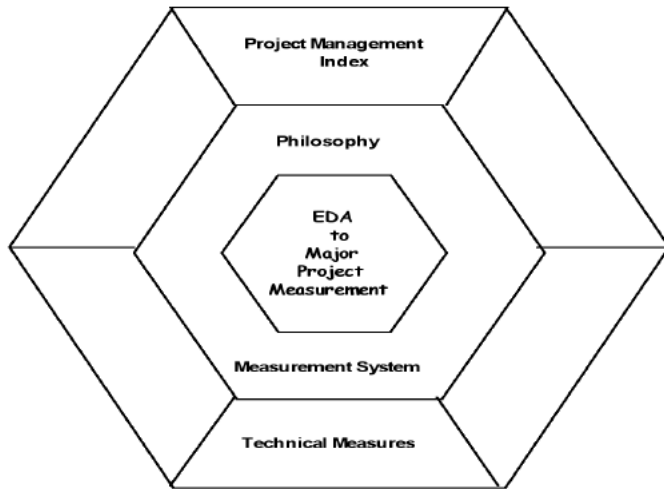


Diagram 2
Excellence Driven Approach (EDA)
to Major Project Measurement

those parts of the project that can be defined within a stable set of requirements, and that can be described in terms of an accurate budget, schedule and with a consistent scope. These sub-projects are then reclassified as a level 1 or 2 project and are measured using the EDA approach. This process continues until all elements of the project are stabilized and can be measured.

3. EDA project measurement.

For projects or part of projects classified as DBM level 1 and 2, the application of EDA employs the following steps:

- **Outline roles/responsibilities.** There are three major sets of roles and responsibilities that must be developed with regard to the development, implementation and operation of a major project EDA project management system – project management, client and project management office.
- **Refine performance measures.** It is necessary to revise the PMI measures based upon feedback from management and stakeholders until there is consensus on their acceptability.
- **Collect the performance data.** The data collection strategies include reviews conducted at various levels of the organization and intervals.
- **Analyze the performance information.** Two types of analyses are required – micro-level and macro-level – as a means to identify project accomplishments, issues and trends.
- **Interpretation of performance in-**

formation. Analysis of project performance will result in the emergence of accomplishments and several operational/strategic issues or exceptions that require interpretation to determine their relative and comparative importance. Two approaches are used: management interpretation and a confidence interval approach. The interpretation approach must be specified in advance of the project and tailored to its specific circumstances.

- **Reporting.** Communicating project accomplishments and issues in terms of financial status, functional/technical quality, issue management and client satisfaction to both senior management and staff, is critical.

4. Integration strategies.

These are essential to ensure that the DBA and EDA become a self-correcting and self-sustaining element within project operations, include:

- communication,
- knowledge transfer, and
- development of a supportive organizational culture.

5. Demonstrate the effectiveness of the DBM and EDA.

Run a pilot before full adoption across the project.

Conclusion

Using the DBM will greatly increase the likelihood of project success, improving decisions on whether to proceed with a project by providing a framework to analyze its level

of complexity – the five-level model. Those projects assessed at levels 3-5 are far less likely to succeed.

For those projects already under way, the DBM provides a method to manage the project, whatever the level of complexity happens to be. For level 3-5 projects, the focus is on governance and stabilizing the requirements for all or part of the project. The DBM helps to focus management on those elements that need to be stabilized before issues of requirements, budget and schedule become the focus. Stable requirements in terms of deliverables, schedule, budget and scope have a much greater chance of success.

Using the EDA to project measurement for those projects stabilized at levels 1 and 2 provides the following benefits:

- a framework for decision making in which managers have a basis for making decisions that conform and support the project strategic directions.
- proactive identification of issues that need to be considered and addressed by managers in order to deliver the project effectively.
- improved communication and collaboration between project management, the contractor and its clients by identifying issues related to its effectiveness.
- a relatively inexpensive investment (less than .01 percent) when implemented as part of an overall project management office, in comparison with the cost of major project failure.

The information generated from the EDA PM system must be used to take corrective action to effectively manage and steer the major project to its successful implementation. Otherwise, the effort is wasted. Where it is demonstrated that project performance information is used to improve the functioning of the project, then the EDA PM system becomes fully self-sustaining. ~~~

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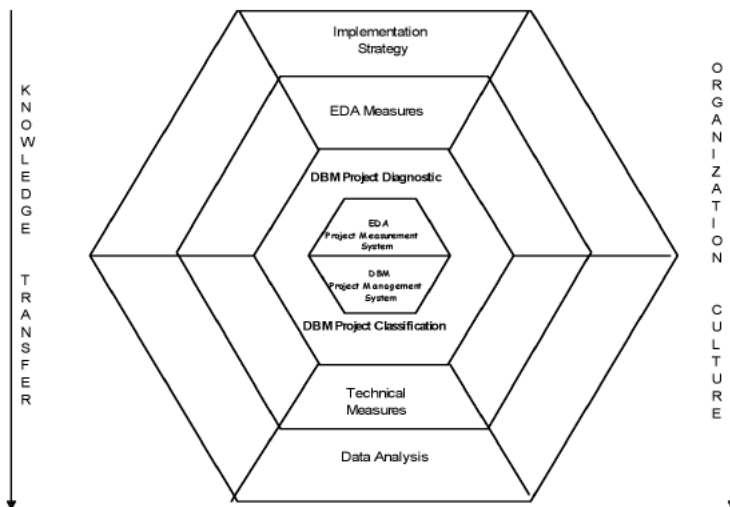


Diagram 3
Dynamic Baseline Model (DBM) and Excellence Driven Approaches (EDA) to Major Project Management and Measurement

¹ The 1995 *Chaos Study* of 365 IT executives representing 8,380 projects across a broad spectrum by the Standish Group and the KPMG Canada *IT Project Management Survey* (1997) of 1450 public and private sector organizations

² M. A. Seely, Q. P. Duong, "The Dynamic Base Line Model for Project Management" *Project Management Journal*, June 2001.

³ B. Shane, P. Lafferty, "The Excellence Driven Approach to Major Project Measurement," *Optimum Online*, Spring 2005 or www.bpcgallery.com.

⁴ "Building blocks to better procurement," Bryan Shane and Patricia Lafferty, *Summit*, January/February 2006.