Centre for Project Management Presents:

*Project/Program Diagnostics - A Systemic Approach*

Monday, 26th April 2010
8:30 to 10.00 AM, Chennai

*Confederation of Real Estate Developers Association of India - Tamil Nadu Chapter*

*Professor A Jaafari, MSc, ME, PhD, FIEAust, CPEng*
Scope of Presentation:

- Short introduction to APIC and Primero Centre for Project Management
- Case Studies of Large Projects
- Project Diagnostics Applying Project Health Check tool
- Summary of Education and Training Services
A Short Introduction to APIC and Primero Centre for Project Management
- Recognised and Government Registered Australian Higher Education Institution
- Postgraduate Training and Government Accredited Qualifications
- Professional Endorsements
- Competence-based Management Education and Training
- Industry-based Management Development Courses and Workshops
- Project/Program Diagnostics
- Organisational Diagnostics
- Corporate Training
Accreditation and Endorsements

Accredited by
Higher Education Directorate
NSW Department of Education and Training

CRICOS Registered
Department of Education, Employment and Workplace Relations, Australian Government

Member of
Australian Council for Private Education and Training Providers

Registered Global Education Provider of Project Management Institute

Accredited by
Australian Institute of Project Management

Accredited by the Chartered Institute of Purchasing and Supplies

CRICOS Provider Code: 03048D
What we bring to industry:

- We are responding to the widespread project set backs and failures in all sectors of economy
- $ billions are lost annually
- We offer vastly improved and extended models that are based on field studies of projects
- Particularly large projects and programs in the energy, petrochemical, infrastructure, defence, construction, IT and government sectors
- Our models are fully customisable and will incorporate the cultural and contextual factors
A Centre of Excellence that will serve the following customers:

- **Individuals (aspirational) students**, managers and leaders who wish to acquire world class expertise
- **Projects and programs** (for diagnosis and improvement recommendations)
- **Business units** aiming to professionalise their operations

**Range of services:**

- **Accredited academic degree programs** studied in India
- **Tailored industry relevant** management training and certification
- **Competency-based** tailored programs
- **Specific training and certification** programs
- **Individual workshops and training packages**
- **Diagnostics and high level consulting** services
- **Senior executives and leadership development** programs
Case Studies of Large Projects
3 Case Studies as Sample

Large Projects in Petrochemical Sector:
- 2 very large projects, 1.7 and 1.8 US$n
- Analysed over a 10 months period
- Information collected from 16 organisations involved in the planning, design and construction of these projects
- Gathered sample documents
- Assessed competencies of up to 40 key managers in the above organisations

Large Infrastructure Project:
- A major infrastructure project, analysed
- Data collected from key organisations involved in the definition, planning, design and construction of the project
- Project budget over $110 million with total construction budget of up to $330 million
- 27 key people were interviewed and grouped as client, project manager and construction manager
- Similar performance
- Below level 3 or 50%
- Not adequate for large complex projects
Findings - 1

Large Projects in Petrochemical Sector:

- Poor appreciation of size, scale & complexity
- Virtual absence of project strategic planning
- Lack of value and risk management capabilities
- Poor knowledge of project finance
- Absence of incentives & penalties to motivate contractors
- Absence of systematic planning
- Absence or poor governance & integration management
- Immature or poorly equipped client organisation
- Virtual absence or misaligned PM knowledge
- Poor management of external interfaces
Findings - 2

Large Projects in Petrochemical Sector:

- Lack of knowledge of general managerial principles
- Misaligned organisational design
- Absence of a best practice model and associated tools
- Absence of a mechanism for management of lessons learnt
- Virtual absence of a culture of trust and teamwork
- Absence of a fast and effective communication system
Large Projects in Petrochemical Sector:

- Need for application of general management principles
- Industry relevant policies and strategies (capacity buildings)
- Professional development of managers across the board
- Business model and process
- Best practice model to support business model
- Client role and responsibility
- Project planning and control
- Quality management approach
- Managerial infrastructure and tools
- Ownership arrangements
- Recommended project delivery model
Performance Index

- Similar performance
- Below level 3 or 50%
- Not adequate for large complex projects
The average performance was rated at 66 points.
The average performance was rated at 43 points.

The average performance was rated at 47 points.
Actual Findings from the Last Case Study

- Overall performance is low (risky)
- Whole of project operational improvement focus missing
- Investment (Capex) not linked to business case & portfolio
- Governance is diffused
- Understanding of project and its managerial approaches not aligned
- Project decisions not linked to strategic objectives
- Contractual inconsistency (MC vs. GMP contract)
- Procurement management not informed by risk management
- Quality management confined to contractor (not used strategically)
- Confusion on risks & due diligence
- Informal risk & due diligence approach
- Ongoing risk management not strong enough
- Supply chain management approach is not clear
- Team performance is low & in need of improvement
- Skills assessment & development?
- Role of technology in automating many project functions or improving operations not clear
Case studies clearly indicate that:

- Management of projects is unacceptably poor
- And carried out somewhat in isolation to business needs & objectives/requirements
- Project manager’s focus is on production management (traditional areas)
- Many managerial functions are neglected or managed in a disjointed manner
- These give rise to misalignment and failures
Wider Evidence of Project/Program Failures

McKenna, Wilczynski & VanderSchee (2006) Survey results posted online by Booz Allen & Hamilton

- Widespread dissatisfaction with project performance amongst top 20 companies – including super majors, independents, and EPC firms as well as some heavy industrial companies from the US, Europe and Asia
- The companies surveyed had a combined capital spending of more than US$100 billion
- More than 40% of the projects had experienced significant schedule and cost overruns due to inadequacies in performance and risk management, initial project planning and problems with human resources
How the government has wasted your money

$32 million
Debt Recovery Management (fine fiasco debacle)

$104.3 million
Millennium Train Stages 1 and 2

$62 million
Hunter and outer suburban train carriages

$93 million
Sale of Intercontinental Hotel for $93 million less than what it was valued

$294 Million
Sydney Water set up a computerised billing system which was scrapped. Sydney Water also squandered another $233 million by underestimating the cost of the Northside Storage Tunnel.

$117 million
Liverpool-Parramatta Bus Transitway

$102 million
North West Bus Transitway

Daily Telegraph 14/10/03
Why Projects Fail?

- Wrong projects are selected
- Projects are not properly defined
- Projects are poorly executed (strategic management missing)
- The rule of 1:10:100 is violated frequently!
Phase 1
Opportunity Identified

Phase 2
Generate & Select Alternatives

Phase 3
Develop Preferred Alternative

Phase 4
Execute

Phase 5
Operate

Value Identification

Value Realisation

Good Project Definition

Poor Project Definition

Source: CPDEP
Project Diagnostics Services and Project Health Check Tool
Project Success Influenced by:

- Project Resources
- Capabilities and Managerial Approach
- Legal, Commercial & Physical Environment

Enabling Factors and Processes
Systems Approach to Management of Projects

• Typically 18 core functions (67 variables) as enablers to apply to manage the project
• Managerial functions are closely interrelated
• Each function is managed as follows
  • Set target (from 1 low attention, to 100 for best available technology and best practice approach)
  • Define, develop and deploy the capability to deliver to target:
    • Trained and certified project staff (inhouse and outsourced)
    • Defined/integrated processes
    • Access to information
    • Tools and systems to support management of the function
    • Knowledge base to support evaluation and decision making
• Assess performance (using APIC’s Project Health Check) and take action to realign
Managerial Excellence Levels

Based on the metrics embodied in APIC’s diagnostic tools APIC assesses managerial excellence at 5 levels as shown above.
Project Performance Assessment

Outcomes Assessment
- Financial performance (e.g. IRR, NPV/C, LCC, EVA)
- Operational performance (e.g. Functionality, etc)
- Facility environmental performance (e.g. impacts)

Strategic & business management
- 9 Core functions (that include project outcomes assessment)

Implementation efficiency & effectiveness
- 9 Core functions (that include project production performance assessment)

Production Performance Assessment
- Measurement of completed work to-date
- Estimation of actual cost and actual progress to-date
- Correlation of results with PHC & Outcomes reports

Managerial Performance Assessment

Project Performance Assessment
Business & Strategic Management

- Customers & Markets
- Stakeholders
- Technology
- Facility Design and Operational Requirements
- Supply Chain System
- Learning & Innovation
- Finance
- Project Delivery Strategy
- Risks and Due Diligence

Implementation Management

- Governance & Leadership
- Engineering, Detailed Design & Specifications
- Procurement*, Transportation & Warehousing
- Planning and Control*
- Team Performance
- Information & Communications Management*
- Quality Management*
- Offsite Management
- Risk Management

* Functions covered by PMI in their PMBOK®
Assessing Managerial Performance; Business & Strategic Assessment

http://tools.apicollege.edu.au/PHC
Assessing Managerial Performance; Project Implementation

http://tools.apicollege.edu.au/PHC
Summary

- Project Health Check applies a system’s approach to management of project
- It has an integrated framework with focus on:
  - Enablers (18 core functions & 67 variables)
  - KSFs/managerial principles to guide actions
- Timely feedback and intervention is critical
- Project Health Check designed for this purpose
Summary of Education & Training Services
Scope of Services

- Formal competence-based postgraduate programs
- Professional & flexible programs
- Tailored corporate training programs
- Professional competency assessment & development
- Project/program diagnostics
- Organisational diagnostics
- High level consulting services
Project Management Graduate Program:
• MBA (Project and Program Management)
• Master of Business and PM
• Graduate Diploma in PM
• Graduate Certificate in PM
• Executive Diploma in PM
• Individual (tailored) programs

Business Management Graduate Program*:
• Master of Business Management
• Graduate Diploma in Business Management
• Graduate Certificate in BM
• Executive Diploma in BM and tailored programs
• 8 Specialisations

* Pending accreditation by NSW Department of Education and Training (Higher Education Directorate)
APIC Workshops and Units of Study

Project Management Graduate Program:
- 14 Workshops from 1 to 4 day long (can be customised)
- 12 Units of study, each with its own workshop plus workplace project done by students in teams
- Covers behavioural side

Business Management Graduate Program:
- 16 Workshops from 1 to 4 day long (can be customised)
- 16 Units of study, each with its own workshop plus workplace project done by students in teams
- Covers behavioural side
- Covers 8 specialisations to meet professional certification requirements
Individual professional development planning process

APIC Chart of Competencies

Select the most relevant competencies plus socio-cultural competency

Consider career goals, employer and personal needs

Determine target competencies required/role

Determine optimal Solution /L&D Plan

Assessment results for an individual

Individual Learning & Development (L&D) Plan

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Project Management Programs teaches and prepares managers for certification in multiple roles:

- Senior Project Executives /Department Heads
- Project Directors
- Project Managers
- Project Line Managers/Assistant Project Managers
- Project Engineers/Team Leaders

Individuals can progress to obtain a formal graduate degree from APIC by completing additional work.
Industry-based Training and Certification Example

- CSPE/CPD: Certified Senior Project Executive or Certified Project Director
- CPPM: Certified Professional Project Manager
- CPLM: Certified Project Line Manager
- CPP: Certified Project Practitioner
- QPP: Qualified Project Practitioner

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<table>
<thead>
<tr>
<th>Program Code</th>
<th>Certification Title</th>
<th>Scope</th>
<th>Typical Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>QPP</td>
<td>Qualified Project Practitioner</td>
<td>Completion of 4 workshops each 4 days long (a pass grade is needed in tests conducted in each workshop)</td>
<td>16 days spread over 4 weeks or in single blocks of 4 days (within a year)</td>
</tr>
<tr>
<td>CPP</td>
<td>Certified Project Practitioner</td>
<td>Completion of the 2-day PDP Workshop and 4 core training units. Each unit has its own 4-day workshop</td>
<td>26 weeks spread over one year (2 sessions per year)</td>
</tr>
<tr>
<td>CPLM</td>
<td>Certified Project Line Manager</td>
<td>Completion of an additional 2 units over and above CPP</td>
<td>52 weeks (3 sessions) spread over 1 to 2 years</td>
</tr>
<tr>
<td>CPPM</td>
<td>Certified Professional Project Manager</td>
<td>Completion of an additional 2 units over and above CPLM</td>
<td>78 weeks (4 sessions) spread over 1.5 to 2 years</td>
</tr>
<tr>
<td>CSPE/CPM</td>
<td>Certified Senior Project Executive and or Certified Project Director</td>
<td>Completion of an additional 2 units over and above CPPM</td>
<td>104 weeks (4-5 sessions) spread over 2 to 2.5 years</td>
</tr>
</tbody>
</table>

*industry-based training and formal academic studies are combined*
Business Management Programs teaches and prepares managers for certification in multiple roles:

- Senior Executive
- Strategic Manager
- Functional Manager
- Line Manager
- Team Leaders

Individuals can progress to obtain a formal graduate degree from APIC by completing additional work.
Industry-based Training and BM Certification

- **Certification Acronym**
  - CSM
  - CPM
  - CFM
  - CMP
  - QMP

- **Full Title**
  - Certified Strategic Manager
  - Certified Program Manager
  - Certified Functional Manager
  - Certified Management Practitioner
  - Qualified Management Practitioner

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Standards in terms of competency areas\(^1\) and performance criteria per role\(^2\)

<table>
<thead>
<tr>
<th>Role</th>
<th>Competency Areas</th>
<th>Performance Criteria(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Leader</td>
<td>Core areas known in APIC system as Foundation competencies (see BM Competency Chart in Appendix A)</td>
<td>Target set as Mean plus 1 SD obtained from a sample of current appointees</td>
</tr>
<tr>
<td>Line Manager</td>
<td>Core GM competencies plus at least 2 competency areas that are core for the given specialisation</td>
<td>Target set as Mean plus 1 SD obtained from a sample of current appointees</td>
</tr>
<tr>
<td>Function Manager</td>
<td>Core GM competencies plus 4 competency areas that are core for the given specialisation</td>
<td>Target set as Mean plus 1 SD obtained from a sample of current appointees</td>
</tr>
<tr>
<td>SBU (Program) Manager</td>
<td>Core plus 4 competency areas relevant to leadership and strategic management, plus 2 in business planning and finance</td>
<td>Must perform at level 4 in 4 key areas, determined specifically in each business unit and parent organisation</td>
</tr>
<tr>
<td>Senior (Portfolio) Manager</td>
<td>Core plus 4 competency areas relevant to leadership and strategic management, plus 2 in business planning and finance, 2 in governance and risk management</td>
<td>Must perform at level 4 in 6 key areas, determined specifically in each organisation and portfolio</td>
</tr>
</tbody>
</table>

1. See APIC Chart of Competencies for Business Management that contains competency areas for each function.
2. Performance criteria can be defined based on APIC’s BM competency assessment system at either unit or element level.
3. Competency levels are defined in generic and summary form in slide 13.
Existing competency profile of each individual is determined. Target competency lines are then set through consideration of the combined individual and organisational needs. This results in the delineation of competency gaps that an individual has to address in a structured manner.
APIC’s Corporate Training Approach

Benefits of APIC’s Approach:
- Apply international best practices
- Sharpen strategic focus
- Map and strengthen core competencies
- Train managers for maximum performance
- Align people, processes, tools and goals
- Achieve exceptional performance shifts
- Become employer of choice and more!
APIC’s Learning Laboratory

- Managerial & technical competence
- Leadership & ethics
- Learning & innovation competence
- Risk management competence

Knowledge
- Core bodies of knowledge
- Broad based knowledge
- Research-based learning
- Tacit and formalised knowledge
- Learning resources & tools
- Knowledge creation & management

Industry & Society
- Innovation
- Sustainability
- Business & government dynamics
- Regional development
- Networks

Technology
- Technological innovation
- Technology dimension
- Technology services
- Technological advancement
- Communication & collaborative technologies

- The underpinning educational approach is to promote self direction and group autonomy
- APIC uses real life projects, programs and organisations as the site of learning
- Learner-centred design supports individual needs
- Project and team-based learning model is applied for competency development
- Technology is used to support the above model (interactive tools, support systems, knowledge and learning resources, interaction and communication)
## Affiliated Courses

### April 2009

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBM1101</td>
<td>Project Management Fundamentals 1</td>
</tr>
<tr>
<td>SBM1102</td>
<td>Project Management Fundamentals 2</td>
</tr>
<tr>
<td>SBM1103</td>
<td>Project/Program Information and Communication Systems</td>
</tr>
<tr>
<td>SBM1104</td>
<td>Project/Program Leadership and Change Management</td>
</tr>
</tbody>
</table>

## Learning Process and Program

**Program Summary**

The Learning Program comprises:

1. An overall process for studying project/program leadership and change management. The detailed process and framework will be based on the knowledge covered in the Intensive Workshop preceding the Project phase and it follows the methodology shown in the diagram below.

2. A program of the learning activities which forms part of each Team Workplan and satisfies individual competency acquisition needs. Students need to plan their detailed program and to implement the same flexibly within the time allocated to the Project Phase of the unit of study (detailed schedules are to be developed and submitted as part of the Team Work/QA Plan).

3. The Assignment Brief which is available as a downloadable file.

**Process**

Each team will design and apply its own process for completing the Program; the following diagram demonstrates a simplified flow chart that can be used as a guide.

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**SBM1104 April 2009**

FAQs
- Glossary
- Group Evaluation
- Introduction
- Process and Program
- Project Assessment
- ProQuest Library
- Slides/Learning Materials
- Target Competencies
- Announcements
- Documents
- Discussion Board
- Grades
APIC’s Online Diagnostic Tools and Systems

APIC offers a comprehensive suite of tools that enable any student or practitioner in the field of project, program, portfolio and organisation management to:

- assess his/her competencies systematically
- develop his/her learning and development plan
- generally manage his/her stock of competencies
Summary

- Focus on competence-based management (set up for this purpose)
- Competency assessment
- Development of L&D Plan
- Structured and targeted training
- Academic or industry grade certification
- Highly developed and supported by multiple tools and systems:
  - Online Learning System (OLS)
  - Competency assessment tool (CAT)
  - Project/program Health Check (PH-Check)
  - Organisational Diagnostics Tool (ODT)
  - Project Value Management (PVM)
- The services are being continuously improved