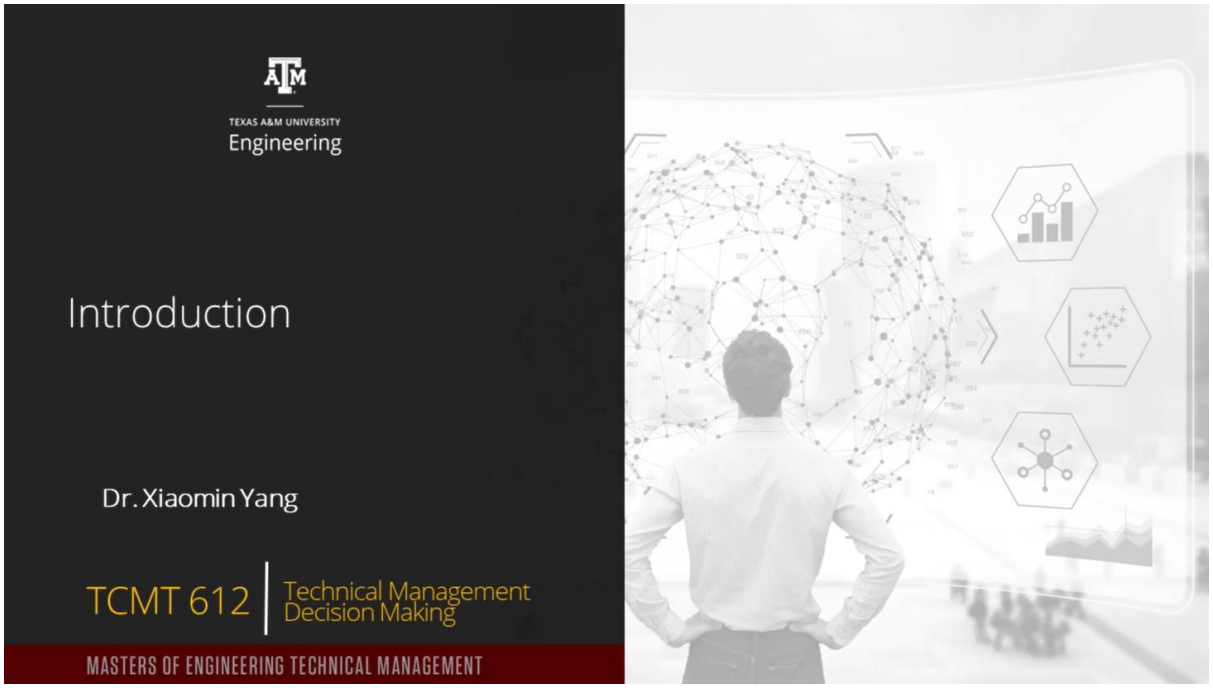
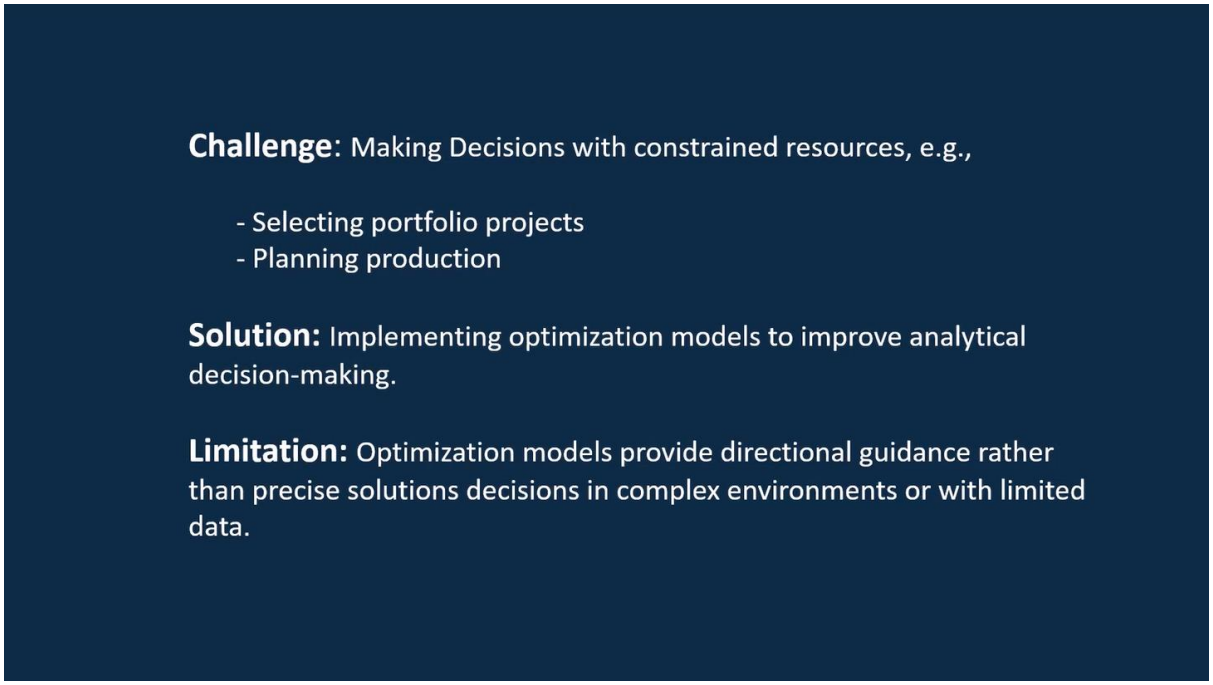
M7L1. Module Introduction

Slide #1



In this module, I will introduce the concept of optimization.

Slide #2



Many of our difficult decisions deal with limited resources.

For instance, we need to choose which projects to fund to maximize the return of our project portfolio with limited investment funds.

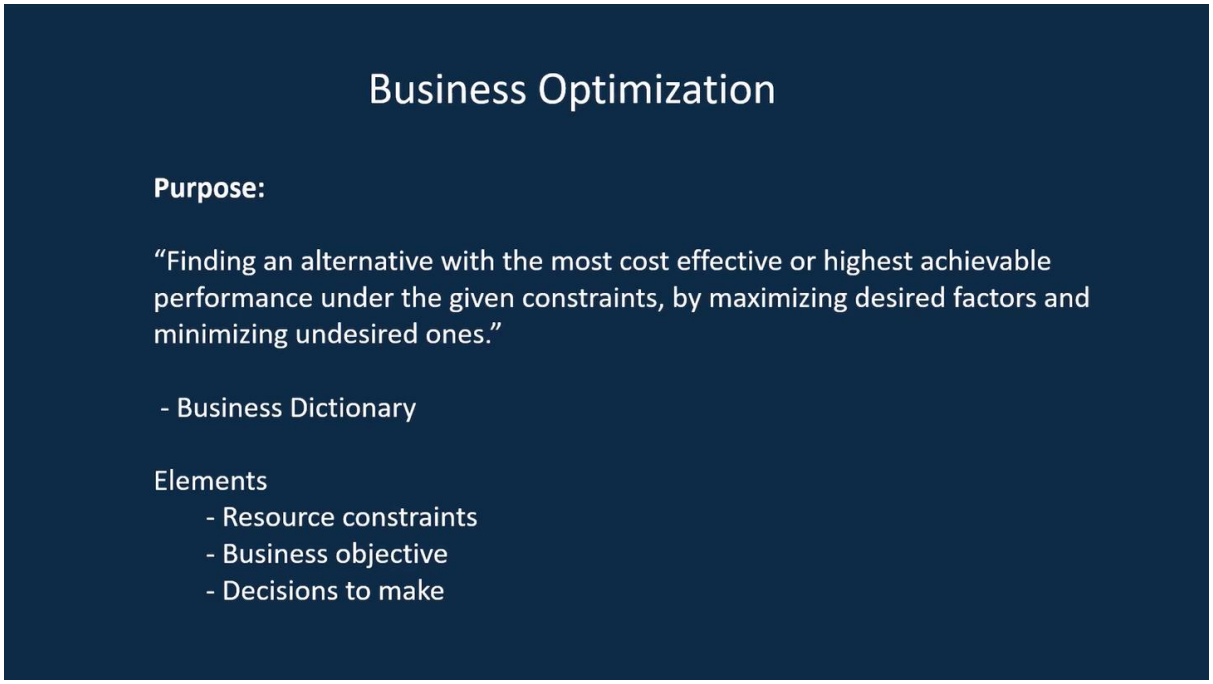
Also, we need to decide the production volumes of our new products to minimize inventory cost and maximize our operation margin.

In this module, you will learn how to build an optimization model. to help you analyze your business in a quantitative manner.

Here, I would like to emphasize that the business models likely describe a simplified representation of your business situations, and therefore the optimization results may provide you a direction that approximates the optimum solution to your business problems.

So, you should still consider other non-quantifiable factors and business strategy in addition to the optimization analysis in your final decisions.

Slide #3



Business optimization means finding an alternative with the most cost effective or highest achievable performance under the given constraints by maximizing desired factors and minimizing undesirable ones according to business dictionary.

There are three key elements of business optimization. The first element is the resource limitation or a resource constraint. The resources include financial resources, human resources, operation capacity resources, material resources, and so on.

The second element is the business objective that your decisions desire to achieve. The objectives could be maximizing the return of investment, minimizing the operation cost and waste, minimizing the interruption of normal business, or the flow of resources.

The third element is your decisions, which might represent the quantities of different products you choose to produce, or amount of money you want to borrow from banks to fund your operation, or which projects you decide to invest in.

Slide #4

The primary value of business optimization resides in the following three areas.

First, business optimization attempts to make most efficient use of limited assets.

The optimization process identifies the best options that create the maximum business value.

Also, you can optimize the operations of your business to minimize operation cost and administrative overhead expense.

The third, by allocating your available resources to the business activities that are expected to deliver highest achievable performance, you inspire your employees to focus on high priority tasks and avoid spending time and resources on low priority projects.

The business-driven competitive decision process also brought secondary benefits to your organization.

First, it increases access to accurate business information.

The quality of your economic model will rely on accurate business information, such as product demand forecast, project budget, and operation cash flow forecast.

The information typically belongs to different groups of your organization.

Your analytical decision-making process appears to create a good opportunity for your organizations to consolidate the valuable information and make good use of it.

Second, your optimization decision is based on measurable performance of different options.

The expected outcome can also be viewed as a quantitative baseline for performance management purposes.