# QQ5

## QQ5

0 points possible (ungraded)

The main idea behind the systems perspective for supply chain is to:

- a) think of each function silo as its own system
- b) define clear boundaries to the supply chain
- c) think of the entire supply chain as a system ✔
- d) approach your key suppliers systematically

**Explanation**

A supply chain can be thought of as a complex system with multiple objectives, conflicting constraints, and overlapping decision variables. The actions that are taken in one firm or link in the supply chain can have dramatic impacts on the other players as well as the supply chain as a whole.

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### Supply chain as a system

question posted 2 days ago by **rajanr123**

So in this video we learnt about mostly manufacturing industry where we are moving physical goods. What will be the equivalence of that in a service industry where the product offered is a service ( consumed as produced) ? I think the human resource aspects comes in a big way in that supply chain. Objective is still to maximize revenue with maximizing the customer satisfaction - what can be some of the decision variables and the constraints? Thoughts?

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**jesus9422** (Community TA)
2 days ago - marked as answer a day ago by **mathieu9413** (Community TA)

In some cases, you can model services as physicial flows. Nevertheless, in a typical Supply Chain Optimization model, you deal with a lot of physical decision variables like: inventories, people, materials, trucks etc. Note that "Simulation models" are often used in the Service Industry, but I am sure you can create optimization models for a Service Supply Chain. (e.g you can think of the number of available customer service representatives as a constraint in a model).

You should try creating your own models, I am sure you can figure it out experimenting.

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**Greweland**

2 days ago

This topic also interests me. Here is an attempt to create a possible scenario for a Service Supply Chain Setting. However, I have changed the objective to a scenario I know a little bit about.

**Scenario:** Let's consider a pump in a production facility for a manufacturing company. The production is dependent on the pump.

The pump is big and complex, and replacing the pump would cost a considerable amount of downtime and working hours. Hence, even though the pump is critical, and there is a new pump on stock in the company's own warehouse, it is relevant to avoid replacing the pump unless absolutely necessary.

The idea is to decide the optimal maintenance program for the pump, and the service is either maintenance, repair or replace.

**Objective:**

- Maximize uptime for the pump in the production facility.

**Decision variables:**

- Decide whether the pump's repair strategy should be 'scrap-and-replace' or 'repair'
- What suppliers for reparation and their capacity
- What suppliers for replacing and their capacity
- Decide optimal maintenance program
- Select how often maintenance should be set
- Select when it should be performed
- What is correct quality of the maintenance
- Decide optimal repair program
- What is correct quality of the repair
- Etc...

**Constraints:**

- Lowest possible total cost

I haven't thought the example through, and it seems to be rather complex quite fast. But these are some first thoughts.

What do you think?

This is good- so you are focusing more on the maintenance service within a manufacturing org which is a great example. I am thinking more from a true service organization - for example a Hotel . Here is objective is to maximize customer satisfaction. The decision variables can be front-line employees , their job satisfaction level, the hotel infrastructure, cost of the service, food etc. The constraint can be number of front-desk employees available in a shift or target revenue margin etc. Am I thinking it correctly?

posted 2 days ago by **rajanr123**

this is just awesome!!! in live event #3, staff invites 'problems from practice' - you might want to develop this further & send it to them.

posted 2 days ago by **param_iyer** (Community TA)

This is actually common in oil and gas facilities. When the equipment is purchased, the maintenance, depreciation, and demand are all factored into the supply chain decision. The maintenance and reliability aspect is typically handled by operations or a dedicated asset management team/person. Interesting stuff, for sure.

posted a day ago by **DennisWH**

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