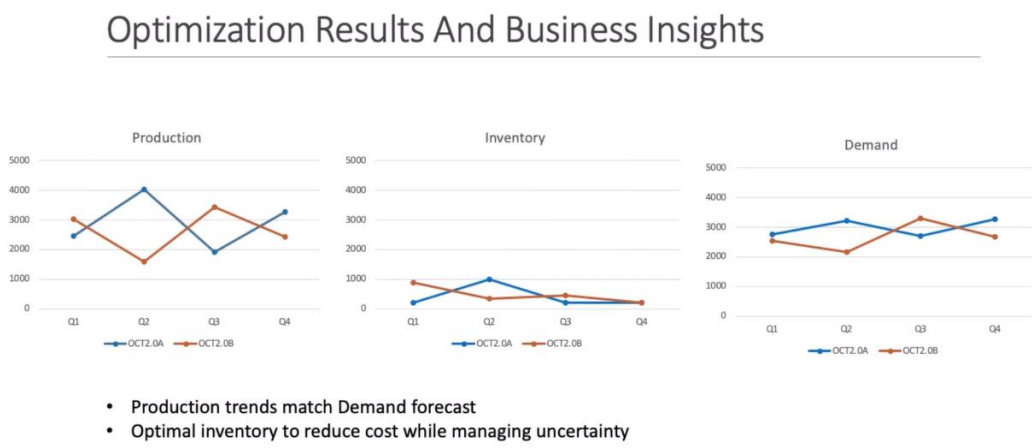
M7L7d. Optimization Business Case

Slide #1

Slide #2



The business optimization outcomes are illustrated in the below charts.

Quarterly production and inventory levels that meet the seasonal demand forecasts and maximize the annual operations profit.

The production trends closely follow the demand pattern.

This case clearly shows that the production planning is driven by the market demand.

For instance, in the second quarter, demand of OCT 2.0A increases.

In response to the demand movement, the production level of OCT 2.0A also increases in that quarter.

The demand on OCT 2.0B significantly increases in the third quarter, so the corresponding production increases.

The business analytics also provide valuable business insights about the production and inventory management of the laser units.

For example, the inventory not only helps manage demand uncertainty, but also provides a mechanism to reduce production costs.

The planning analysis suggests your company to ramp up the production of OCT 2.0B in the first quarter and build up inventory while the labor cost is lower at the beginning of the year.

This outcome is consistent with the cost structure of OCT 2.0B, which requires more labor hours to make.

Slide #3

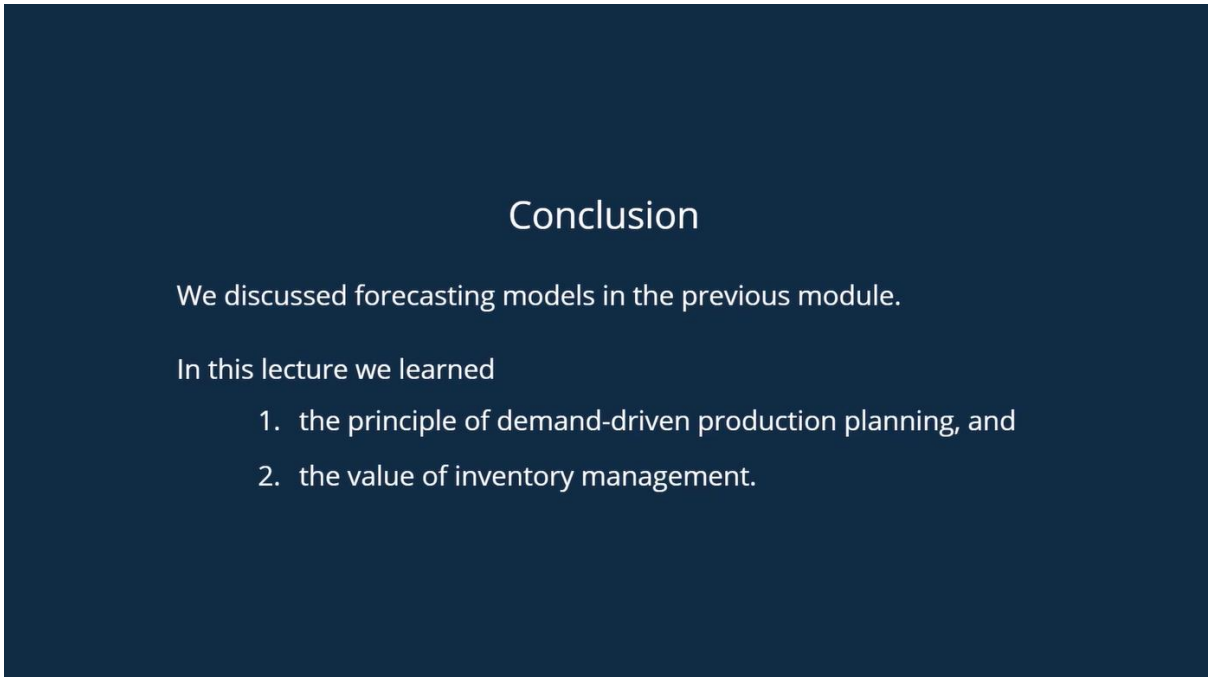
The simple business case explains business optimization applications for operation and production planning.

This is called aggregate planning.

The framework of production and operational optimization includes four major functions and activities.

Demand forecasting, production planning, inventory management, as well as procurement and supply chain management.

Slide #4



We discussed forecasting models in the previous module.

In this lecture, we learned the principle of demand driven production planning and the value of inventory management.

We will discuss the application of business optimization to procurement and supply chain management in the next lecture.