Multicriteria Decision Making (MCDM)





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This may also be of interest

Petroleum Economics and Contracts in E&P

and Contracts in E&P

Specialist Trainer

Asdrubal Perozo

Highly motivated Petroleum Engineer graduated at La Universidad del Zulia, Maracaibo Venezuela.

With over 35 years experience in the upstream oil and gas industry with operational companies as PDVSA E&P, Corpoven S.A., Petrotrim, Trinmar and with consulting companies as Spectrum STM, Copex IT, EIS, VCD Energy and Reliability and Risk Management, S.A, providing services in Venezuela, Trinidad, Mexico, and Ecuador.

Extensive experience in high-profile technology projects, exceptional analytical ability, and talent for managing information. Asdrubal is an expert in: Multi-criteria Decision Making, Oil and Gas Reservoir Engineering (onshore and offshore), Economic Evaluation, and Risk Management

Description

During this five-day course, the most used methodologies of multi-criteria decision making (MCDM) are analyzed. These highly structured and transparent methodologies turn decision making into a simplified step-by-step process, facilitating collaboration, allowing the active participation of decision-makers in reaching agreement, and provide managers with a rational basis to improve the quality of decisions.

The MCDM methodologies, such as Analytic Hierarchy Process (AHP), Technique for Order Preference by Similarity to Ideal Solution (TOPSIS), Simple Additive Weighting (SAW), and others are shown and explained in detail, supported in field cases for each one of the methodologies, practical examples proposed by the participants are resolved and discussed.

As benefit, by applying these methodologies, companies will save time, money, and effort in making complex decisions such as Project Hierarchy, Resource Allocation, Optimization of their Portfolio of Opportunities, service companies selection, and personnel selection by having trained personnel who can identify and prioritize alternatives to achieve the planned objectives, facilitating individual or team decision-making, which will be widely documented.

Objectives

- Improve the decision-making process of the company in all its Business Units, when
 these decisions depend on multiple criteria or attributes, which can be quantitative,
 qualitative or a mixture of them, through the use of multi-criteria decision-making
 methodologies, such as Analytic Hierarchy Process(AHP), Technique for Order
 Preference by Similarity to Ideal Solution (TOPSIS), Simple Additive Weighting (SAW),
 and others.
- Provide participants with the knowledge, foundations and principles for multi-criteria decision making, emphasizing the main methodologies, applications, and benefits.
- Improve the speed, efficiency and quality of decision making, developing it as a competitive advantage..



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Audience

- · Petroleum Engineers
- Commercial analyst
- Economist
- Managers and supervisors
- · Drilling and workover engineers

Professionals in charge of making individual or team decisions under complex situations of multiple selection criteria, such as engineers, leaders, managers, and other discipline with interest in decision making methodologies applied to the oil and gas industry.

Content

Day 1

Introduction to Making Decisions

- Traditional approach of MCDM
- Practical example without MCDM methodologies application
- · Making decisions process overview
- MCDM simple methods

Day 2

Simple Additive Weighting (SAW) methodology

- Foundations and principles
- Step by step process
- Example and discussion
- · Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) methodology
- Foundations and principles
- Step by step process
- · Example and discussion

Day 3

Analytic Hierarchy Process (AHP) methodology

- Foundations and principles
- Step by step process
- Example and discussion
- Examples of MCDM application to oil and gas projects and other industries

Day 4

ELECTRE methodology

 Discussion and application of MCDM methodologies to specific situations of the participants

Day 5

Presentation of MCDM methodologies application to selected situations by participants.

General discussion and wrap-up

End of the training

