



Make or Buy

- 1 In the process of carrying out business activities of an organization, a component/product/service can be made within the organization (MAKE) or can be bought from a supplier (BUY).
- 2 So, in any given situation, the organization should evaluate each alternative (M or B) for the portfolio and select those that result in lower cost, lower knowledge loss, ...
- 3 In the long run, the M or B decision is not static. The Make option of a product may be economic today, but after some time, it may turn to be uneconomical to Make the same product (i.e. demand changes, supply chain cost unstable, pandemic, ...)
- 4 Thus the M or B decision should be reviewed periodically (i.e. every year to every three years) in order to cope with the changes in the level of competition and environmental factors.



QUALITATIVE CRITERIA FOR M or B DECISION

CRITERIA FOR .. MAKE..

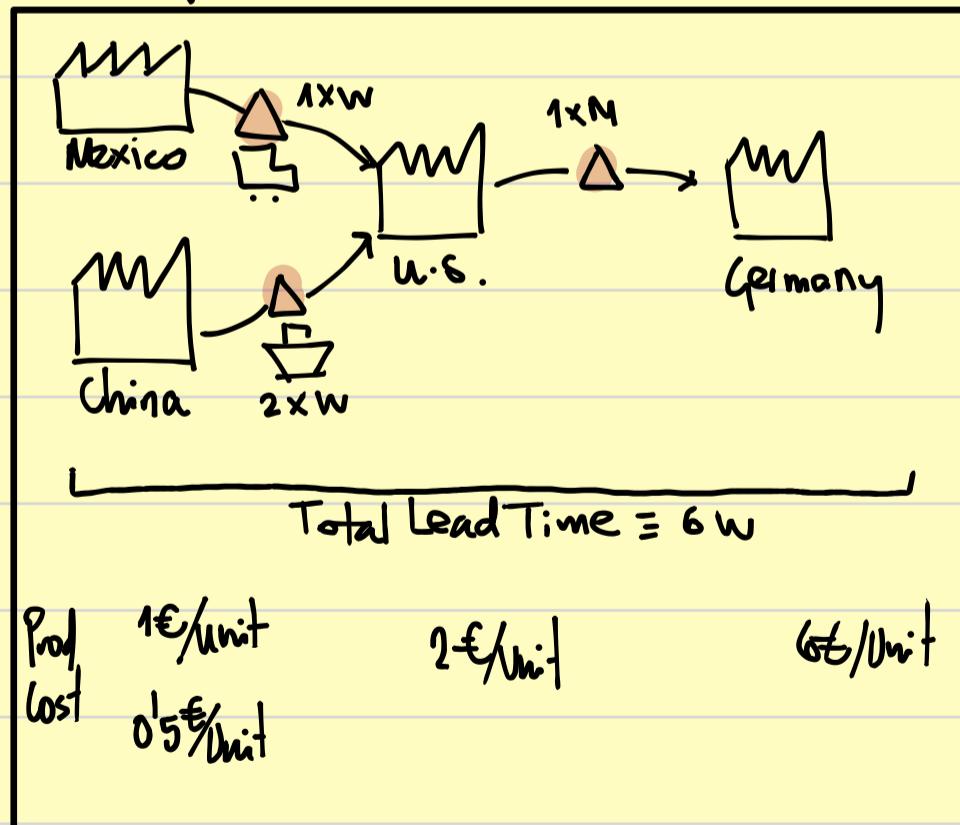
- 1 The finished product/service can be made cheaper (cost) by the firm than by outside suppliers.

Here you need to look at the OVERALL SUPPLY CHAIN COST.

- 2 Demand variability @ customer is high.

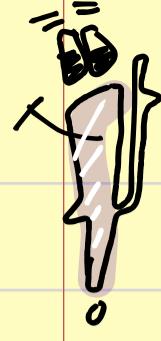
In this case, your production should be more expensive and this is difficult in .. BUY .. situations.

Example:



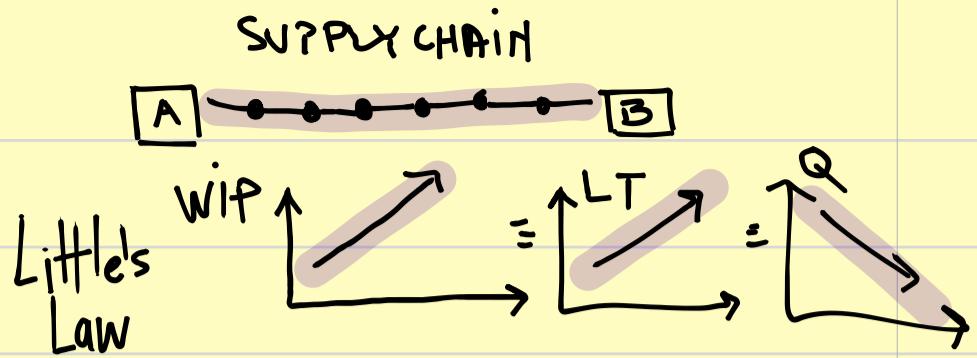
- 3 Overall demand variability increases along the supply chain.

- 4 When inventory increases, quality goes down (Little's law).



Even when the cost per unit at the supplier is smaller than the cost per unit at the own facility, this does not mean that ..BUY.. is better.

We need to take ALL cost into consideration (logistics, quality, ...)



- ⑤ The finished product is being manufactured only by a limited number of outside firms which are unable to meet demand or flexibility requirements.

- supply chain network structure . Average Path length . Clustering coefficient .
- EPEI (Every Part Every Interval) . Flexibility .
- capacity . Cycle Time / Change over Time / Machine Reliability .

- ⑥ The product/service has an importance for the firm and requires extremely close quality control.

If the part is strategic for survival : MAKE .

- ⑦ The part can be manufactured with the firm's existing facilities and is similar to other items in which the company has manufacturing experience .

Criteria for BUY

- ① The product/service requires investments on facilities which are already available at the potential supplier's plant .
- ② The company does not have facilities to make the product/service and there are more profitable opportunities for investing the firm's capital . cash flow and Return on Invest .
- ③ Existing facilities of the company can be used more economically

to make other parts.

- ④ The people skills employed by the company are not sufficient or adaptable to make the new part.
- ⑤ Patent or legal barriers that prevent the company from making the part.
- ⑥ Demand might be either temporary or seasonal. Therefore it is not profitable to invest in the capacity to produce ourselves.
- ⑦ We can work with the supplier a new process out, that is Just in Time / Sequence and is effective & flexible enough to ensure our customer demands.

QUANTITATIVE CRITERIA FOR MOC B

1 SIMPLE COST ANALYSIS

A company has extra capacity that can be used to produce a product which it has been buying for 900£ each. If the company makes the product it will incur material costs of 300£/unit, labor cost of 250£/unit and variable cost (overhead) of 100£/-unit. The annual fixed cost associated with unused capacity is 1 Million £. Demand over one year is 5000 units.
MAKE or BUY?

MAKE

$$\begin{aligned}\text{Variable Cost/Unit} &= \text{Material} + \text{Labor} + \text{Overhead} \\ &= 300 + 250 + 100 \text{ £/Unit} \\ &= 650 \text{ £/Unit}\end{aligned}$$

$$\begin{aligned}\text{Total Variable Cost} &= 650 \text{ £/Unit} \cdot 5000 \text{ Units/Year} \\ &= 3250000 \text{ £}\end{aligned}$$

$$\text{Fixed Cost Capacity} = 1000000 \text{ £}$$

BUY

$$\begin{aligned}\text{Purchase Cost} &: \text{Price/Unit} \cdot \text{Demand} = \\ &= 900 \text{ £/Unit} \cdot 5000 \text{ Units/Year} = \\ &= 4500000 \text{ £}\end{aligned}$$

$$\text{Fix Cost Capacity} = 1000000 \text{ £}$$

$$\text{Total Cost MAKE} = 4250000 \text{ £}$$

Total Cost Buy = 5500 000 €

$T_{CM} < T_{CB} \rightarrow \text{MAKE}$

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