

PHYSICAL TALK

PROJECT FINANCIAL MODELLING USING THE ENGINEERING FINANCE METHODOLOGY

BEM APPROVED CPD: 2

REF NO: IEM24/HQ/005/T

JOINTLY ORGANISED BY:
MARINE ENGINEERING AND NAVAL ARCHITECTURE TECHNICAL DIVISION, IEM
&
PROJECT MANAGEMENT TECHNICAL DIVISION, IEM

SATURDAY

24 FEBRUARY 2024

10.00AM - 1.00PM

WISMA IEM, PJ

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SPEAKER

Dr. Abdul Maulud Abdul Latif

SYNOPSIS

Part 1 (30min): Engineering Finance© methodology

- Principles of Engineering Finance

With the advent of mega-projects such as the Belt Road Initiatives (BRI) and the creation of new Trade Blocs and its Economic Corridors, the role of Professional Engineers have become more challenging. *“Businesses of the future will require new strategies, innovation and creativity to ensure their competitiveness. ‘Engineering Finance’ gives a new and innovative way of developing a viable business model by integrating engineering with finance and other parameters to meet a viable business or project objectives in a very simplified approach.... Essentially, it requires a new breed of CEO/Global Professional Technopreneurs’.*

Engineering projects, in most cases, are constrained by their financial viability (if it is not viable it would not be bankable). Final decisions are made, unfortunately, by Financial Controllers who may not be well versed in alternative cost-efficient designs (options) that can provide better return (Opportunity Loss and Synergy) to the organization. To bridge this gap, engineers must be multi-disciplined to take the lead (with financial acumen) to justify their project proposals and to make it more attractive to the Board, Banks, Investors and even main equipment suppliers. This proprietary Engineering Finance© methodology teaches the engineers to generate optional designs to **Optimise the project ROI** and use the Techno-Financial Model to structure a long-term cash flow that ensure the project's Sustainability.

This short talk will showcase the two Engineering Finance methodology has two tools:

- (i) PECO Cost-Efficiency Model and
- (ii) Techno-Financial Model.

Part 2 (45min): Financial Terminologies and Fund Drawdown Schedule or 'S' curve

- Financial Terminologies relevant to Project Financial Modelling. The Engineering Finance methodology dictates that ALL Decision-makings MUST be deduced from the financial model. This imply that decisions made by engineers on the Financial Viabilities of projects could be flawed, thus a dire need to understand the relevant financial terminologies.
- The Fund Drawdown Schedule or 'S' curve. It is essential that this computation is done by the Project Developers (not the contractors as the current flawed practice). This will help reduce the financial cost from the onset of the project implementation.

Part 3: Migratory Path, Methodology and Roadmap (If Time Permits)

- **The Migratory Path for Future Engineers to be a CEO/Global Professional Technopreneurs.**

Businesses of the future will be very challenging to engineers and the engineering fraternity. It requires a paradigm shift in the mind-set of engineers. It demands a new breed of 'Business Management Engineers'. Engineers need to be multi-skilled to adapt to highly sophisticated (new) technologies and evolved into CEO/Global Professional Technopreneurs. They must be 'Technopreneurs' to ensure that the projects are financially viable. Unfortunately, the traditional migratory route for Engineers to be CEOs is seemingly irrelevant in today's (especially future) world. What will be the best solution/route?

- **Engineering Finance methodology Implementation Flow Chart**

This is a hybrid 'Engineering' and 'Finance' Flow Chart amalgamated at the respective juncture. Primary objectives are to determine the Financial Viability of the projects. It starts from the pre-Feasibility Studies to the Feasibility Studies and Budgeting. It includes the role of Value Engineers.

- **Roadmap from Research to (product) Development and Commercialization**

This is the Road Map from R&D to Commercialisation that most researchers failed to see, resulting in a worthless effort (time and money wasted).

SPEAKER'S PROFILE

Dr. Maulud Abdul Latif obtained his Engineering Doctorate (EngD,2005) in Engineering Finance from UTM/University of Warwick (UK). He also holds an MBA Finance from the University of Queensland Business School (Aust,1983), a B. Sc. (Hons) in Mining Engineering from the University of Wales (UK,1977) and a Diploma in Mechanical Eng. from the Universiti Teknologi Malaysia (1974).

He started his career in Malaysia Mining Corporation (1977) and have extensive experiences in project feasibility studies (technical and finance) and mine management. Between 1984 and 1992, he worked with various reputable organizations including Permodalan Nasional Berhad and the Ministry of Finance (as Corporate Adviser to the Minister of Finance Incorporated). He has acquired vast corporate experience not only in project financing but also in corporate restructuring and turnaround. He was also involved in several privatization (PFI) projects. Since 1992, he was actively involved in project feasibility studies in various sectors such as power generations, renewable energy, coal mining and property development projects in Indonesia, India, Australia and Malaysia. In total, he has 45 years of experience, 41 years in the industry regionally, and 4 years in the academia (UTM, 2009-2013). Dr. Maulud was also the Business Development and Engineering Finance Advisor to the Selangor Menteri Besar Incorporated (2010-11) on the Klang River Rehabilitation project, the Selangor Water Supply Restructuring Project and proposed acquisition of a Toll H'way.

Dr. Maulud now undertakes part-time lecturing in universities, Business Development Advisories in companies and conduct workshops on "PROJECT FINANCIAL MODELING - How To Conduct Feasibility Studies" and its variant modules, using the Engineering Finance methodology to Optimise the ROI and ensure its long-term sustainability.