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### Project Management Competency Development

by

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## **Project Management Competency Development**

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## Abstract:

### Introduction:

Project Management Competency Development is crucial to the growth of an organization. The significance of project management to a company's business environment gets highlighted in the statistics of missed deadlines, cost overruns and poor workmanship. For example, cost overrun in IT projects average 89% and schedule overrun average 122%. In order to make improvements in this significant sector, this paper addresses the issues in Project Management (PM) concerning competency and outlines directions for enhancing PM competency.

Business scenarios and strategies are evolving rapidly and playing a crucial role in shaping the future of IT and other industry sectors. Rapidly changing business models are demanding a high level of project management competence. World organizations like SEI and PMI have developed guidelines and frameworks to promote best practices in project management. Managements are pushing for trainings and improving their project management methodologies but progress is slow. There is a glaring gap between business requirements and competency.

This paper presents a four-stage competency model along with a two pronged strategy to plug competency gaps and fuel high performance in project management. Competency development is portrayed in a larger perspective linking individual strengths to organizational growth for promoting entrepreneurial leadership. A case study is included to highlight the common reasons for low performance and presents a project management maturity assessment matrix to identify areas for competency improvement. The concepts and methods described advocate a coherent top-down and bottom-up approach to project management competency development and work to create finer execution channels to achieve greater performance levels.

### Audience:

Project Management Experts, Senior Managers

### Area of Application:

Project Management

### Benefits:

Enhances project management competency at all levels and promotes long-term growth of organizations and industry. Improves quality, cost and on-time delivery of projects.

### Issues and Challenges:

Improving competency levels and sustaining high performance across multiple project teams is a challenge that needs to be met by appropriate operations strategy. A broader view of Project Management Competency Development addresses the root causes of poor IT performance.

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## 1.0 Introduction:

Project Management Competency Development is crucial to the growth of an organization. The significance of project management to a company's business environment gets highlighted in the statistics of missed deadlines, cost overruns and poor workmanship. For example, cost overrun in IT projects average 89% and schedule overrun average 122%. In order to make improvements in this significant sector, this paper addresses the issues in project management (PM) concerning competency and outlines directions for enhancing PM competency.

Business scenarios and strategies are evolving rapidly and playing a crucial role in shaping the future of IT and other industry sectors. Rapidly changing business models are demanding a high level of project management competence. World organizations like SEI and PMI have developed guidelines and frameworks to promote best practices in project management. CMMI has laid out several processes to support project management practices. PMBOK has elaborated nine knowledge areas under the project life cycle to handle the various phases in project management.

Managements are pushing for trainings and improving their project management methodologies but progress is slow. There is a glaring gap between business requirements and competency. Reasons behind low or average project success rates are 1) gap in project management competency, 2) less attention (of senior management) to project management 3) lack of project managers' association with the business vision. A broader view of project management competency development will address many of the root causes of poor IT performance.

## 2.0 Content

### 2.1 Project Management Competency - Perspective

Project management can be enhanced by promoting individual strengths. For long top executives across organizations have been paying better focus and attention to business management vis-a-vis project management because the narrow scope and definition of project management fails to attract the attention of senior management

while making strategic operational improvements. Project Management is more than just metrics and process checklists to successfully complete projects. Project Management or lack of it impacts every aspect of the organization – Engineering, Senior Management, Purchasing, Human resources, Finance, Marketing & Sales, and Customers. In essence project management competency makes or breaks not only individual projects but also the long term success and growth of an organization. Hence project management competence has to be viewed in a much larger perspective, starting from individual training and coaching to entrepreneurial leadership.

## 2.2 Four Stages of Competency

Project Management is not just delivering projects. Competency in project management needs to be addressed in stages as it involves a number of skills and knowledge areas. Good project management skills lead to greater business opportunities. A limited view of project management hampers the business growth of an organization. Project expertise must go beyond project execution and lead to entrepreneurial leadership. The stages in project management competence are discussed below.



### Stage 1: Delivery Excellence & Peer Collaboration

Meeting or exceeding customer expectations is the first check for project management competence. This ordains “doing the job right the first time /every time” by acquiring knowledge and skill over a long period of time. Project Schedule Network Diagram, Critical Path Method and Statistical Process Control methods may be used to aid time and cost management. Maximizing the use of time and people resources builds the confidence for future projects. Providing fundamental support and training and preparing teams to handle project activities are part of project manager’s responsibility. Having achieved delivery efficiency project managers must team-up with peers to improve performance across groups. Using project information

portals and wiki are part of latest project management practices that add a new dimension to project communication management.

### **Stage 2: Proactive Competence Management**

To build sustainable competitive performance project managers must anticipate market trends and demands and plan ahead. How can an organization foresee a future event and be ready for it? A proactive competence management plan can be determined by working closely with technical and marketing staff. Imagining and practicing a combination of project scenarios helps proactively build project management competence. Creative experimentation and pilot implementations provide a leading edge to capture emerging markets. Developing expertise in various domains and technologies is crucial to win deals quickly. As many of the projects in today's service model are relatively limited in scope developing higher levels of expertise requires that organizations move up in the value chain, say, by providing large turnkey solutions for different industry segments worldwide. Ability to build strong technical teams is fundamental to project management capability.

### **Stage 3: Entrepreneurial Leadership**

Entrepreneurial behavior must be encouraged as part of competency development to promote the growth of the organization. Apart from executing projects, project management experts need to explore new project avenues so that the organization can grow. Building highly competent teams allows them to leverage market conditions and customize their solutions to gain market advantage. Entrepreneurial leadership is a valuable asset for organizations.

### **Stage 4: Expert Association**

Association with a wider set of project management professionals is vital to expand operations as a broad range of project management expertise is essential to gain a substantial market share. Associations can be within the organization or with consultants and freelance experts from outside. Managing a network of project management expertise provides necessary competencies to create better solutions for today's complex market.

### **2.3 Competency Development – Contributors**

Increasing training opportunities is one way of improving competency development. Given that average success rate of projects is as low as 20-30% prevailing competency building measures prove to be insufficient. How do we achieve higher levels of competence? Organizations need to maintain both short-term and long-term competency development plans. Short-term plan will address the immediate project management concerns and a long-term plan is needed to address future business scenarios and industry trends. Competency development must be approached through a newer-broader perspective where it meets both the short-term and long-term requirements of the organization.

Competency development depends critically on:

- 1) Training and Coaching
- 2) Opportunities
- 3) Organizational Environment

There is a need to plug competency gaps at all the four levels described earlier.

Innovation is a much hailed jargon in today's corporate world but many stick to time-tested formulas and become averse to exploring other ways of managing projects fearing overheads and losses. Organizational factors and stereotype thinking occasionally interfere with innovation. Project managers must overcome these factors and explore new ideas and methods that have the potential to bring more value. Developing higher levels of competency gives project managers the ability to lead growth of the organization.

#### **Training and Coaching**

First 1-2 years of training is very important for new managers. Project management trainings especially PMBOK and CMMI have achieved much attention over the past few years but coaching has remained low key. Workshops should be conducted to apply and practice what is learnt from PMBOK and CMMI. Many project managers manage projects without any formal knowledge of estimation techniques or project management methodologies. Does this affect project performance? Yes, not using proper estimation techniques or project management methodologies gives substandard results. Though training options are widely available organizations are

not using them. Competency development is severely hampered when organizations go in for low-cost training instead of engaging expert institutes for the job.

Training portals are extremely powerful tools for managing trainings and material. Are trainings limited to short-term competency requirements or should they also address long-term competency requirements? Higher qualification is important to climb the competency ladder. Must project managers look outside for a higher qualification or can this be integrated with organization-based competency development programs? PMP has been successfully integrated with organization-based competency development programs. Candidates seek PMBOK training and get the certification whilst working. Organizations should partner with educational institutions and draw-up robust training plans that meet their development requirements.

Coaching is different from training. Many organizations expect their senior leaders and middle managers to coach their team members towards higher levels of performance and career development. However, many ignore the coaching activity resulting in less coaching by managers. Pairing and collaboration between peers with complementary strengths provides scope for co-coaching.

### **Opportunities**

Training and workshops help to build skills but most skill building happens while working on real projects. Scope to develop the skills to grow and succeed is thus an important ingredient in competency development. Given opportunity and right experience one gets higher levels of competence. Complexity and nature of projects provide on the job platforms for competency development. Organizations must take up increasingly complex and diverse projects for all-round competency to develop. Access to state of the art lab facilities and tools helps project managers to be up-to-date with latest trends and technologies. Rotating projects and assignments removes stagnation and help to build a combination of skills. Stagnation should be avoided as it adversely affects skill development and motivation to achieve.

## **Organizational Environment**

Organizational environment provides the arena for competency development – greater work challenges, better opportunities for growth and facilitating every individual to perform his role with skill and without inhibitions. Conditions that propel or impact competency development are:

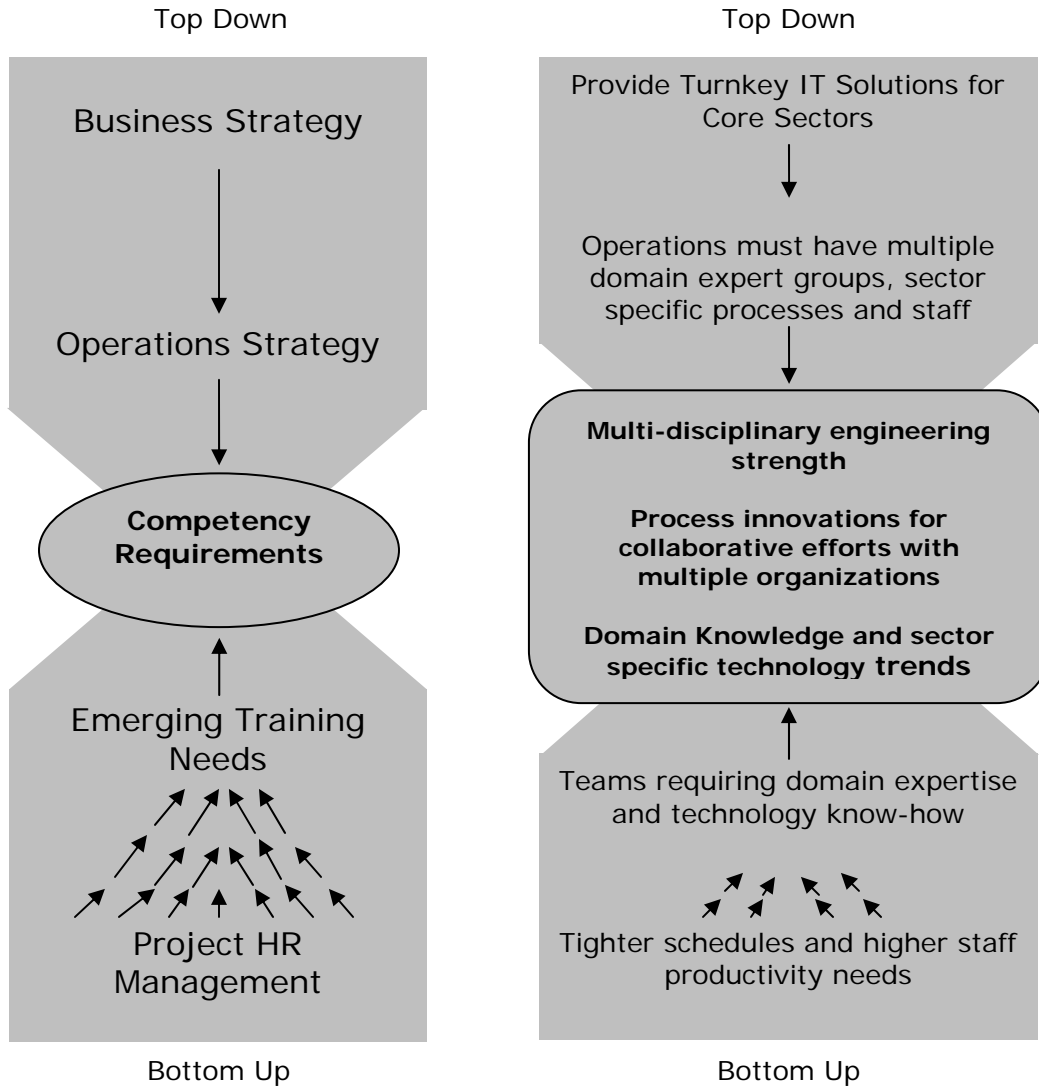
1. **Management Style** – The top-down approach remains extremely popular in contemporary project management. Top-down management often fail to utilize collective intelligence and result in reduced productivity and cause bottlenecks. A bottom-up approach empowers project managers to be more creative but is not a perfect solution. A balance between top-down and bottom-up approaches is essential for innovation and builds a people-friendly environment that advances competency development.
2. **Transparency** - Near complete transparency with stakeholders, team members and the organization at large is one step towards improving project management practices. Transparency can be painful but it reduces the barriers in communication, builds trust and accelerates consensus building and decision making. Transparency creates a challenging environment for competency to thrive.
3. **Sponsorship** – Credentials and qualifications are important to go up the project management ladder. PMP and CMMI certifications are attesting and bringing recognition to project management. Organizations must lay special emphasis on sponsoring project management courses and programs that aid professional development of project managers. To drive steady growth business management and project management teams need to work hand-in-hand. Organizations should provide growth paths for project management on par with those for business management, thereby raising the bar for competency development.

### **2.4 Building Competencies – Two Pronged Approach**

The two pronged approach is essentially a top-down and bottom-up approach to competency building. Bottom-up approach is used for meeting the immediate and short term requirements of competency building, usually through training and coaching. Meeting long term requirements however requires a top-down approach where business and operations strategies shall drive the competency building. The

bottom-up and top-down approaches together help build the 4 levels of competency described above.

The diagram given below depicts the top-down and bottom-up approach for building competencies across the organization.



**Business Strategy**

Strengthening the link between business strategy and project management is critical to improve competency development. Business strategy provides a formidable thrust on project management competency development by disseminating information on projects to come. Project management community can converge on competency requirements by obtaining advance knowledge about impending projects. The projects to-come can be a tentative or concrete list and knowing about them upfront will decisively link business requirements with overall competency development needs. In the two pronged approach this channeling of key information and planning is done through Operations Strategy.

**Operations Strategy**

Operations strategy is directly influenced by business strategy and is responsible for process innovations to improve productivity within the organization. Improving competency levels and sustaining high performance across multiple project teams is a challenge that needs to be met by appropriate operations strategy. A Project Management Advisory Board (PMAB), as part of the operations team can provide immense value to prepare project management teams in advance for additional competencies.

**Project Management Advisory Board (PMAB)**

There is a glaring gap between business requirements and competency development due to incomplete information and inadequate planning. PMAB (a body of project management experts with business knowledge) bridges this gap by working as a useful link between the business development and project management teams. First it reads the business needs and works with project management teams to proactively build the competencies. Similarly providing information to business leaders on what project management teams can or cannot handle is very useful in making meaningful business dealings.

**2.5 Case Study**

The following case study was conducted to understand the reasons behind low quality of project deliverables and poor performance. In this case CMMI processes were being followed as part of standard project management practices, but quality of deliverables was low and customers were not happy. Lack of required levels of project management competence was found to be the major reason behind low

performance. Project Management Competency Development was found to be the right solution to address the issues. Setting up a Project Management Office (PMO) was also considered as this would provide a larger platform for addressing project management issues. In the initial stages PMO was expected to take on the key role of providing training, guidance and best practices to project managers.

A strong project management mentoring program was initiated to support professional development for project managers. A project management maturity assessment matrix was used to identify the areas where competency development was required. A matrix was developed to record the level of maturity in each of the areas using a capability scale of 1 to 4 (active, efficient, responsive, and business driven).

### Project Management Maturity - Assessment Matrix

**Legend:** \* - Current Level, √ - Target Level

Level 0 – 0 points, Level 1 – 1 point, Level 2 – 2 points, Level 3 – 3 points, Level 4 – 4 points

Current Points – Sum current points (group-wise)

Target Points – Sum target points (group-wise)

Compliance Ratio = Current Points / Target Points \* 100

S. no		Level 0 (Chaotic)	Level 1 (Active)	Level 2 (Efficient)	Level 3 (Responsive)	Level 4 (Business-Driven)	Current Points	Target Points	Compliance Ratio (w.r.t Target)
	<b>Project Integration Management</b>								
1	Develop Preliminary Project Scope Statement			*	√				
2	Develop Project Management Plan			*	√				
3	Direct and Manage Project Execution			*	√				
4	Monitor and Control Project Work			*	√				
5	Integrated Change Control			*	√				
6	Close Project		*	√			12	19	63%
	<b>Project Scope Management</b>								
7	Scope Planning		*	√					
8	Scope Definition			*√					
9	Create WBS		*	√					
10	Scope Verification			*√					
11	Scope Control			*	√		8	11	72%

	<b>Project Time Management</b>								
12	Activity Definition			*√					
13	Activity Sequencing			*√					
14	Activity Resource Estimating			*√					
15	Activity Duration Estimating			*	√				
16	Schedule Development			*√					
							10	11	<b>90.9%</b>
	<b>Project Cost Management</b>								
17	Cost Estimating		*	√					
18	Cost Budgeting			*√					
19	Cost Control			*√					
							5	6	<b>83.3%</b>
	<b>Project Quality Management</b>								
20	Quality Planning				*√				
21	Perform Quality Assurance			*	√				
22	Perform Quality Control			*	√				
							7	9	<b>77.7%</b>
	<b>Project Human Resource Management</b>								
23	Human Resource Planning			*	√				
24	Acquire Project Team				*√				
25	Develop Project Team		*		√				
26	Manage Project Team				*	√			
							9	13	<b>69.2%</b>
	<b>Project Communications Management</b>								
27	Communications Planning		*	√					
28	Information Distribution		*	√					
29	Performance Reporting			*	√				
30	Manage Stakeholders		*	√					
							5	9	<b>55.5%</b>
	<b>Project Risk Management</b>								
31	Risk Management Planning			*√					
32	Risk Identification			*√					
33	Qualitative Risk Analysis			*√					
34	Quantitative Risk Analysis		*	√					
35	Risk Response Planning		*	√					
36	Risk Monitoring and Control			*	√				
							10	13	<b>76.9%</b>
	<b>Project Procurement Management</b>								
37	Plan Purchase and Acquisitions			*√					
38	Plan Contracting		*	√					
39	Request Seller Responses			*√					
40	Select Sellers			*√					
41	Contract Administration		*	√					
42	Contract Closure		*	√					
							9	12	<b>75%</b>
	<b>Grand Total</b>						<b>75</b>	<b>103</b>	<b>72.8%</b>

### Assessment Summary

Total Processes – 43

- 27 Below Target

- 16 Reached Target
- 0 Above Target

Target - Level 4	172 Points (4*43)
Target - Level 3	129 Points (4*43)
Organization Target	103 Points
Current Value	75 Points
Organization Maturity Ratio	72.8%
Level 3 Maturity Ratio	58.1%
Level 4 Maturity Ratio	43.6%

The assessment report helped in identifying the areas that needed improvement. A new training program was launched to cover the competency needs of project managers. The training program included theory and workshops on project management methodologies and tools, Estimation Techniques, CMMI process framework, Statistical methods, PMBOK. An integrated project management portal was launched to track project information. Additional portals were launched to optimize trainings and resources. A transparent project management system was put in place which increased collaboration and consultation. Training portal gave managers and teams a much more flexible tool to view and request trainings. Idea banks were setup to capture and organize innovative ideas. All this resulted in improving the project success rate which was reflected in the subsequent customer-satisfaction surveys. The two pronged approach to competency development was effectively applied to this exercise.

## 2.6 Leading the change

Thriving professionally in today's challenging world depends heavily on developing the capacity to change rationally and systematically. Though IT has made inroads into many sectors much of the domestic market is still unploughed. In Indian IT we are largely limiting ourselves to small functions and projects for overseas clients. To increase competency industry has to expand the scope of projects and move up the value chain, for example by providing integrated solutions involving both hardware and software on turnkey basis to both domestic and international businesses. Project management experts need to promote the growth of the industry by venturing into unexplored terrains to create industry-specific or customer-specific solutions. Professionals from different sectors must come together and engage each other in developing solutions for the different industries. Developing complete solutions by productively employing core engineering and multidisciplinary skills at different levels

across multiple organizations builds high levels of competence nationwide. Industry must also work with state and local authorities to develop a long-term growth strategy for penetration of IT into all other sectors.

### 3.0 Conclusion

An overall competency development plan is necessary to sustain and grow in today's economy. Both top-down and bottom-up approaches are vital to plug the competency gaps at all levels. The four stage competency model described here highlights the power and potential of project management in leading the long-term growth of the organization. Organizational factors that contribute to competency development are clearly articulated. The concepts and methods described advance project management competence and greatly improve project success rate.

### 4.0 Definitions, Abbreviation and Acronyms

Acronym	Description
PM	Project Management
PMBOK	Project Management Book of Knowledge
CMMI	Capability Maturity Model Integration
PMAB	Project Management Advisory Board
IT	Information Technology

### 5.0 References

Item	Description
Guide to Building a Project Management Office, Jupitormedia Corp	Referred in case study for determining organizational Project Management Maturity using the assessment model presented in this book.
PMBOK, PMI - USA	Referred for project management knowledge areas

### 6.0 Acknowledgements

Name	Description
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## Biography of the authors

### Author 1:

Padma Patrani holds a Master's degree in Computer Applications from REC, Warangal. She has over 16 years of rich and insightful experience and has worked in top IT companies including 7 years in California, USA, at Peoplesoft Inc and Silicon Graphics Inc. She is a certified PMP professional and works as a manager at CMC Ltd, Hyderabad. She is highly skilled with vast experience in software project management and application development. At CMC she has been working as project manager and technical architect for defence and overseas projects. She has been involved in preparing the guidelines for setting up PMO and is also a key member of the Project Management Group for process innovation and improvement. She has a proven track record of managing 6-30 member development teams for successful completion of projects. She started her career in 1992 and has worked on several turnkey projects namely Fingerprint Criminal Tracing System, Countermeasure Control Centre for defence, Vantive Server, Vanweb and Peoplesoft mobile CRM. She has excellent communication and management skills. Her achievements include special recognition award for role as project manager for a prestigious defence project and a paper on "Innovation / Entrepreneurship in Project Management" published by SPM-ICON 2008.