

Two-Day Course on Basic Project Management for Young Engineers

YOUNG ENGINEERS SECTION, IEM



by Engr. Ameirul Azraie Mustadza and Engr. Shuhairy Norhisham

The Young Engineers Section of The Institution of Engineers, Malaysia organised the above course on 13 and 14 December 2011 at the Tan Sri Prof. Ir. Chin Fung Kee Auditorium at Wisma IEM. The course was attended by 58 participants.

It was delivered by Ir. Noor Iziddin Abdullah bin Haji Ghazali, M.Eng. (Telecommunication), B.Eng. (Elect. Eng), Diploma Islamic Studies (IIUM), P.Eng, MIEM, PMP®, who is now attached to KLCC Projects Services for commercial projects at Putrajaya Holdings in the Project Management Consultant's team. The speaker is also currently the Industry Advisory Panel (IAP) for the undergraduate programme in project management at Universiti Malaysia Pahang (UMP).



Ir. Noor Iziddin speaking during the course opening



The participants listening attentively to the speaker

According to Ir. Noor Iziddin, project management knowledge and its methodologies have evolved and improved significantly over the last three decades. This is attributed in part to many of the lessons learnt from the successes and failures of projects undertaken by various organisations. He shared the essence of project management, which is especially suitable for those who intend to gain a fundamental but solid grounding of project management. The participants also learned about the structured and integrated approaches, processes, tools and techniques that are applicable in managing the different phases in a project's lifecycle. The course content is closely referenced to PMBOK Guide, 4th edition of the Project Management Institute, with a short presentation on PRINCE2 from the United Kingdom.

On the first day of the course, topics such as Introduction to Project Management, Definition of Project Management, Context of Project Management, History of Project Management and Knowledge Areas and Process Groups were introduced.

Some of the benefits of implementing the right project management processes and tools are minimising the project challenges; ensuring that the project deliverables

achieve the project objectives within the agreed budget, time, scope and quality; ensuring the customer's investment is protected; ensuring that implementation conforms with the agreed project execution plan, thus taking away the customer's hassle of managing the resources in the project; ensuring the integration between the technical solution implementation and the customer's quality expectations and the documentation of lessons learnt from the project.

The details of each of the five process groups and nine knowledge areas which have been used by project managers around the world were explained throughout the course:

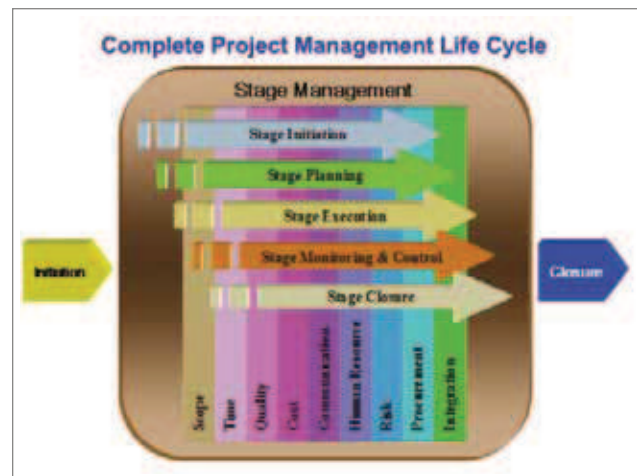


Figure 1: Project lifecycle

The Project Manager, as the single point of responsibility, will be responsible for either performing the work or delegating it out to others.

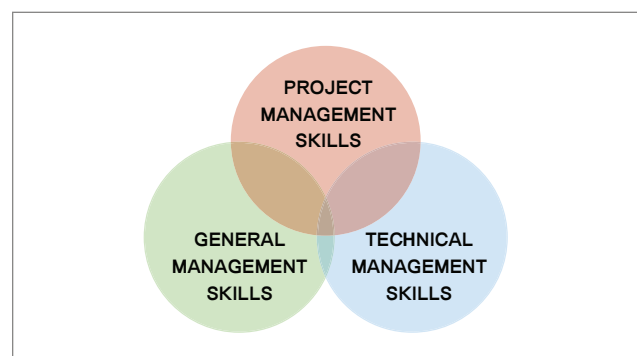


Figure 2: Overlapping management skills

When available planning and control techniques to manage complex projects are inadequate, this encourages the development of scheduling methods which integrate project procurement, resources and costs.

With these shortcomings in mind, Network Planning Techniques using similar network format were developed; i.e.

- 1956 CPM – Critical Path Method (Microsoft Project)
- 1961 PERT – Programme Evaluation and Review Technique (Primavera)

Effective communication is important for Project Managers for two reasons. Firstly, communication is the process by which the management functions of planning, organising, leading and controlling are accomplished. Secondly, communication is an activity in which managers devote an overwhelming portion of their time.

Subsequently, for the projects to be successful, the selection of the appropriate processes within the project management process groups is required to meet the objectives. The speaker stressed on the user-defined approach to adapt to project specifications. One needs to comply with the requirement to meet the stakeholder's needs and expectations, as well as balance the competing demands of scope, time, cost, quality, resources and risk to produce a result of acceptable quality.

Table 1: Functions and challenges of project management

Initiating process	Planning process	Executing process	Monitoring process	Closing process
Project definition	Resource planning	Determine QA standard	Tools used to monitor	Contract issues
Clear objectives	Risk plan	Project team	Human issues	Warranty
Documents	Creation of WBS	Supply deliverables	Periodical meetings	Deliverables vs quality
Project boundary	Budget plan	Stakeholder intervene	Managing change control	Acceptance criteria
Project scope	Supply chain management	Cash flow	Trouble shooting	
		Human issues		

In project management, the goals set usually relate to time, cost and quality.

The speaker explained that models are needed to aid in decision-making leading to project selection. In establishing the relationship between a project's expected results and the company's strategic goals, the following information is required:

- Production considerations
- Marketing considerations
- Financial considerations
- Personnel considerations
- Administration and other considerations

The selection of the right project for future investment is a crucial decision for the long-term survival of a company. Numeric methods are used as a process for ranking and evaluating prospective projects as a commitment for the future.



Central Geo

Think Big, Act Precisely

Advancing Heavy Lifting Services In Malaysia



Crane's Specification (880t)

Main Boom	H60m (107t)	R54m (21t)	880t (R3m)
Lattice Fly Jib	H122m (8.8t)	R92m (2.2t)	60t (R14m)
Luffing Lattice Jib	H145m (6.9t)	R103m (2t)	125t (R14m)

* Max Height (H)
Radius (R)
Loads (t)

Biggest All Terrain Crane (880t) In Malaysia

Tel : 605 - 357 4100 (Office)
H/p : 012 - 505 7127 (Lam)
Email : cgeolam@gmail.com
Website : www.centralgeomachinery.com

The financial models are:

- Payback period
- Return on investment (ROI)
- Net present value (NPV)
- Internal rate of return (IRR)

On the second day, the speaker discussed on Project Lifecycle, Project Management Framework, Goal & Objectives, PRINCE 2, Practical approach to infrastructure project management, and ended the course with the Project Management Consultant (PMC) Concept.

Some of the benefits from this course would include:

- Learning the structured and integrated approach to initiating, planning, executing, monitoring and controlling and closing-out projects
- Applying and relating the knowledge learnt to the workplace
- Identifying what the trainees need to know
- Understanding the role and selection of the project manager as well as project organisation structure and issues
- Exposing the trainees to various project management methodologies, tools and techniques.

Lastly, the speaker explained about the concept and role of a project management consultant in the construction industry using the diagram shown in Figure 3.

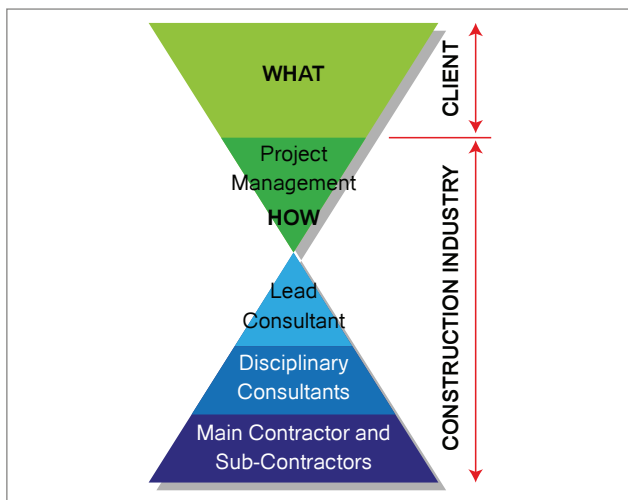


Figure 3: Concept and role of the project management consultant

Before the course ended, the speaker explained about the widely-used project management standards in today's world (Table 2).

During the Q&A session, Ir. Noor Iziddin answered all of the questions raised by the participants related to the project management framework. He also shared on the route to PMP® certification from PMI US which he had gone through four years ago.

The course ended at 5.00 p.m. according to the allotted time, thus practising the project management principle of timely delivery.

Table 2: Comparison of project management approaches

Standard	Origin	Purpose
PMBOK® Guide (Project Management Body of Knowledge)	PMI (Project Management Institute), United States	<ul style="list-style-type: none"> • The only ANSI standard for project management • Promote the profession • Basis for certification, categorisation, • Meta-data for PM/ products/services/etc.
APM BOK (Association for Project Managers Body of Knowledge)	APM, United Kingdom	<ul style="list-style-type: none"> • APM, United Kingdom
ICB (IPMA Competence Baseline)	IPMA, Netherlands (International Project Management Association)	<ul style="list-style-type: none"> • Harmonisation • Cross-reference • Basis for certification of people • Describing PM
Australian National Competency Standards for Project Management	AIPM (Australian Institute of Project Management)	<ul style="list-style-type: none"> • Promote the profession • Certification/ Qualification of people and assessment • Uses PMBOK Guide as Knowledge Base
PRINCE 2 (Project In Controlled Environment)	UK Government	<ul style="list-style-type: none"> • Methodology, public domain • Definitions of terms, processes, guidelines
CMMI (Capability Maturity Model International)	SEI	<ul style="list-style-type: none"> • For assessment of organisational capability • Developed for software engineering
ISO 10006 (International Standard Organisation)		<ul style="list-style-type: none"> • Guidelines to quality in project management • Definition of terms and processes • Aimed primarily at quality in project management



Ir. Noor Iziddin receiving a certificate of appreciation from Engr. Shuhairy (YES Chairman) accompanied by Engr. Vivek and Engr. Ameirul

At the end of the course, Ir. Noor Iziddin received a certificate of appreciation and a memento from Engr. Shuhairy Norhisham, the Chairman of the Young Engineers Section. ■

Solution for 1Sudoku published on page 19 of this issue.

12	8	4	12	1	2	9	7	5	9	6	3
7	5	2	16	6	1	4	3	13	8	7	9
10	3	7	9	5	8	15	6	1	4	8	2
8	6	5	13	4	3	7	2	21	9	8	1
2	8	3	19	6	1	9	4	8	5	7	7
8	1	9	7	17	4	5	8	2	3	6	6
7	8	1	2	8	16	5	13	3	9	4	4
12	9	3	5	24	7	2	4	6	9	1	8
10	4	6	8	9	11	3	1	7	2	5	5