Economic Considerations In Engineering

Duration: 5 Days

Language: en

Course Code: IND14-104

Objective

Upon completion of this course, participants will be able to:

- Understand the importance of considering economic factors within engineering.
- Conduct financial evaluations and forecasts to explore the reasonability of project costs.
- Explore what internal and external factors can influence the financial factors of an engineering project.
- Recognise the consequences of poor financial management and a lack of economic consideration within engineering.
- Explore what economic problems may greatly impact an engineering project and how to best mitigate these.
- Carry out financial risk assessments to implement a risk management plan detailing preventative measures and corrective actions.
- Ensure all projects are in alignment with industry standards and regulations.

Audience

This course is designed for anyone in the engineering industry responsible for managing finances. It would be most beneficial for:

- Finance Directors
- Project Engineers
- Senior Engineers
- Planning and Design Managers
- HSE Officers
- Financial Advisors

Training Methodology

This course uses a variety of adult learning styles to aid full understanding and comprehension. Participants will review real-world examples of engineering projects to highlight significant economic factors and how the organisation navigated them.

The participants will participate in a range of learning exercises, including seminars, demonstrations, and individual and group activities. This combination of learning exercises and methods guarantees that the participants can develop a full and comprehensive understanding of the taught content and related practical skills.

Summary

The engineering industry is vast, and for an organisation to succeed, it must factor in all possible influences, both internal and external. One of the main considerations is the organisation's and project's economic factors.

Any organisation must consider the financial cost and potential profit to produce successful engineering projects or tasks. Starting at the planning stage, those involved must estimate the costs based on resources, labour, location, and various other factors. These factors also significantly impact the project's success, so there must be a balance between acquiring the necessary resources and ensuring no money is wasted.

Furthermore, there must also be a strong focus on maintaining the project's integrity. Risks can be prevalent throughout engineering projects, and some risks can harm the project's progress. If a risk was to occur, it could cost a significant amount of money to correct it, which may not be feasible for the project. Implementing risk management plans allows the organisation to identify potential risks and create preventative measures to reduce risks.

Course Content & Outline

Section 1: **Project Planning and Development**

- Identifying the different stages of the project lifecycle – innovation, planning, development, implementation, and post-implementation evaluation.
- Assessing the different types of projects and what they typically entail – capital and maintenance.
- Utilising different methods of innovation to create unique and achievable project ideas.
- The necessity of a feasibility study – exploring whether the project can be viable.
- Creating effective and detailed project plans highlighting various project elements – resources, costs, location and more.

Section 2: **Technical Evaluation and Resource Management**

- The vitality of conducting a range of analyses on different project factors – market, technical, financial, and economic.
- Evaluating what existing technologies can be utilised throughout the project and post-implementation.
- Analysing what resources will be required and establishing reliable sources of procurement.
- Examining the availability of human resources and creating a realistic work schedule.

Section 3: **Financial Considerations**

- Estimating and calculating the total cost of the project.
- Recognising the most cost heavy stages of the project and strategizing ways to reduce costs without sacrificing quality.
- Establishing multiple streams of income – shareholders, investors, government grants and more.
- Creating and maintaining multiple financial documents to monitor cash flow.

- Conducting financial evaluations – simple payback, benefit-cost ratio, and net present value.

Section 4: **Regulation Compliance**

- Conducting risk assessments to identify overall risks and specific risks relating to economic factors.
- Developing a risk management plan detailing preventative measures, corrective action, and crisis management plans.
- Ensuring the project is fully compliant with relevant laws and regulations.
- Investing in high-quality health and safety equipment and procedures to avoid significant costs if risks were to occur.

Section 5: **Performance Monitoring and Project Maintenance**

- The importance of monitoring performance through the project development stages and implementation.
- Utilising various methods to collect performance data.
- Analysing performance data and adjusting project processes or functions as necessary to increase productivity and reduce on-going costs.
- Carrying out regular system and technology maintenance to ensure all features are in working order.

Certificate Description

Upon successful completion of this training course, delegates will be awarded a Holistique Training Certificate of Completion. For those who attend and complete the online training course, a Holistique Training e-Certificate will be provided.

Holistique Training Certificates are accredited by the British Assessment Council (BAC) and The CPD Certification Service (CPD), and are certified under ISO 9001, ISO 21001, and ISO 29993 standards.

CPD credits for this course are granted by our Certificates and will be reflected on the Holistique Training Certificate of Completion. In accordance with the standards of The CPD Certification Service, one CPD credit is awarded per hour of course attendance. A maximum of 50 CPD credits can be claimed for any single course we currently offer.

Categories

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Tags

finance, Engineering, Economics, Project Planning

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