



COURSE OVERVIEW PM0662

Value Engineering – Cost Reduction & Quality Improvement

Course Title

Value Engineering – Cost Reduction & Quality Improvement

Course Date/Venue

August 10-14, 2025/Meeting Plus 9, City Centre Rotana, Doha, Qatar

Course Reference

PM0662

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs



Course Description



This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using “MS-Excel” applications.

This course is designed to provide participants with a detailed and up-to-date knowledge of Value Engineering – Cost Reduction & Quality Improvement. It covers the origin, core principles and key objectives of value engineering; the phases of the VE job plan, VE roles and responsibilities and function analysis systems technique (FAST); the VE opportunities and the function analysis in practice, cost analysis and cost modeling and quality improvement through VE; the risk-based value engineering, benchmarks and value metrics and the software tools for VE and analysis.

During the course, participants will be able to the creative thinking in VE comprising of brainstorming and lateral thinking, morphological analysis, SCAMPER technique and divergent versus convergent idea generation; the generating VE alternatives, evaluate ideas, develop VE proposals and document value improvement projects; the implementing VE recommendations, change management for VE, procurement and supply chain value engineering, VE in project and construction management and value engineering in services and operations; the governance and VE audit trail, measure VE success and sustain cost and quality gains the VE and innovation management and build a VE-driven culture.



Course Objectives

Upon the successful completion of this course, each participant will be able to: -

- Apply and gain an in-depth knowledge on cost reduction and quality improvement of value engineering
- Identify the origin, core principles and key objectives of value engineering
- Recognize the phases of the VE job plan, VE roles and responsibilities and function analysis systems technique (FAST)
- Identify VE opportunities as well as the function analysis in practice, cost analysis and cost modeling and quality improvement through VE
- Discuss risk-based value engineering, benchmarks and value metrics and identify the software tools for VE and analysis
- Perform creative thinking in VE comprising of brainstorming and lateral thinking, morphological analysis, SCAMPER technique and divergent versus convergent idea generation
- Generate VE alternatives, evaluate ideas, develop VE proposals and document value improvement projects
- Implement VE recommendations as well as discuss change management for VE, procurement and supply chain value engineering, VE in project and construction management and value engineering in services and operations
- Analyze governance and VE audit trail, measure VE success and sustain cost and quality gains
- Discuss VE and innovation management and build a VE-driven culture

Exclusive Smart Training Kit - H-STK®



*Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of value engineering – cost reduction and quality improvement for project managers, design engineers, cost engineers, procurement engineers, construction managers, quality engineers, maintenance engineers, process engineers, estimators, financial analysts, operations managers, product development teams, technical consultants, strategic planners, value engineering facilitators and other technical staff.

Course Fee

US\$ 6,000 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

-  British Accreditation Council (BAC)
Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.
-  The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.



Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Mr. Mike Taylor, PhD (on-going), MScLI, MBA, MBL, BSc, HDE, is a **Senior Project & Finance Management Consultant** with over **25 years** of experience in **Power & Water Utilities, Other Energy Sectors and Financial** industries. His expertise lies extensively in the areas of **Project Quality Management, Quality Control & Site Inspection, Project Quality Plan, Construction Quality Management, Material Management & Project Turnover, Project Risk Management, Risk Identification Tools & Techniques, Project Life Cycle, Project Stakeholder & Governance, Project Management Processes, Project Integration Management, Project Management Plan, Project Work Monitoring & Control, Project Scope Management, Project Time Management, Project Cost Management, Project Quality Management, Quality Assurance, Project Human Resource Management, Project Communications Management, Project Planning, Scheduling & Cost Control Professional, Project Scheduling & Cost Control, Facilitation & Leadership Skills, Coaching, Human Resource Development, Psychometric Testing, Career Development & Competence, Succession Planning, Self-Development & Empowerment, Personal Learning Needs Identification, Data Quality Control, Data Quality Assessment, Data Quality Planning, Data Quality Strategy Management, Customer Management, Leadership Skills, Presentation Skills, Negotiation Skills, Decision Making Skills, Communication Skills, Emotional Intelligence, Performance Management, Contract Management, Quality Management, Commercial Strategy, Project Management, Risk Management, Leadership & Business Management, Human Resource Management, Planning, Budgeting & Cost Control, Business Development, Innovation, Sales Strategy and Knowledge & Intangible Asset Assessment Design**. Further, he is also well versed in **Project Financial Data, Financial Indicators, Financial Leverage, Discounted Cash Flows, Economic Cost Analysis, Equity Profitability Analysis, Financial Modelling & Forecasting, Financial Analysis Techniques, Financial Data Analysis Concepts & Process, Credit Analysis, Financial & Accounting Management, Financial Planning Techniques, Vendor Invoice Processing & Management, Evaluating Cost & Revenue, Budgeting & Cost Control and Marketing Management**. Mr. Taylor is the **Founder & CEO** of Mitakon Innovation Pty Ltd wherein he is responsible for the development of Executives & Senior Managers specializing in innovation, knowledge management and commercial negotiation as well as authored, implemented and executed a global 21st century facilitation and leadership methodology.

During his career life, Mr. Taylor has gained his practical and field experience through his various significant positions and dedication as the **Knowledge-Solutions Service Provider, Founder-Principal/CIO, Subject Matter Expert, Consulting Partner, Executive/Management Development Facilitator, Multinational/Corporate Senior Management Consultant, Senior Quality & Finance Management Consultant, Executive Management Development/Facilitator, Business Consultant/Facilitator, Business & Quality Consultant/Coach, Client Director, Administration Manager, Quality Manager, International Sales & Business Development Executive, Regional Sales Manager, National Key Accounts Manager, Commercial Sales & Marketing Consultant, Admin Assistant, Sales & Marketing Representative, Key Note Speaker, Lecturer and Instructor/Trainer** for various international companies such as the Highland Group (Business Consulting), **Anglo American, BHP Billiton, Rio Tinto, DI Management Solutions (BPO), Master Deal Making Institute (MDMI), RMG/Contact Media & Communications, Paul Dinsdale Properties (PDP), Giant Leap Architects, Wise Capital Investments (HOD), Evolution® Advertising, Collaborative Xchange, Leatt Corporation, Dentsply SA, FMCG/Binzagr Company, Unilever, Kellogg's, BAT, Hershey's, CORO, Lilly Direct/Lennon Generics and Bausch & Lomb**.

Mr. Taylor has **Master's** degree in **Leadership & Innovation, Business Administration and Business Leadership** as well as a **Bachelor** degree in **Physical Education** and pursuing **PhD** in **Global Governance & Energy Policy**. Further, he is a **Certified Instructor/Trainer, Certified Internal Verifier/Trainer/Assessor** by the **Institute of Leadership & Management (ILM)** and a member of Incremental Advantage, Da Vinci Institute, Black Management Forum, Institute of Directors (IOD), World Future Society (WFS), Social Science Research Network, University of Kwazulu Natal (Alumnus), Anthropology & Archaeology Research Network and National Research Foundation (NRF). He has further delivered numerous trainings, courses, workshops, seminars and conferences globally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: Sunday, 10th of August 2025

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Fundamentals of Value Engineering (VE) <i>Definition & Origin of VE (Lawrence Miles Concept) • Core Principles: Function, Cost, Worth, Value • Value Engineering versus Cost Cutting versus Lean • Applications in Design, Manufacturing, Construction & Services</i>
0930 – 0945	Break
0945 – 1030	Key Objectives of (VE) <i>Enhancing Function Without Compromising Quality • Cost Reduction by Eliminating Unnecessary Expenditure • Improving Reliability, Maintainability & Usability • Optimizing Life-Cycle Performance</i>
1030 – 1130	Phases of the VE Job Plan <i>Information Phase • Function Analysis Phase • Creative Phase • Evaluation & Development Phases</i>
1130 – 1215	VE Roles & Responsibilities <i>Role of VE Facilitator & Team Leader • Multidisciplinary Team Structure • Stakeholder Engagement & Approvals • Integration with Project Management Lifecycle</i>
1215 – 1230	Break
1230 – 1330	Function Analysis Systems Technique (FAST) <i>Understanding Functions: Basic versus Secondary • Function Identification Using Verb-Noun Syntax • How-Why Logic & FAST Diagram Structure • Benefits of Function Analysis for Innovation</i>
1330 – 1420	Identifying VE Opportunities <i>Product Development Cycle Stages • Procurement & Supplier Negotiations • Construction Methods & Specifications • Maintenance, Logistics & Operations</i>
1420 – 1430	Recap <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow</i>
1430	Lunch & End of Day One



Day 2: Monday, 11th of August 2025

0730 – 0830	Function Analysis in Practice Value Index: Function / Cost Comparison • Classifying Required versus Excess Functions • Customer Perception of Functional Value • Examples of Function Analysis in Real-World Cases
0830 – 0930	Cost Analysis & Cost Modeling Direct & Indirect Cost Elements • Life-Cycle Cost versus Initial Cost • Cost Breakdown Structure (CBS) • Parametric versus Detailed Cost Models
0930 – 0945	Break
0945 – 1100	Quality Improvement through VE Aligning VE with ISO 9001 & TQM Principles • Design for Quality, Reliability & Manufacturability • Defect Prevention Via Functional Optimization • Metrics for Tracking Quality Improvements
1100 – 1215	Risk-Based Value Engineering Identifying Risks in Design or Process Alternatives • Cost-Benefit & Risk-Benefit Analysis • Risk Mitigation in VE Decision-Making • FMEA & Its Integration with VE
1215 – 1230	Break
1230 – 1330	Benchmarks & Value Metrics Cost/Function Ratio • Value Ratio ($VR = \text{Worth} / \text{Cost}$) • Efficiency, Effectiveness & Customer Satisfaction • Industry Benchmarking Databases & Tools
1330 – 1420	Software Tools for VE & Analysis FAST Diagram Software (e.g., TRIZ, VSpec) • Costing Spreadsheets & Analysis Dashboards • Simulation & Modeling (e.g., Excel, Arena, Minitab) • Use of CAD, BIM & ERP Integration in VE
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	Lunch & End of Day Two

Day 3: Tuesday, 12th of August 2025

0730 – 0830	Creative Thinking in VE Brainstorming & Lateral Thinking • Morphological Analysis • SCAMPER Technique (Substitute, Combine, Adapt...) • Divergent versus Convergent Idea Generation
0830 – 0930	Generating VE Alternatives Breaking Functional Dependency on Specific Solutions • Using Materials Substitution & Design Simplification • Energy, Labor & Environmental Impact Optimization • Supply Chain-Based Alternatives
0930 – 0945	Break
0945 – 1100	Evaluation of Ideas Weighted Evaluation Matrix • Feasibility, Cost, Benefit & Risk Scoring • Economic Analysis: NPV, ROI, Payback • Technical Screening & Consensus Building



1100 – 1215	Developing VE Proposals <i>Linking VE Outcomes to Original Objectives • Format of Value Improvement Proposals • Supportive Calculations, Visuals & Test Data • Gaining Stakeholder Buy-In</i>
1215 – 1230	<i>Break</i>
1230 – 1330	Documenting Value Improvement Projects <i>Functional Cost Matrix • FAST Diagram Archive • Cost Savings & Quality Impact Summary • Review & Sign-Off Templates</i>
1330 – 1420	Real-World Case Studies – Group Exercise <i>Group Review of a Real-World Product or System • Application of Job Plan & Function Analysis • Identification of Improvement Opportunities • Team Presentation of VE Solution</i>
1420 – 1430	Recap <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow</i>
1430	<i>Lunch & End of Day Three</i>

Day 4: Wednesday, 13th of August 2025

0730 – 0830	Implementing VE Recommendations <i>Roadmap from Concept to Execution • Pilot Testing & Prototype Validation • Managing Interface with Existing Systems • Aligning Implementation with Business Strategy</i>
0830 – 0930	Change Management for VE <i>Overcoming Resistance to VE-Based Changes • Stakeholder Analysis & Communication Plans • Aligning Departments & Functions • Behavioral & Cultural Barriers in VE Rollout</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Procurement & Supply Chain Value Engineering <i>Value Analysis in Supplier Evaluation • Standardization & Volume Leverage • Joint VE with Key Suppliers • Contract Clauses to Incentivize Value</i>
1100 – 1215	VE in Project & Construction Management <i>Integration in FEED, EPC & Commissioning • VE Workshops in Construction Projects • Modular Design, Pre-Fabrication & Fast-Tracking • Design-To-Cost in Infrastructure</i>
1215 – 1230	<i>Break</i>
1230 – 1330	Value Engineering in Services & Operations <i>Process Redesign for Efficiency • Workforce Optimization • Cost-Effective Maintenance Strategies • Digitalization & Automation Opportunities</i>
1330 – 1420	Governance & VE Audit Trail <i>Internal Controls & Audit Readiness • Documentation for Cost Claims & Regulatory Review • Continuous Improvement Tracking • Post-Implementation Reviews</i>
1420 – 1430	Recap <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow</i>
1430	<i>Lunch & End of Day Four</i>



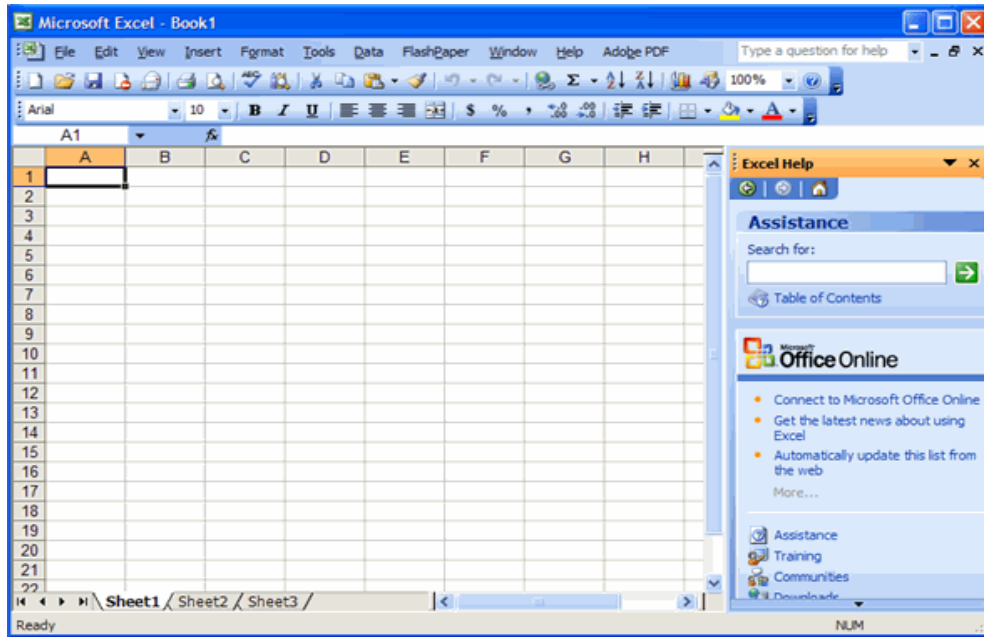
Day 5: Thursday, 14th of August 2025

0730 – 0830	Measuring VE Success Key Performance Indicators (KPIs) for VE • Cost Avoidance versus Cost Reduction • Process, Product & Service Performance • Balanced Scorecard Integration
0830 – 0930	Sustaining Cost & Quality Gains Creating a VE Culture • Linking VE to Performance Reviews • Training Programs & Knowledge Sharing • Continuous Value Assessment Cycles
0930 – 0945	Break
0945 – 1030	VE & Innovation Management Linking VE to R&D & Innovation Pipelines • Innovation Portfolios & Idea Tracking • Patents, IP & Competitive Differentiation • Collaboration with Startups & Vendors
1030 – 1130	Building a VE-Driven Culture Leadership Commitment & Sponsorship • Recognition Programs for Value Creators • Embedding VE in Strategic Planning • Tools for Ongoing VE Suggestion System
1130 – 1230	Final Group Presentation – Capstone VE Project Participants Develop a VE Proposal • Use Tools: FAST, Cost Modeling, Evaluation Matrix • Present Proposal & Defend Value Improvements • Group Feedback & Discussion
1230 – 1245	Break
1245 – 1345	Review, Quiz & Certification Final Quiz Covering Concepts & Methods • Lessons Learned & Participant Insights • Certificate Distribution • Post-Course Action Plan
1345 – 1400	Course Conclusion Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course
1400 – 1415	POST-TEST
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course



Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using “MS-Excel” application.



MS-Excel

Course Coordinator

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