Planting the Seeds to Grow a Complex Project Management Practice

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1. The Terrain

Our 21st century turbulent economic environment calls for businesses to be able to react to change quickly, to chart a new course on a dime. Challenges abound:

- Our global economic systems teetered on the verge of collapse, and by all accounts the recovery will be sluggish
- Our legacy of business and technology *complexity* poses barriers to our ability to change quickly
- Adaptability and agility are essential for success in the global marketplace
- Getting it right the first time is the only option to remain competitive
- Success requires a plan and approach that hits the mark, is executed with expert skills, and delivers real business value
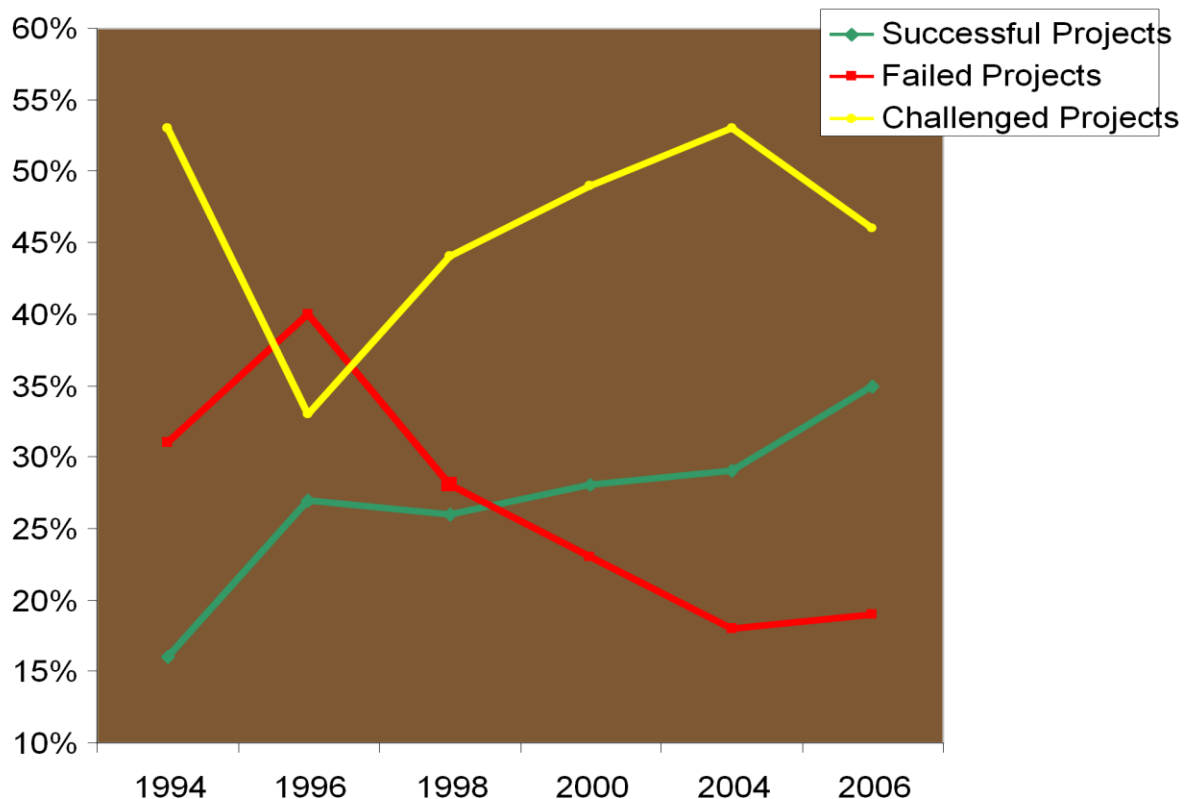

Figure 1: Standish Group Project Resolution History

To be able to react to, and even pre-empt change to remain competitive, organizations must be able to execute projects flawlessly. With so much riding on successful projects, it is no wonder we have invested heavily in improved project management processes, tools and competencies over the last two decades. Although project performance has greatly improved, it is still woefully inadequate.

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Consider the progress we have made (Figure 1), which is mostly due to improved project management and to reducing the size of projects (smaller projects are much more likely to succeed). Even with the improvements, nearly two-thirds of IT projects continue to fail (meaning nothing of value is delivered) or to be challenged (they are over time and cost, and likely did not deliver the full scope of functionality). What does this mean to our ability to compete in the marketplace? We know that failed and challenged projects often come with significant financial impacts. A few examples:

▸ Rework and abandoned systems: a combined $75B per year
▸ Boston's "Big Dig" Public Works Project: $>10B overrun; Loss of life
▸ EuroDisney: $4B failure
▸ FBI's Virtual Case Management System: $170M failure
▸ America La France ERP System Implementation: lost $56M in revenue in 2007; filed for bankruptcy in 2008

▸ *40 percent of IT projects fail*, which costs IT organizations an estimated *$1 million each year*

2. The Root Cause

So, what is the root cause of our continued inability to deliver new business solutions that hit the mark and add significant business benefit? Many experts have made the case that it is our ***gap in complex project management (CPM) capabilities and competencies*** (Figure 2) that is at the root.

21ST CENTURY PROJECTS

What have we learned about 21st century IT projects? Demand is outpacing our ability to deliver. Our customers need us to be much more agile. Virtually all organizations of any size are investing in large-scale, important transformation initiatives of one kind or another. As a result, projects are too big, too long, and too complex.
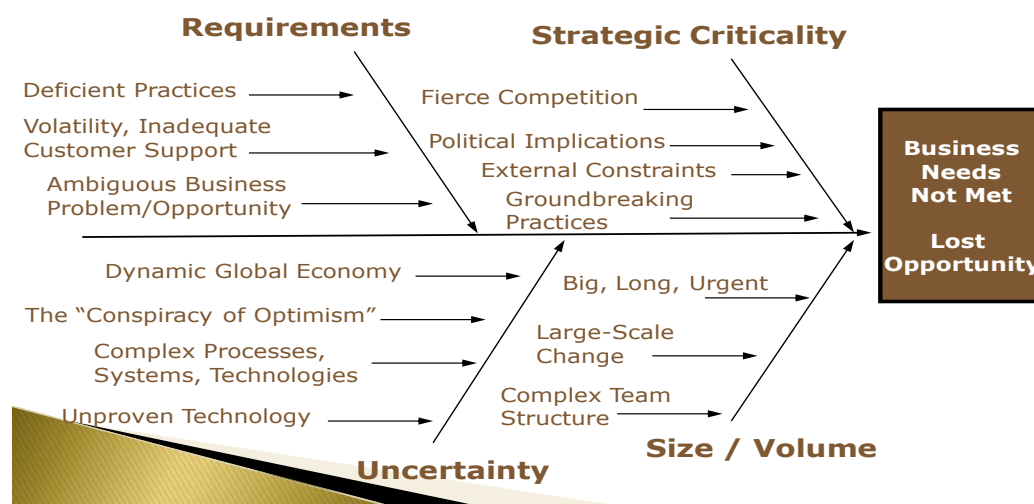

Figure 2: Root Cause of Failed and Challenged Projects

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TOO BIG TO FAIL

Projects today are too big and too long:
- ▸ Big projects fail more often
- ▸ Long-duration projects must adapt to a significant amount of change throughout the project
- ▸ Long-duration projects tend to have a massive amount of work to accomplish leading to fatigue, burnout and dysfunction

TOO IMPORTANT TO JUST DO MORE OF THE SAME

Contemporary projects are about adding value to the organization for it to remain competitive, or better yet, for it to leap ahead of the competition. Typical game-changing projects and programs involve:
- ▸ Breakthrough ideas
- ▸ Innovative business processes
- ▸ Groundbreaking commercial practices
- ▸ Competitive advantage through information technology
- ▸ Business/technology optimization

TOO COMPLEX TO SUCCEED USING CONVENTIONAL METHODS

"I think the 21st century will be the century of complexity."
Professor Stephen W. Hawking, PhD

Complexity poses barriers to change, complexity in both our legacy business processes and the information systems that support them.

Too often, we take the "big bang" approach to projects instead of risk-reducing iterative models. Conventional plan-driven project management practices have higher failure rates than adaptive, incremental approaches. We are learning that requirements must evolve as we learn more about the business problem and solution.

There is no such thing as defining all requirements up front and then "freezing" them, fiercely controlling changes. In today's dynamic world, we must be able to welcome changes that add value, and reduce the cost of changes through incremental approaches.

Adaptive approaches are needed because businesses are constantly changing. In this decade, only 28% of companies are expected to be stable. We need to learn to make "last responsible moment" decisions, delaying decisions and keeping our options open until further delay would mean we would risk missing the window of opportunity.

WHERE ARE WE HEADING?

Where is the industry heading to transition PMs from tactical players into strategic assets, leaders of change who are continually adapting to ensure strategy is executed through complex projects (Figure 3)? Clearly, to manage complex 21st century projects requires a strategic orientation, adaptive approaches, and a focus on business benefits. Enter: *Complex Project Management (CPM).*

Figure 3: Where the PM Responsibility is Heading

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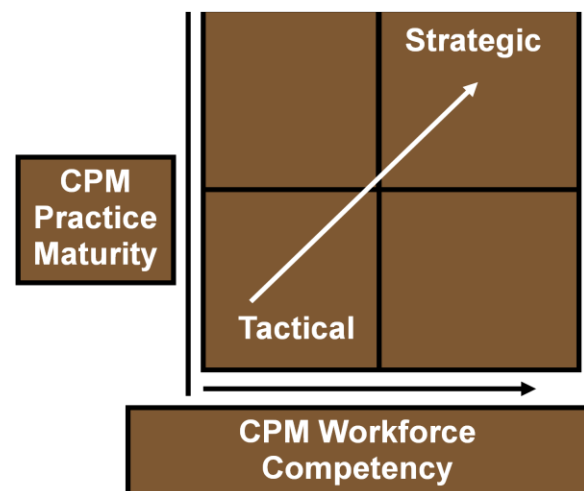
3. The Daunting Road Ahead

As businesses acknowledge the value of CPM – the result of the absolute necessity to drive business results through projects – they are struggling to figure out four things: (1) what are the characteristics of their current PM workforce, (2) what kind of PM workforce do they need to manage 21st century complex projects, (3) what is needed to build a mature CPM Practice, and (4) how are we going to get there. As you can see in Figure 4, there are many elements that need to be in place to implement a mature CPM Practice. So, it begs the question: *how are we every going to get there*, and *how fast can we get there*?

Mature CPM Practices	Proactive Environment	Effective CPM Workforce	Business Focus
Standards & Tools	CPMO/CPMCOE	Competent, Certified PMs and CPMs	Enterprise and Competitive Focus
Metrics & Measurements	CPM Governance	CPM and CPM Role Definition & Career Path Leading to VP CPM	Customer Relationships
Continuous Improvement	Periodic Maturity Assessments	Mentoring Program	Business Benefit Management
Knowledge Management	Periodic CPM Workforce Evaluations	Robust Training Programs	Competitive & Feasibility Studies

Figure 4: Building Blocks of a PM Mature Practice

The journey begins with an acknowledgement that complex project management is a critical business management discipline for success in the 21st century. What follows is a realization that it takes investment, resources, and commitment to transition an organization's PM practices from conventional, linear, plan-driven approaches to adaptive techniques (Figure 5).

COMPLEX PROJECT MANAGEMENT DEFINED

Australia seems to be leading the charge to professionalize CPM. According to Queensland University of Technology (QUT), Brisbane Australia,[i] the CPM strategic partner of the Australian Government's Defence Materiel Organization (DMO), complex projects are those that:
  ‣ Are characterized by uncertainty, ambiguity, dynamic interfaces, and significant political or external influences; and/or
  ‣ Usually run over a period which exceeds the technology cycle time of the technologies involved; and/or

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▸ Can be defined by effect, but not by solution.

Although there is no universally accepted definition for Complex Project Management, we can simply say it is the management of projects that have the characteristics outlined above.
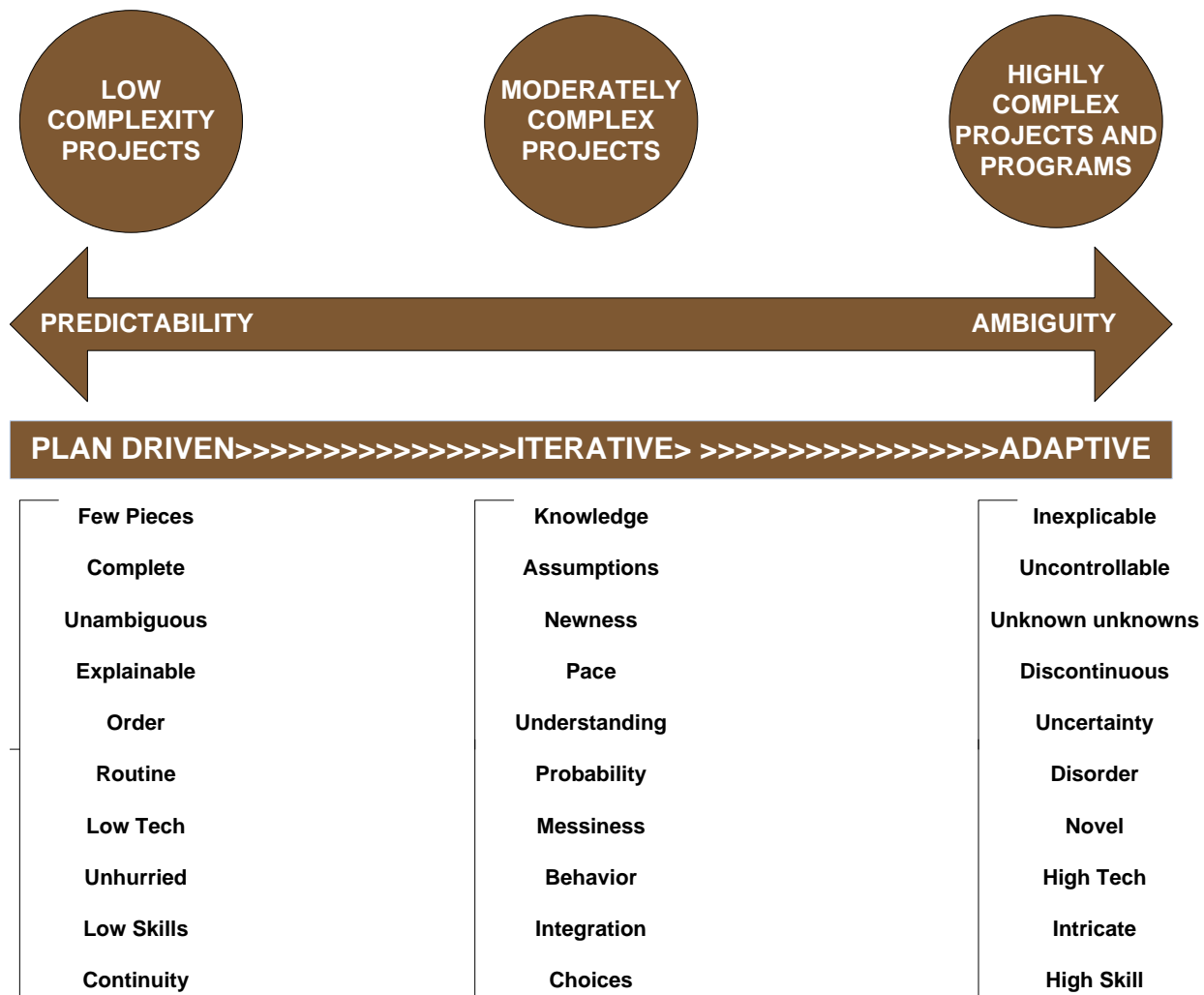
LOW COMPLEXITY PROJECTS	MODERATELY COMPLEX PROJECTS	HIGHLY COMPLEX PROJECTS AND PROGRAMS

PREDICTABILITY ◄――――――――――――――――――――――► AMBIGUITY

PLAN DRIVEN>>>>>>>>>>>>>>>>>>ITERATIVE> >>>>>>>>>>>>>>>>>ADAPTIVE

Few Pieces	Knowledge	Inexplicable
Complete	Assumptions	Uncontrollable
Unambiguous	Newness	Unknown unknowns
Explainable	Pace	Discontinuous
Order	Understanding	Uncertainty
Routine	Probability	Disorder
Low Tech	Messiness	Novel
Unhurried	Behavior	High Tech
Low Skills	Integration	Intricate
Continuity	Choices	High Skill

Figure 5: Project Complexity Continuum

WHY COMPLEX PROJECT MANAGEMENT? WHY NOW?

As demonstrated above, across the globe, awareness is emerging of the urgent need for improved delivery of projects that are complex, critical, often large and long term, and in the multiple billions of dollars. Research indicates that traditional, linear project management tools and techniques, while still necessary, are often insufficient to manage the complexities of 21st century projects. At the same time, it is apparent that the current workforce of project

managers, business analysts, engineers and architects has limited capacity to meet the challenges posed by complex projects.

In the twenty-first century, business processes have become complex; i.e., more interconnected, interdependent, and interrelated than ever before. In addition, businesses today are rejecting traditional management structures to create complex organizational communities comprised of alliances with strategic suppliers, networks of customers, and partnerships with key political groups, regulatory entities, and even competitors. Through these alliances, organizations are addressing the pressures of unprecedented change, global competition, time-to-market compression, rapidly changing technologies, and yes, increasing complexity. As a result, business and technology systems are significantly more complex than in the past; and for many reasons the projects that implement new business systems are more complex. To reap the rewards of significant, large-scale business/technology initiatives designed to not only keep organizations in the game but make them a major player, we must find new ways to manage project complexity.

For our economic competitiveness and for the security of the homeland, we simply must improve project performance. For these reasons, many thought leaders believe that **Complex Project Management** will be *the next big thing* in our quest to achieve better project performance. Potential benefits from the improved management of complex projects are significant. Not only will there be substantial direct returns to those organizations embracing CPM, there will also be an increase in the capacity of the global community to effect the strategic change objectives required for the complexities of the 21st century.

4. How is Complex Project Management Different?

Complex project management is a relatively new discipline, emerging out of the dust of the persistence of failed, challenged, and costly projects. Once the nature of CPM is understood, the very way in which we initiate, plan, and manage projects changes. Prior to making management decisions about the project, we must diagnose the complexity profile and dimensions of the project. Only then can we determine what level of project leadership is needed, which project cycle to use, and how to manage the complexity dimensions that are present. The new approach to complex projects is depicted in Figure 6.
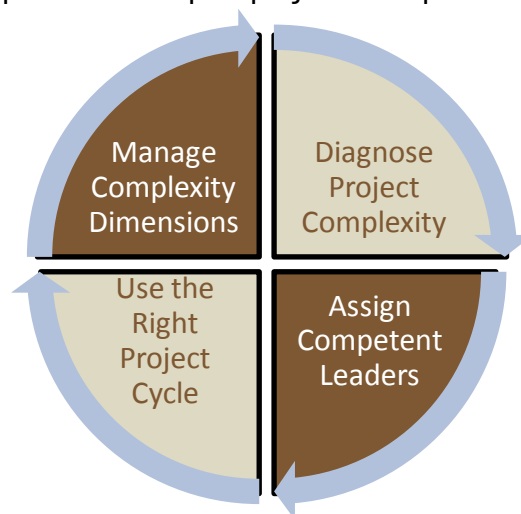

Figure 6: Complex Project Management Planning Steps

DIAGNOSING PROJECT COMPLEXITY

To diagnose project complexity, we have evolved the *Project Complexity Model* first presented in the book by this author, *Management Complex Projects, A New Model*, (2009, Management Concepts, Inc.). Based on an effort to validate the model with about forty (40) IT project managers, it was clear that the model was not yet comprehensive or complete. In addition, it did not appear to have effective discriminating criteria to correctly determine the project profile, resulting in almost every project being diagnosed as "highly complex" when clearly many were only moderately complex.

As a result, a new version of the model is emerging. At this point in the evolution of the model, it looks like *Exhibit 7 – Project Complexity Model, Version 2*. The key differences between the two versions of the model include:

‣ The addition of a fourth project profile, *Highly Complex Program or "Megaproject"*
‣ Collapsing the complexity dimensions from 11 to 9
‣ Rewording and tightening the verbiage that describes the criteria used to diagnose a project's complexity for each complexity dimension.

THE PROJECT COMPLEXITY MODEL, VERSION 2

Complexity Dimensions	Project Profile			
	Independent Project	**Moderately Complex Project**	**Highly Complex Project**	**Highly Complex Program "Megaproject"**
1. Size, Time, Cost	**Size:** 3–4 team members **Time:** < 3 months **Cost:** < $250K	**Size:** 5–10 team members **Time:** 3–6 months **Cost:** $250–$1M	**Size:** > 10 team members **Time:** 6 – 12 months **Cost:** > $1M	**Size:** Multiple diverse teams **Time:** Multi-year **Cost:** Multiple Millions
2. Team Composition and Past Performance	• **PM**: competent, experienced • **Team**: internal; worked together in past • **Methodology**: defined, proven	• **PM**: competent, inexperienced • **Team**: internal and external, worked together in past • **Methodology**: defined, unproven • **Contracts**: straightforward • **Contractor Past Performance**: good	• **PM**: competent; poor/no experience with complex projects • **Team**: internal and external, have not worked together in past • **Methodology**: somewhat defined, diverse • **Contracts**: complex • **Contractor Past Performance**: unknown	• **PM**: competent, poor/no experience with megaprojects • **Team**: complex structure of varying competencies and performance records (e.g., contractor, virtual, culturally diverse, outsourced teams) • **Methodology**: undefined, diverse **Contracts**: highly complex • **Contractor Past Performance**: poor
3. Urgency and Flexibility of Cost, Time, and Scope	• **Scope**: minimized • **Milestones**: small • **Schedule/Budget**: flexible	• **Scope**: achievable • **Milestones**: achievable • **Schedule/Budget**: minor variations	• **Scope**: over-ambitious • **Milestones**: over-ambitious, firm • **Schedule/Budget**: inflexible	• **Scope**: aggressive • **Milestones**: aggressive, urgent • **Schedule/Budget**: aggressive
4. Clarity of Problem, Opportunity, Solution	• **Objectives**: defined and clear • **Opportunity/Solution**: easily understood	• **Objectives**: defined, unclear • **Opportunity/Solution**: partially understood	• **Objectives**: defined, ambiguous • **Opportunity/Solution**: ambiguous	• **Objectives**: undefined, uncertain • **Opportunity/Solution**: undefined, groundbreaking, unprecedented

Complexity Dimensions		Project Profile			
		Independent Project	**Moderately Complex Project**	**Highly Complex Project**	**Highly Complex Program "Megaproject"**
5.	Requirements Volatility and Risk	• **Customer Support:** strong • **Requirements:** understood, straightforward, stable • **Functionality:** straightforward	• **Customer Support:** adequate • **Requirements:** understood, unstable • **Functionality:** moderately complex	• **Customer Support:** unknown • **Requirements:** poorly understood, volatile • **Functionality:** highly complex	• **Customer Support:** inadequate • **Requirements:** uncertain, evolving • **Functionality:** many complex "functions of functions"
6.	Strategic Importance, Political Implications, Stakeholders	• **Executive Support:** strong • **Political Implications:** none • **Communications:** straightforward • **Stakeholder Management:** straightforward	• **Executive Support:** adequate • **Political Implications:** minor • **Communications:** challenging • **Stakeholder Management:** 2–3 stakeholder groups	• **Executive Support:** inadequate • **Political Implications:** major, impacts core mission • **Communications:** complex • **Stakeholder Management:** multiple stakeholder groups with conflicting expectations; visible at high levels of the organization	• **Executive Support:** unknown • **Political Implications:** impacts core mission of multiple programs, organizations, states, countries; success critical for competitive or physical survival • **Communications:** arduous • **Stakeholder Management:** multiple organizations, states, countries, regulatory groups; visible at high internal and external levels
7.	Level of Change	• **Organizational Change:** impacts a single business unit, one familiar business process, and one IT system • **Commercial Change:** no changes to existing commercial practices	• **Organizational Change:** impacts 2–3 familiar business units, processes, and IT systems • **Commercial Change:** enhancements to existing commercial practices	• **Organizational Change:** impacts the enterprise, spans functional groups or agencies; shifts or transforms many business processes and IT systems • **Commercial Change:** new commercial and cultural practices	• **Organizational Change:** impacts multiple organizations, states, countries; transformative new venture • **Commercial Change:** ground-breaking commercial and cultural practices
8.	Risks, Dependencies, and External Constraints	• **Risk Level:** low • **External Constraints:** no external influences • **Integration:** no integration issues • **Potential Damages:** no punitive exposure	• **Risk Level:** moderate • **External Constraints:** some external factors • **Integration:** challenging integration effort • **Potential Damages:** acceptable exposure	• **Risk Level:** high • **External Constraints:** key objectives depend on external factors • **Integration:** significant integration required • **Potential Damages:** significant exposure	• **Risk Level:** very high • **External Constraints:** project success depends largely on multiple external organizations, states, countries, regulators • **Integration:** unprecedented integration effort • **Potential Damages:** unacceptable exposure
9.	Level of IT Complexity	• **Technology:** technology is proven and well-understood • **IT Complexity:** application development and legacy integration easily understood	• **Technology:** technology is proven but new to the organization • **IT Complexity:** application development and legacy integration largely understood	• **Technology:** technology is likely to be immature, unproven, complex, and provided by outside vendors • **IT Complexity:** application development and legacy integration poorly understood	• **Technology:** technology requires groundbreaking innovation and unprecedented engineering accomplishments • **IT Complexity:** multiple "systems of systems" to be developed and integrated

Figure 7: Project Complexity Model Version 2

HOW TO USE THE PROJECT COMPLEXITY MODEL

To use the model, members of the core leadership team of projects (the project manager, business analyst, business visionary, solution architect, lead developer, change management expert) collaborate to select the appropriate cell that *most accurately describes* the project for each complexity dimension. Then, the formula in Figure 8 is applied.

Highly Complex Program "Megaproject"	Highly Complex Project	Moderately Complex	Independent
Size: Multiple diverse teams **Time:** Multi-year **Cost:** Multiple Millions Or 2 or more in the **Highly Complex Program/Megaproject** column	**Organizational Change:** impacts the enterprise, spans functional groups or agencies, shifts or transforms many business processes and IT systems *Or* **3** or more categories in the **Highly Complex Project** column And No more than 1 category in the **Highly Complex Program/Megaproject** column	3 or more categories in the **Moderately Complex Project** column *Or* No more than 2 categories in the **Highly Complex Project** column and	No more than 2 categories in the **Moderately Complex Project** column *And* No categories in the **Highly Complex Project** or the **Highly Complex Program/Megaproject** columns

Figure 8: Project Complexity Formula

Once the complexity profile and dimensions are understood, the project leadership teams make key managerial decisions: ensuring that the project leadership team is adequately experienced and skilled Figure 9), determining which project cycle to use from plan-driven linear waterfall models to more iterative and adaptive methods (Figure 5), and which complexity management strategies to employ as described in *Management Complex Projects, A New Model*. This complexity assessment and re-planning is repeated at key junctures throughout the project.
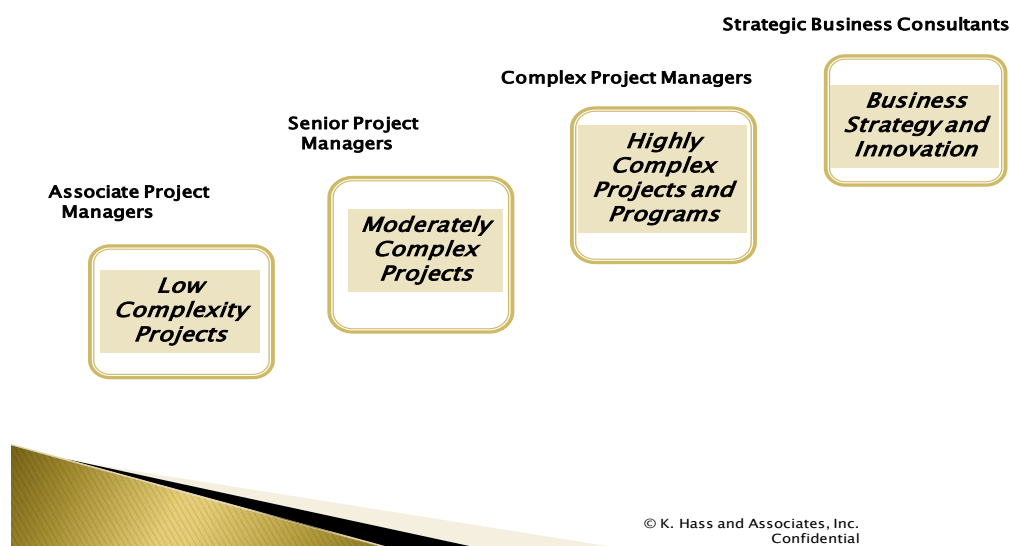
Figure 9: Complex Project Leadership 11

5. How are We Going to Get There?

To transition your current PM practices into mature CPM capabilities, K. Hass and Associates have developed a comprehensive *CPM Practice Maturity Framework* (Figure 10). Realizing that it takes investment and resources to build a new business management process, our framework calls for a proven, structured four-pronged approach.

CPM VALUE ACKNOWLEDGED

The journey begins with the project management and business community acknowledging that complex project management is a critical business management discipline for success in the 21st century. This awareness and acknowledgement is beginning to take hold.

CPM PRACTICE MATURITY

Experience has demonstrated that it takes 18 months to two years to develop and institutionalize a new business management process. We have developed a reference model depicting the maturation from PM capabilities to manage low-to-moderately complex projects using conventional project management approaches, to advanced practices to manage complex projects, programs and portfolios. The maturity model serves as the basis for our CPM Assessment Program, and provides guidance from which to build the roadmap to mature capabilities.

CPM WORKFORCE COMPETENCY

Grooming complex project managers involves identifying experience, high-performing project managers, assessing their current skill and competency level, and developing both individual and organizational CPM professional development plans.

CPM CENTER OF EXCELLENCE

Like any significant change effort, an effective team is needed to steer the course. Businesses are finding that the *center of excellence* model helps to drive improvements to critical business practices by establishing responsibility, accountability and ownership for the CPM practices and increased business benefits from projects.
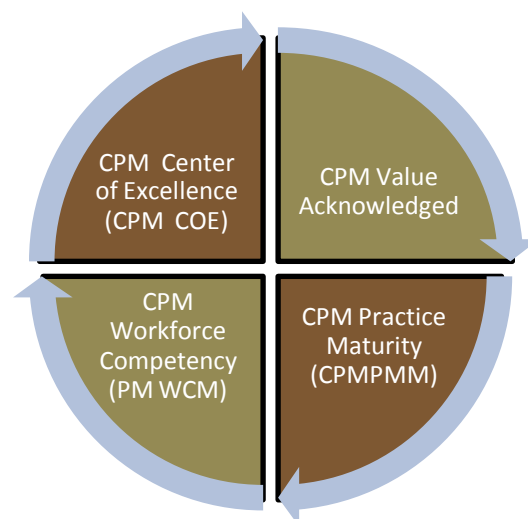
Figure 10: Complex Project Management Framework

6. How do we Cultivate Mature CPM Practices?

To steer the course, we have developed a CPM Practice Maturity Model (Figure 11), which provides a systematic roadmap from conventional project management at level 2, to CPM maturity at level 3, and innovation and business/technology optimization at level 4. Our CPM Assessment Program uses this model to baseline current PM methods, tools, training, and environmental support and provides guidance to develop a roadmap to higher levels of maturity required to manage complex projects, programs, and portfolios.

CPM Practice Maturity Model

Technology Used as a Competitive Advantage

Business Needs Met / Strategy Executed

Business Projects on Time/Budget/Scope

| **1** PM Awareness	**2** PM Framework	**3** Business Alignment	**4** Business / Technology Optimization
PM Value Acknowledged			

1 PM Awareness
- PM Practices Informal
- PM Community of Practice Exists
- Increasing awareness of the value of PM

2 PM Framework

Project Focus
Low- to Moderately Complex Projects
Customer Involvement
Project Metrics
Project Change Mgt.
PMI PMBOK® Standards:
- Integration, Scope, Time, Cost, Quality, HR, Communications, Risk, Procurement Management

PMCOE: Management of PM Framework
PM Framework Training
PM Career Track
- IT Oriented PMs
- Business Oriented PMs

3 Business Alignment

Enterprise Focus
Highly Complex Projects, Programs, Portfolios
Customer Satisfaction
Business Architecture
Organizational Change Mgt.
Benefits Metrics
PMI® Standards:
- Program Management
- Portfolio Management

Integrated BA/PM/QA/SDLC
COE: Portfolio Mgt., Stds., Resources, Contractors
Business Alignment Training
PM Career Path to VP of PMs
- Program Managers
- Portfolio Managers
- Product Managers
- Complex Project Managers

4 Business / Technology Optimization

Competitive Focus
Innovation and R&D Projects
Customer Relationship Mgt.
Opportunities converted into Innovative Business Solutions
Strategy translated into Breakthrough Process & Technology
Cultural Change Mgt.
Strategy Development Stds:
- Visioning &Strategic Planning
- Innovation & R&D
COE: Management of Innovation and R&D
Innovation Training
PM Career Path Leading to Strategic PMs
- Business/ Technology Optimization Experts

Continuous Improvement of CPM Practice

Figure 11: CPM Practice Maturity Model

The maturity levels of the CPM Practice Maturity Model are described in more detail below (Figure 12).

Level	Description
Level 4: Business Technology Optimization	**Business Benefit: New Strategy is Formed and Technology is Used as a Competitive Advantage** Organizations at Level 4 recognize that advanced CPM practices are needed to maintain a competitive edge by conducting R&D projects designed to use technology as a competitive advantage. Level 4 organizations vest accountability for research and innovation in a centralized organization that represents the entire enterprise that is responsible for management of the business/technology optimization practices. Specifically, to achieve Level 4: ▸ The enterprise CPM COE manages the vision, goals, objectives, and plans to forge new strategies and achieve a competitive advantage through business/technology optimization ▸ The following process and tools are developed, piloted, deployed, and institutionalized: • Innovation: converting business opportunities into innovative new business solutions • Strategy Development: translating strategy into breakthrough process and technology change • Customer Relationship Management • Cultural Change Management

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	▸ Quantitative CPM Process Management Program is integrated with BA, QA, SDLC ▸ Business/Technology Optimization Training Program is developed and required

**Level 3:
Business
Alignment**
	Business Benefit: New Business Solutions Meet Business Need; Strategy is Executed
	
	Organizations at Level 3 recognize that CPM is essential to ensure business alignment of project goals, objectives, and the new business solutions deployed by the project teams. Level 3 organizations vest accountability for business alignment in a centralized organization that represents the entire enterprise and is responsible for management of the business alignment practices. Specifically, to achieve Level 3:
	▸ The CPM COE mission is the centralized management of all project resources, contractors, vendors
	▸ The following process and tools for achieving business alignment to execute strategy are developed, piloted, deployed, and institutionalized:
	  • Program Management
	  • Portfolio Management
	  • Strategic Alignment and Oversight of Project Investments
	  • Organizational Change Management
	  • Project Benefits Measurement Program
	▸ Business/Technology Architecture exists for the current and future states
	▸ A Business Alignment Training Program is developed and required

Level 2: PM Framework	**Business Benefit: Business Projects are Delivered on Time, Cost, and Scope** Organizations at Level 2 recognize that PM is a valuable capability by vesting accountability for it in a centralized organization that represents the entire enterprise and is responsible for the management of the PM Framework. The organization, often referred to as the PM Center of Excellence (PM COE) or Project Management Office (PMO), assigns roles and responsibilities and establishes plans for developing, piloting, and deploying PM standards. Specifically, to achieve Level 2: ▸ The PM COE or PMO is established and roles and responsibilities assigned to develop and manage the PM Framework ▸ The following process and tools for delivering projects are developed, piloted, deployed, and institutionalized: Integration, Scope, Time, Cost, Quality, HR, Communications, Risk, Procurement Management ▸ The knowledge management process and system is developed and is in place to archive, manage, and provide appropriate access to all PM process and tool assets and actual PM artifacts ▸ A PM Framework Training Program is developed and required
Level 1: CPM Awareness	**Business Benefit: CPM/PM Value is Acknowledged** At Level 1, an organization does not have plans to implement a CPM practice, or it has plans, but they do not yet demonstrate an understanding of the value of CPM.

Figure 12: CPM Practice Maturity Model Description

ASSESSING CPM PRACTICES

Our CPM Practice Maturity Assessment Program is intended to provide validated, accurate information about the current state of CPM practices, accompanied by recommendations for improvement and support along the journey. In addition, the assessment determines the readiness of the organization to accept and support the new CPM practices and formation of a CPM Center of Excellence to plant the seeds and steer the course. Specifically, the assessments:

▸ Measure the ability of your organization to repeatedly deliver new business solutions that meet the business need and result in the expected benefits

▸ Provide a foundation and guidance for advancement of practices through prioritized, sequential improvements

▸ Provide an indicator of how effective your organization is in meeting business objectives and executing strategy through successful implementation of new business solutions

Our approach to conducting an organizational maturity assessment can be

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formal or informal. In either case, it is multi-dimensional, and includes planning meetings culminating in a kick-off session, administration of our assessment instrument, review of project artifacts and deliverables, accompanied by a series of interviews and focus group sessions to validate findings. Information is synthesized, organized, validated and documented in a data summary report and an assessment findings and recommendations report containing a two-year roadmap and action plan for immediate next steps.

We use the CPM Practice Maturity Model as the basis for several types of assessments as described below (Figure 13). Depending on how far you have come in your journey to cultivate mature CPM practices, we recommend the most appropriate evaluation of your CPM Practice.

Practice Baseline	Abbreviated Assessment	Full Assessment
Questionnaire Administration	Questionnaire Administration	Questionnaire Administration
5 Interviews	5 Interviews 2 Focus Groups 3 Projects Reviewed	10 Interviews 4 Focus Groups 5 Projects Reviewed
Kickoff and Findings Presentations	Kickoff and Findings Presentations	Kickoff and Findings Presentations
Data Summary Report	Data Summary Report	Data Summary Report
	Findings and Recommendations Report	Findings and Recommendations Report
1 Assessor	2 Assessors	2 Assessors
1-2 Weeks	2-3 Weeks	3-4 Weeks

Figure 13: CPM Practice Maturity Assessment Options

7. How does an Effective CPM Workforce Take Shape?

The goal of building an effective CPM workforce is to ensure the organization has appropriately skilled PMs possessing the competencies needed to successfully deliver complex business solutions that meet business needs (Figure 14).

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Breadth of CPM Competencies

- Business Analysis
- Requirements Elicitation and Validation
- Model and Specify Requirements and Solutions
- Solution Assessment and Validation
- Requirements Management
- Six Sigma, BPR

- Conceptualization and Visioning
- Systems thinking
- Feasibility Analysis
- Decision Analysis
- Cost/Benefit Analysis
- Systems Thinking
- Business Outcome Thinking

- Products
- Processes
- Markets
- Systems
- Supply Chain
- Competitive Analysis

Leadership   **Analysis**   **Implementation Skills**   **Domain Knowledge**   **Project Management Consulting**

- Facilitation
- Team Management
- Negotiation and Decision Making
- Conflict Management
- Communication
- Organizational Change
- Cultural Change
- Management of Power and Politics

- IT Knowledge
- Process Change
- Quality Assurance
- Verification and Validation
- Customer Relationship Management

- Strategic and Business Planning
- Planning and Executing
- Time and Cost Management
- Relationship Management
- Strategic Planning
- Coaching Skills
- Delegation and Management Skills
- Adaptive methods
- Risk Assessment and Management
- Portfolio Management

Figure 14: Array of PM/CPM Competencies

There is growing consensus among project management thought leaders that PM skills and competencies are transitioning from the technical project management skills needed for low-to-moderately complex projects, to leadership and influence skills needed for highly complex programs and projects. See Figure 15 for a view of transitioning PM competencies. Source: Center for Strategic International Studies, *Organizing for a Complex World, Developing Tomorrow's Defense and Net-Centric Systems,* 2009 quoting D.H.Domkins, *Complex Project Management*, 2007

Traditional PM Competencies	New PM Competencies	Complex Program and Portfolio Director Competencies

Integration
Scope
Time
Cost
Quality
Risk
HR
Communication
Procurement
Safety
	Leadership
	Engagement
	Self Control
	Assertiveness
	Openness
	Creativity
	Result Oriented
	Efficiency
	Consultation
	Negotiation
	Conflict
	Reliability
	Values
	Ethics
		Strategy
		Business Change
		Innovation
		Organization Development
		Systems Leadership
		Culture
		Governance
		Special Attributes:
		  • Creates and Leads Innovative teams
		  • Ability to influence
		  • Action and outcome oriented
		  • Focused and courageous

Figure 15: Transitioning PM Competencies

To baseline the competency level of your PM/CPM workforce and recommend advancement of skills and competencies to close the gaps, we have developed a CPM Workforce Competency Model (Figure 16) and CPM Workforce Competency Evaluation Program. This model is based on the latest industry research and is in alignment with our CPM Practice Maturity Model that supports the CPM Practice Maturity Assessment program. The model is four-tiered:

1. Operations Focused PMs
2. Project Focused PMs
3. Enterprise Focused CPMs
4. Business/Technology CPMs

LEVEL 1: OPERATIONS/SUPPORT PMS

Level 1 includes generalists, business/system specialists, and product managers who are usually entry to senior levels PMs. These PMs typically spend a percentage of their time doing project management activities for low complexity projects designed to maintain and continually improve current business processes and technology. The remaining time they are fulfilling other roles including business analyst, developer, engineer, SME, domain expert, and/or tester. As legacy processes and systems age, these PMs are becoming more and more valuable since they are likely the best (and often only) SME who fully understands the legacy operational processes and technology.

LEVEL 2: PROJECT FOCUSED PMS

Level 2 PMs include business domain and IT system experts, and are typically entry to senior level PMs who work on moderately complex projects designed to develop new/changed business processes and IT systems.

CPM Workforce Competency Model

Business Operations Enhanced	Business Objectives Met	Business Strategy Executed	New Business Strategy Forged
Operations/Support Focus	**Project Focus**	**Enterprise Focus**	**Competitive Focus**
PROJECTS	**PROJECTS**	**PROJECTS**	**PROJECTS**
Low complexity projects that continually enhance business process, product, and/or technology	Moderately complex new development projects that improve business process, product, and/or technology	Highly complex programs and portfolios that improve multiple business processes, products and/or technologies	Innovation projects that improve competitive advantage and translate strategy into breakthrough process and technology
OUTCOMES	**OUTCOMES**	**OUTCOMES**	**OUTCOMES**
Value of operational business process & systems is continually enhanced	Projects are managed to ensure new solutions meet business objectives	The enterprise is investing in the most valuable initiatives and is realizing the business benefits forecasted in the Business Case	New strategy formulated. Business/Technology optimized. Improved competitive position
TYPE OF LEADER	**TYPE OF LEADER**	**TYPE OF LEADER**	**TYPE OF LEADER**
Generalists, Business/System Specialists, Product Managers	Business Domain Experts, IT System Experts	Enterprise Change Experts, Program and Portfolio Managers	Strategists, Business/Technology Optimization Experts, Innovation & Cultural Change Experts
Entry Level and Senior PMs	Entry Level and Senior PMs	Senior and EnterprisePMs	Business/Technology Optimization PMs, Innovators and Strategists

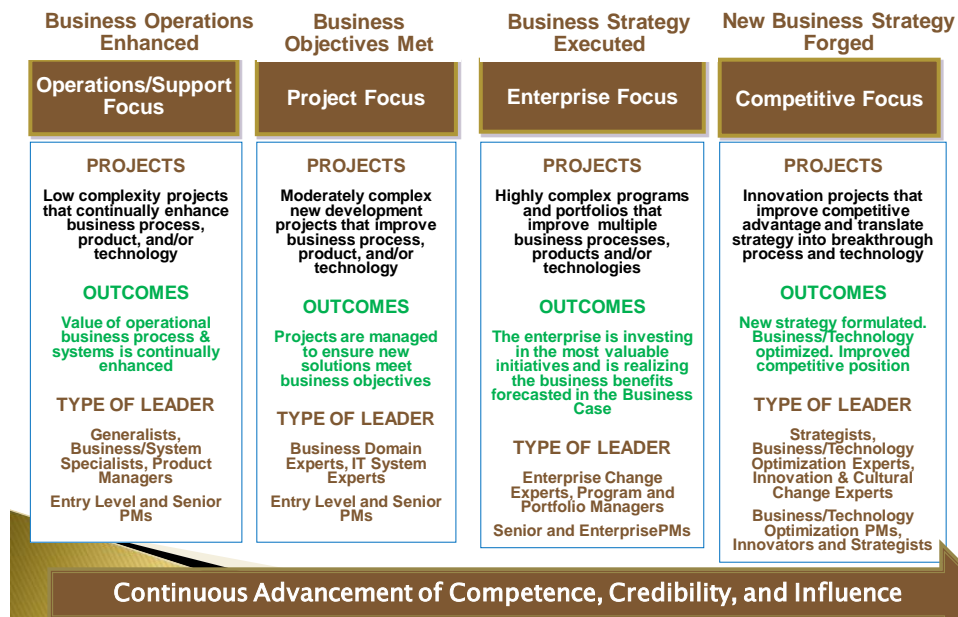**Continuous Advancement of Competence, Credibility, and Influence**

Figure 16: CPM Workforce Competency Model

LEVEL 3: ENTERPRISE FOCUSED CPMs

Level 3 includes enterprise change experts and business architects, CPMs who are usually placed at the senior levels of the PM career path, and who operate at the enterprise level of the organization. These CPMs ensure that the PM activities are dedicated to the most valuable initiatives, and the project assets are considered corporate property and are therefore reusable. Enterprise CPMs focus on the business case ensure their projects deliver business value, working on highly-complex, enterprise-wide projects.

LEVEL 4: BUSINESS/TECHNOLOGY CPMs

Business/Technology CPMs are business and technology visionaries who serve as strategists, business/technology optimization experts, innovation experts, organizational and cultural change specialist, and cross domain experts who operate at the enterprise and strategy level. Business/Technology CPMs focus outside of the enterprise on what the industry is doing, formulate the future vision and strategy, and design innovative new approaches to doing business to ensure the enterprise remains competitive, or even leaps ahead of the competition. Business/Technology CPMs convert business opportunities to innovative business solutions and translate strategy into breakthrough process and technology.

BUILDING A COMPETENT CPM WORKFORCE

Our CPM Workforce Evaluation Program provides the information needed for PMs to baseline their competencies and prepare their own professional development plans, and for management to draft an overall PM/CPM workforce development plan for the organization. The results provide a basis for PM workforce adjustments and/or realignment, training requirements, professional development activities, and specific mentoring and coaching needs.

Our CPM Workforce Evaluation collects basic demographic information about the PMs, e.g., years of experience, time spent on PM activities, amount of PM education. We then compare the state of your PM workforce to the industry as a whole. The information on how much time is spent on PM activities provides a view into your actual capacity to deliver new business solutions.

Our approach to conducting a CPM Workforce evaluation includes interviews with management, planning sessions culminating in a kick-off session, administration of the questionnaire to PMs and their supervisors, and follow-on consulting services to assist in optimal use of the information. Results are documented, analysed against our competency model, and summarized in assessment findings and reports. Findings are:
▸ Reported to the individual PM
▸ Summarized and reported to the supervisors of the PMs for their group
▸ Summarized and reported to management of the entire organization.

We use the CPM Workforce Competency Model as the basis for two kinds of evaluations as described in Figure 17.

Individual PM Competency Assessment	Group PM Workforce Assessment
	Planning, Set Up and Kickoff Presentation
Questionnaire Administration	Questionnaire Administration
	5 PM/Manager Interviews
Individual Report	Individual Reports
Individual Professional Development Plan	Individual Professional Development Plans
	Assessor Review and Analysis
	Organization's Group Data Summary Report and Recommendations
	Sub-Group Data Summary Reports and Recommendations
	Group Findings and Recommendations Presentation
	1 Assessor 3-4 weeks

Figure 17: CPM Workforce Evaluation Options

8. Who is going to Plant the Seeds and Nourish the PM/CPM Practice?

Centers of excellence are emerging as a vital strategic asset to serve as the primary vehicle for managing complex change initiatives, a business support function just as critical as accounting, marketing, finance and HR. A center of excellence is a team of people that is established to promote collaboration and the application of best practices. Centers of excellence exist to bring about an enterprise focus to business issues, e.g., data integration, project management, enterprise architecture, business and IT optimization, and enterprise-wide access to information.

The center of excellence model is quickly maturing in twenty-first century organizations because of the need to collaboratively execute strategy through projects and programs. Project management offices (PMO), a type of center of excellence, proliferated in the 1990s as a centralized approach to managing projects, in response to the challenges associated with complex projects in an environment with low levels of project management maturity and governance. Now is the time to form CPM Centers of Excellence (CPM COE) to plant the seeds and steer the course to grow a mature CPM Practice.

The goal: establish a CPM COE that adds value to the bottom line of your company. To form a CPM COE to last, consider the following:
- The *mission*: to deliver business value
- The *message*: a focus on business value delivered often; the right message to the right people
- The *right people*: respected, influential, viewed as leaders

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- The *strategic alignment*: support the right project mix linked to strategy/mission
- The *value*: link improved CPM Practices to executive goals; measure business benefits of new solutions

To steer the course, we have developed a CPM COE Implementation and Evaluation Program that is aligned with the CPM Practice Maturity and CPM Workforce Competency programs. We provide services to launch a new CPM COE or to evaluate the maturity of your existing PMO, and provide recommendations to immediately improve its effectiveness and ability to add value to the bottom line.

Implementing a successful CPM COE is not a trivial endeavor. We recommend a gradual approach, focusing on management of the level 2 components first, and gradually implementing practices at levels 3 and 4. COEs earn credibility one project at a time. We therefore recommend focusing on the most important project(s) in your organization first, adding value to the project team, the executive sponsors, and virtually all of the project stakeholders.

Our CPM COE evaluation process is similar to the CPM Practice Maturity assessment, consisting of many of the same activities (Figure 18). COEs must deliver value to survive. Value is not templates, tools, methodology, processes, or training. Value is gaining efficiencies, achieving cost savings, increasing customer satisfaction, reducing time-to-market, increasing revenue and profit, reducing deficits, or increasing competitive advantage. Too many COEs wrap their mission and existence around the services they provide instead of their impact on the business.

CPM COE Evaluation Process
Questionnaire Administration
Interviews and Focus Groups
Review of COE Process Assets
Data Summary Report
Recommendations with 2-Year Roadmap and Action Plan
1 Assessor
1-3 Weeks

Figure 18: CPM COE Maturity Evaluation Process

9. What Professional Services are Available to help Guide the Growth of CPM?

K. Hass and Associates offer professional services to organizations to help them in their quest to build a mature CPM Practice. Our services, while well developed and utilized, are always targeted and customized to each organization's particular needs. No two implementations are alike, although our approach is rooted in proven best practices for assessments and consulting services. Our assessment services are supported by LORIUS, LLC, an assessment, survey, and research firm.

LORIUS, LLC provides applied organizational research, workforce evaluation, surveys, and analytics to help managers and leaders transform data into actionable business intelligence to drive and improve their organization's business outcomes.

For information about the science and analytics behind K. Hass and Associates' Business Analysis Practice Maturity Framework, read these whitepapers at www.LoriusLLC.com:
- CPM Workforce Evaluation: *Get Off the Couch and Help Your BAs Achieve Optimal Fitness*
- Review of the Integrated Business Analysis Practice Maturity Assessment Framework: *Is That What's Really Happening in my Organization?*

Learn more from K. Hass and Associates

The first step in implementing a mature CPM Practice is learning about our groundbreaking CPM support services. K. Hass and Associates offer assistance in every aspect of *CPM Practice Maturity*, focusing on meeting your specific business goals. New opportunities include:
- Bring our **Complex Project Management (CPM) Workshop** to your organization to diagnose the complexity of your most critical projects and identify management strategies to use to significantly increase the probability of project success.
- Investigate the only **CPM Assessment Services** available in the marketplace today, to baseline the maturity of your current capabilities and the competency levels of your PMs, and assist you in developing your CPM improvement and professional development plans.
- Participate in our **CPM Research Project** to baseline the current complexity levels of today's projects. You will receive a valuable report on the complexity of your current project.

For more information, contact Kitty Hass at kittyhass@comcast.net or visit us online at www.kathleenhass.com.

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About the Author

Kathleen B. (Kitty) Hass
The Award Winning Author, Consultant, Facilitator, and Presenter

Kathleen Hass is the president of Kathleen Hass and Associates, Inc., a consulting practice specializing in practice maturity assessments, workforce evaluations, strategy execution, and the business analysis and project management disciplines. Ms. Hass is a prominent presenter at industry conferences, an award winning author, and keynote speaker. Her expertise includes IT strategic planning, implementing and managing PMOs and CPM COEs, facilitating portfolio management, leading technology and software-intensive projects, executive coaching, building and leading strategic project teams, and managing large complex programs.

Ms. Hass has over 25 years experience providing professional services to Federal agencies, the intelligence community, and various Fortune 500 companies. Certifications include: SEI CMM appraiser, Baldrige National Quality Program examiner, Zenger-Miller facilitator, and Project Management Institute Project Management Professional. Ms. Hass serves as Director at Large and chair of the Chapter Governance Committee for the International Institute of Business Analysis, a member of the Business Analysis Body of Knowledge committee and lead author of the Enterprise Analysis Chapter.

Kitty has authored numerous white papers and articles on leading edge PM/CPM practices, the renowned series entitled, *Business Analysis Essential Library,* a compilation of six titles on critical CPM practices, the groundbreaking and award winning book, *Managing Project Complexity - A New Model*, and she contributed to the book released in 2009 entitled *The 77 Deadly Sins of Project Management* all published by Management Concepts, Inc.

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[vi] Commonwealth of Australia (Department of Defense), College of Complex Project Managers and Defense Materiel Organization, Competency Standard for Complex Project Managers, 2006. Public Release Version 2.0. Online at: http://www.defence.ogv.au/dmo/proj_man/Complex_PM_v2.0pdf, pp. 17-18. (accessed October 2009)