Operations Management

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What are Operations?

- The core activity of any business is known as Operation.
- For instance for any manufacturing business the operations will include the manufacturing of goods.

How to show Operations of a business through a Diagram

What do we mean when we say Operations Management?

- It is important for business to be efficient with its operations to keep its cost to the lowest possible level.
- All private sector businesses are aiming for profit and therefore they will want to minimize their costs and maximize their output.
- This measure of efficiency is known as Productivity.

Productivity = Output / Input

- Higher the value of this overall formula higher will the business efficiency.

Revenue – Cost = Profit

Labor Productivity

Output / Number of Employees

A

100 Students

10 Teachers

B

200 students

15 teachers

The School B is more productive / efficient since the output per unit is higher.

Capital Productivity

- Capital goods are man made resources used in the production process.

Output / Units of Capital

A

1000 Units of Wheat

10 Tractors

B

2500 units of Wheat

5 Tractors

How can business increase Labor

Productivity?

1. ***Changing the payment method from fixed compensation like salary to piece rate*** in which each employee is paid according to the output produced.

2. ***More training for labor*** which helps them develop more skills making them undertake their tasks more efficiently with little waste of resources.

3. With more training workers can produce greater quantity of output in lesser time.

Piece Rate: Is when you pay people according to the output that they produce.

4. ***If workers are more motivated*** they will be more productive.

How can the business increase Capital Productivity?

- ***More advance technology*** that is expected to increase business output and reduce per unit cost.
- ***If labor is more skilled*** it will operate machinery more efficiently with less damages etc.
- ***Using better quality raw material***: it will allow machines to produce more output in given time period resulting in higher capital productivity.

Capital and Labor Intensive

Production Process

- Any business that makes more use of capital is capital intensive and on the other hand any business that uses more of labor is defined as labor intensive.

1. If capital's output per unit costs are lower than labor output per unit then a business is expected to be capital intensive.
2. The size of the business and if the has enough of investment to afford machines / capital.

Production Methods

- Any particular technique or method used by business to produce its

output.

- There are 3 major production methods that we will talk”

1. Job Production

2. Batch Production

3. Flow Production

Job Production

- Job Production is when a business produces ***customized*** product specially for any particular customer.
- For instance business like jewelry shops, clothes etc use job production.
- ***Since the products are customized the customers will be willing to pay more.***

- ***Customer satisfaction is expected to be higher since the product is exactly according to their own unique needs.***
- However the production process will be slow because usually a person only works on one project at a time.
- Often times job production is labor intensive.
- Labor intensive can be a problem for a business because labor is less reliable than machines etc and often labor is slower than machines.

Batch Production

- Is when a business makes number of similar units for a product that is known as one batch.
- Batch Production is when a business makes similar units of a product

at the same time; ***All units of the product move from one stage of the production process to another at the same time.***

- For instance when you make a batch of 10 chocolate cakes the first of all you will together prepare the dogh of 10 cakes and then bake them all together and then add toppings to all at the end.
- ***However in batch production there will be relatively more variety of goods.***

Flow Production

- ***Flow Production is when a business is making standardized products using a production belt in which continuous production is taking place.***

- ***Flow production is much faster than batch and job production*** and therefore products that have huge demand eg Lays, pepsi etc will be produced using Flow production.
- ***There is very limited variety in flow production*** since you can not alter the production process to produce different type of products.
- ***Business are expected to benefit from economies of scale*** which means lower per unit cost due to *bulk buying economies* of scale etc.

Economies of Scale: what causes EOS?

- ***Bulk Buying Economies:*** when you buy in bulk suppliers are likely to give you more discounts as they are making more profits on bigger orders even if they give you lower per unit price.

- ***Technical Economies***: when a business uses capital like machines which allows them to reduce per unit cost because with machines a business can produce more at lower costs. For instance with a projector a school can accommodate more students in each class which will reduce per unit.
- ***Managerial Economies***: is when a business hires more experienced professionals to help them expand and therefore lowering their per unit cost.

Economies of Scale: what causes EOS?

- ***Financial Economies:*** is when a bigger business gets loans on a lower interest rates since they are less likely to default and secondly they

will be borrowing a larger amount compared to smaller.

- ***Risk Bearing Economies***: is when larger businesses can ***produce more variety of products*** compared to smaller businesses like NESTLE makes a wide variety of products which reduces their risk. If one product is not selling well they can rely on other products.

Diseconomies of Scale: what causes DOS?

- ***Miscommunication between different department:*** when you become a very large organization it becomes difficult to coordinate and therefore it can result in inefficiency.
- ***Lack of workers' motivation***: when you work in larger organization an employees might feel less valued which can adversely affect their

motivation resulting in inefficiency.

Comparison of Different Production Methods

- Flow is much faster than the other 2 methods
- Since Flow production uses capital intensive method the products will be much more standardized than batch and job production therefore less variety in Flow production.
- Larger business are expected to use flow production method since they can afford expensive machinery and are producing goods on large scale.

Factors that Affect the *Business Choice of Location*

- ***Closeness to the market***: if a business is located close to its potential customers then it is expected to make more sales.
- ***Access to cheap land***: businesses would want to locate their production plant on cheap land to reduce their costs.
- ***Availability to raw material***: a lot of times business are located close to the supply to their raw material so that it is easy and cheaper to transport raw material.
- In a place where there is ***less competition*** so that you can attract more customers.
- ***Industrial Zones*** are special areas designed by governments for businesses to provide them special facilities like subsidized utilities etc.

Factors that Affect the *Business Choice of Location*

- ***Closeness to the sea port***: it will be highly important for a business to locate close to sea ports for industries in which you import some raw material.

Inventory Management

- Inventory is any raw material that are held by the business.
- Inventory management is maintaining the right quantity of raw material.

- The objective of the business is to minimize its inventory related cost.
- There are 2 type of cost related to inventory

1. Stock Holding Cost
2. Out of Stock Cost

1. Stock Holding Cost

1. If the inventory level is higher it will cost business more in terms of more rent for warehouse, more labor needed to look after inventory and so on.
2. The chances of stock getting damaged will be higher.
3. The stock can get outdated.

2. Out of Stock Cost

- Is when a business is out of stock.
- It can result in lost sales because the business will not have enough raw material to produce goods and therefore will not be able to sell.

Total Cost of Inventory Management

Total Cost = Stock Holding Cost + Out of Stock

Cost