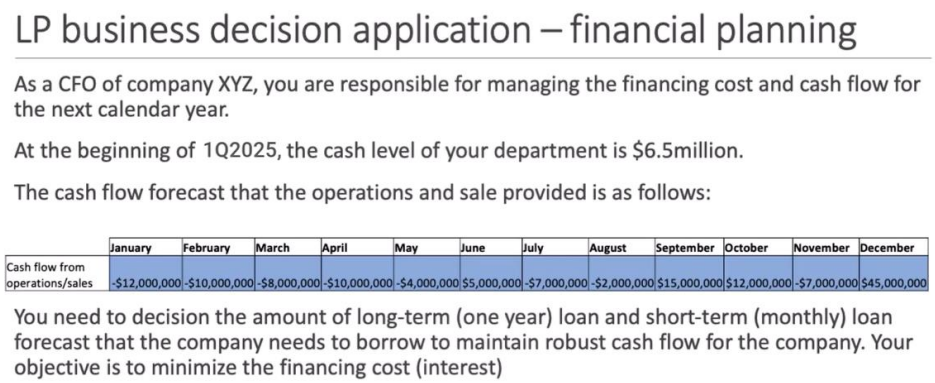
M7L5a. Financial Planning

Slide #1

In this topic, we will discuss the business case about financing cost and cash flow.

Slide #2



LP business decision application – financial planning

As a CFO of company XYZ, you are responsible for managing the financing cost and cash flow for the next calendar year.

At the beginning of 1Q2025, the cash level of your department is $6.5million.

The cash flow forecast that the operations and sale provided is as follows:

	January	February	March	April	May	June	July	August	September	October	November	December
Cash flow from operations/sales	-$12,000,000	-$10,000,000	-$8,000,000	-$10,000,000	-$4,000,000	$5,000,000	-$7,000,000	-$2,000,000	$15,000,000	$12,000,000	-$7,000,000	$45,000,000

You need to decision the amount of long-term (one year) loan and short-term (monthly) loan forecast that the company needs to borrow to maintain robust cash flow for the company. Your objective is to minimize the financing cost (interest)

The business case is, as a CFO of company XYZ, you are responsible for managing the financing cost and cash flow for the next calendar year.

At the beginning of the first quarter in 2025, the cash level of your department is 6.5 million dollars. The cash flow forecast that operations and the sale department provide is as follows.

In January, you will have negative 12 million dollars cash flow because you need to purchase material and you need to invest in some equipment.

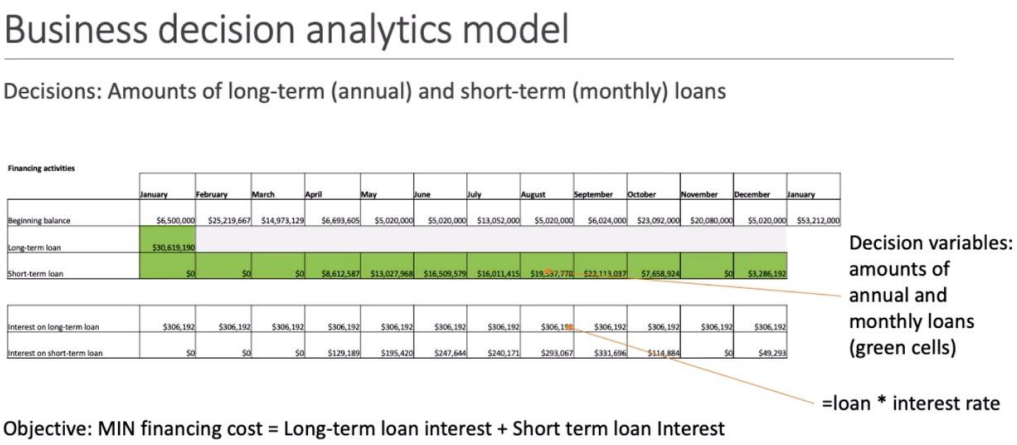
In February, you will also have some negative cash flow and then you can see the cash flow of each month in this table.

Positive cash flow means cash in and negative number means loss.

You need to decide the amount of long-term, or one year loan, and short-term, or monthly loan, that your company needs to take out to maintain robust cash flow for operations.

Your objective as Chief Financial Officer is to minimize the financing cost or the interest you are going to pay for those loans.

Slide #3



Now, let us discuss the cash flow business model. The decisions are the amount of annual loan you will take out at the beginning of each year and the amount of monthly loan that you will take out at the beginning of each month.

Note that the amount of monthly loans can be different in different months.

The annual loan represents long-term financing activity and the monthly loans represent the short term financing activities.

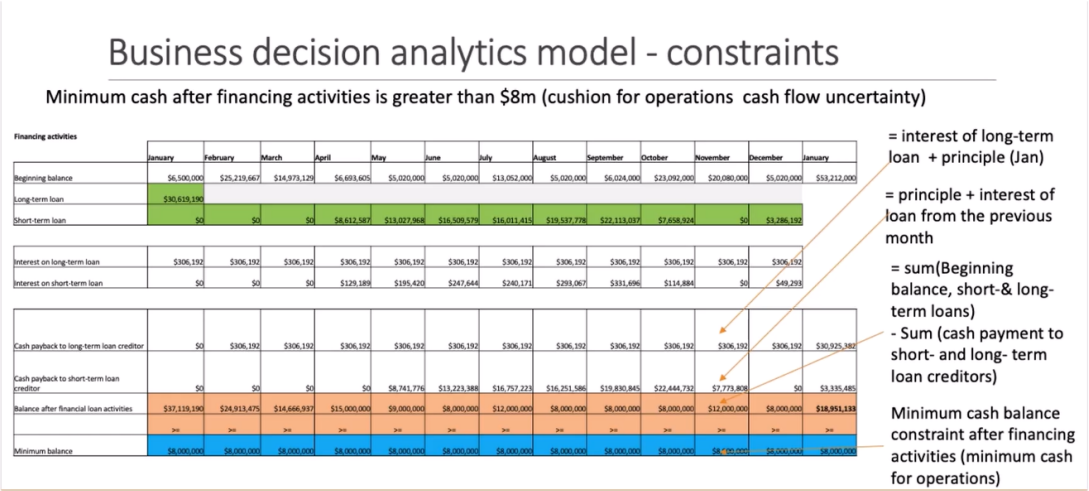
The top table are the decision variables. The numbers are our initial plan of annual loan to take out in January and monthly loans to take out in each month.

The objective is to minimize financial cost, which consists of the interest cost of long-term and short-term loans.

The monthly interest of the long-term loan is based on the interest rate of 1%, which is one twelfth of an annual interest rate. The monthly interest of a monthly short-term loan is a little bit higher.

The rate is 1.5%, and the amount of interest payment is the principal of the loan multiplied by the monthly interest rate.

Slide #4



The first business constraint is the minimum cash after financing activities.

This restriction ensures that the company will have enough cash to support operations every month.

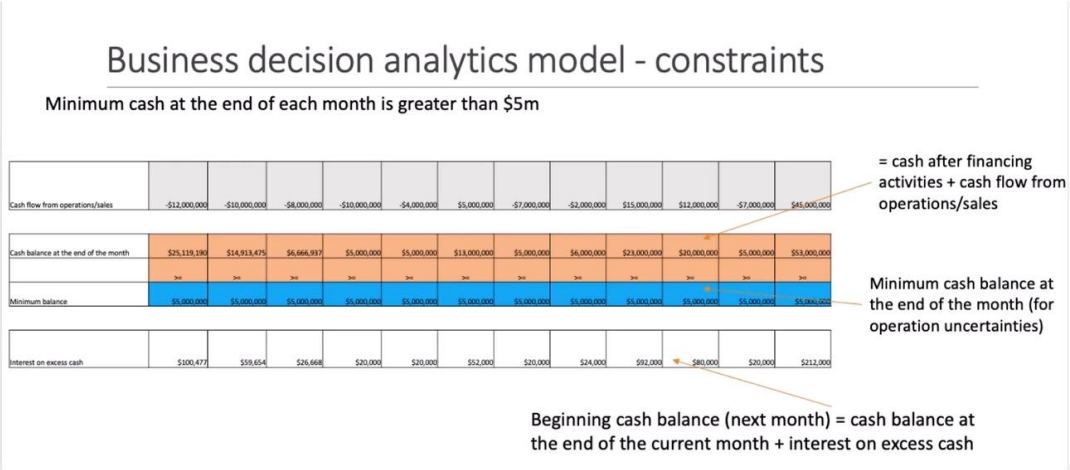
The cash payment to a long-term loan creditor is the monthly interest.

When the long-term loan matures in January next year, the payment includes not only the monthly interest, but also the principal.

The cash payment to short term loan creditor every month is the monthly interest plus the principal that the company borrowed in the previous month.

The amount of cash balance after financing activities equals to the cash at the beginning of the month plus the amount of loan that the company takes out at the beginning of the month minus the cash payment to short and long-term loan creditors.

Slide #5



The amount of cash balance after financing activities should be greater or equal to the minimum cash requirements.

In this case, the number is 8 million dollars.

The amount of cash left at the end of each month equals to the cash after financing activities at the beginning of the month plus the cash flow from operations.

Negative operations cash flow means outflow of cash, which is used to purchase materials, build up inventory, and so on.

Typically, companies operation units set a minimum limit on the cash balance at the end of each month to ensure that it reserves enough cash to handle operation uncertainties such as unscheduled repair and maintenance, demand disruption, and so on.

So the second constraint of our cash flow business model is that the minimum cash flow at the end of each month is five million dollars.

The excess cash also generates a small amount of interest for a company.

To simplify the situation, we assume that the interest of excess cash is available at the beginning of next month.

So the cash available at the beginning of next month equals to the cash balance at the end of the current month plus interest from excess cash.