



Course Description

MAN3731 | Assessing and Managing Project Risk | 3.00 credits

This course explores project uncertainty, and how to manage risk to keep the project on track and meet project goals. Project risk management is a vital part of all projects, which requires a purposeful strategy to avoid any setbacks. In this course there will be an examination of what the risk management process involves through the identification, assessment, and response to project risks.

Course Competencies:

Competency 1: The student will learn the basics of the risk management process by:

1. Defining risk management as a process to identify possibilities, measure risks, and create strategies to manage risks before they occur. Allowing business owners to regulate procedures to avoid these risks minimizes and prevents their adverse impacts
2. Understanding why a business must make a realistic evaluation of potential risks and plan appropriately.
3. Discussing the stages of risk management
4. Identifying risks - list as many possible risks as possible using Surveys, Interviews, Brainstorming, Information, Etc.
5. Analyzing risks: Consider the possibility of risk occurring and the loss incurred. Find out how to minimize potential risks. The possibility of risk occurring is subjective and based more on experience and intuition. Determine if risk can be measured. Prioritize risk
6. Risk management by - Risk avoidance, reduction, transfer, difference, and retention
7. Application of risk management implementation of planned risk management
8. Creating an evaluation of risk management that has been implemented from the starting stage to implementing risk and finding out the effectiveness of a strategy in responding to the risks that occur

Competency 2: The student will identify risk, in terms of a project by:

1. Defining strategic risk management—A mature and comprehensive business plan can change quickly; Strategic risk management helps decision-making when unexpected conditions affect business planning; Unfavorable conditions include changes in technology, the emergence of new competitors, rising raw material prices, etc.
2. Defining operational risk management: Internal factors within the company can be the source of risk; These risks result from unexpected failures in the company's daily operations, including employee error, server damage, power outages, etc. Operational risks can affect the company's overall operations
3. Defining financial risk management involves assessing the impact on the company's financials due to additional costs or loss of income. Financial risk refers to money that flows in and out. Financial risks can include Market, Credit, Liquidity, Operational, and Legal risks
4. Defining management of reputation risk - the company's reputation has been damaged and no longer trusted by customers, resulting in a loss of customers—adverse effects on employees' morale
5. Defining compliance risk management means ensuring business compliance with all applicable regulations and laws. Problems can occur when regulations or legislative changes

Competency 3: The student will demonstrate how to assess risk concerning the likelihood of a given risk and its potential impact on the success of a project by:

1. Demonstrating the methods of risk assessment that can help identify risk, assess the risk appropriately, and help in risk management using the following methods:
 - a. hat-if analysis, fault tree analysis (FTA), failure mode event analysis (FMEA), hazard operability analysis (HAZOP), incident Bowtie vent Tree: What-if analysis - identify hazards, hazardous situations, or specific event sequences that could produce undesirable consequences Fault tree analysis (FTA) - a deductive procedure used to determine the various combinations of hardware and software failures and human errors that could cause undesired events (referred to as top events) at the system level
 - b. Failure mode event analysis (FMEA) is a step-by-step approach for identifying all possible failures

- in a design, a manufacturing or assembly process, or a product or service
- c. Hazard operability Analysis (HAZOP) is used to identify potential hazards in a system and operability problems likely to lead to nonconforming products
- d. Incident Bowtie - combines two analysis methods: Bow Tie risk analysis and Tripod incident analysis
- e. Event Tree analysis is a bottom-up inductive method. It uses general information to analyze specific information

Competency 4: The student will demonstrate how to plan risk responses to reduce or prevent risks to a project by:

2. Understanding the parts of a risk response includes the Cost effect relative to the significance of the risk, scale to the magnitude of the risk, project stakeholder agreement, and whether it is achievable and realistic
3. Defining risk register: This register is developed before developing a risk response plan. It is an itemized list of the essential risk events that could affect the project. Risks are prioritized based on their two underlying elements: probability and impact
4. Reviewing a risk response plan example – the steps include:
 - a. Determine trigger condition
 - b. Decide which risk response type to use
 - c. Develop the response plan
5. Learning how to communicate risk—It is important to communicate the risk register and response plans to the applicable stakeholders
6. Planning how should be communicated to the appropriate stakeholders in advance, i.e., during project planning

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Create strategies that can be used to fulfill personal, civic, and social responsibilities
- Use computer and emerging technologies effectively