Ten things you need to know about operations

Ian Marcousé provides a framework of ten key operations concepts that you can base your revision around

1 Capacity utilisation

Measuring the extent to which actual output makes use of a firm's maximum capacity.

Example: at full capacity, Airbus is capable of producing four A380 aircraft a month. If actual production is three aircraft, its capacity utilisation would be 75%, i.e. 25% underutilised.

Advantage: shows what the interaction of supply and demand means to a single business.

Disadvantage: the desire to make full use of capacity can tempt firms to be too active in short-term sales promotions that may damage long-term corporate image.

2 Supply chain management

The sequence of suppliers and producers that starts with raw materials and ends up with a product in a customer's hand.

Example: beer starts with raw barley, hops and water. Having gone through the brewing process it is left to mature in tanks before being bottled, transported to wholesalers and then transported again to retailers.

Advantage: if a business has a full understanding of its supply chain it can identify parts that fail to add value and should therefore be eliminated.

Disadvantage: some companies see the supply chain as a fact of life, whereas they should be wondering what could be improved.

3 Lean production

The attempt to squeeze waste out of a business, thereby reducing the cost and carbon footprint.

Example: a bakery making 40 doughnuts a day (and throwing away 30 unsold ones each week) decides to make 25 each morning and produce more in the afternoon if demand is sufficiently high.

Advantage: reducing waste can lead to fresher products, as buffer stocks are minimised.

Disadvantage: lean production inevitably leads to shorter production runs, which can result in higher unit costs.

4 Productivity

The efficiency with which inputs are turned into outputs, such as output per worker.

Example: if a factory producing 4,000 units a day has 25 workers, their productivity is 4,000/25 = 160 units per worker.

Advantage: productivity is a key element in unit costs. The higher the productivity the lower the labour cost will be per unit.

Disadvantage: boosting productivity through automation can prove a mistake because machinery is inflexible, so if demand falls for Product X it is often easier to switch staff to Product Y than it is to replace machinery.

5 Quality management

The procedures and culture relating to quality, established over time by management.

Example: after encountering consumer resistance to its unknown brand name, car company Kia offered a 7-year warranty against the 3 years offered by rivals. It then had to establish the production systems to ensure that the promise proved inexpensive.

Advantage: a quality culture is the best way to ensure affordable, consistently high quality, i.e. all staff pursue quality without even thinking about it.

Disadvantage: procedures such as quality assurance can be overly bureaucratic — a way of covering up faults rather than preventing them.

6 Service

Providing customers with the level of support they require before, during and after purchase.

Example: clothes shop staff being honest about how well a garment fits a client.

Advantage: a customer who feels well served will repeat the purchase decision.

Disadvantage: sometimes companies provide too much service, irritating customers despite having good intentions.

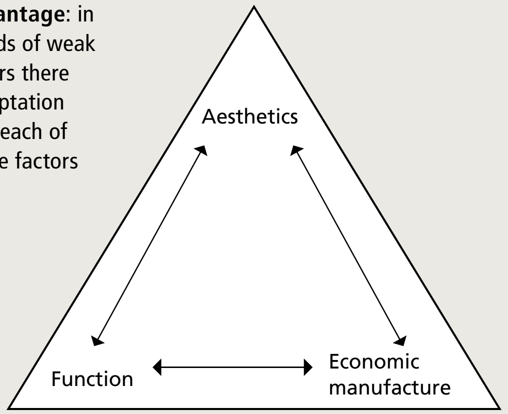
7 Design mix

The design mix shows the need to balance three critical factors: aesthetics (appeal to the senses), function (does it work?) and economic manufacture.

Example: when designing a new iTV, Apple would prioritise its look and its functions, seeing economic manufacture as less of an issue because Apple can charge a price premium for the product.

Advantage: the mix can be shown diagrammatically, making it easier to discuss the right balance and priorities.

Disadvantage: in the hands of weak managers there is a temptation to treat each of the three factors equally.



8 Time-based management

Focusing management thinking on time as a key business resource.

Example: in September 2013 Microsoft announced that the Xbox One would be launched 1 week before the Playstation 4. Being first to market clearly matters to games console producers

Advantage: if operational efficiency enables one firm to produce more quickly than another, this adds value to the customer experience, e.g. 1-hour dry-cleaning.

Disadvantage: focusing too much on time might cause a shortfall in meeting other objectives such as cost or staff satisfaction.

9 Economies of scale

Factors that cause average costs to be lower as the scale of operation increases.

Example: technical economies stemming from automation can cut labour costs per unit as long as output levels are sufficiently high.

Advantage: if economies of scale kick in (as with the production of consumer electronic items such as iPhones) high sales are enriched by ever-higher profit margins.

Disadvantage: many businesses assume that growth will lead to economies of scale, without appreciating that diseconomies of scale are at least as powerful an effect of growth.

10 Diseconomies of scale

Factors that cause average costs to rise as the scale of operation increases.

Example: when Supergroup (owner of Superdry) grew rapidly in 2010 and 2011, it found that it needed a greater percentage increase in head office staff than the percentage increase in sales. This hit average costs.

Advantages: the advantage comes from anticipating the inevitable cost pressures from growth. Bulk buying benefits are an exception among many other costs that increase per unit sold.

Disadvantages: diseconomies of scale often kick in when one company buys another. This can wreck the synergies anticipated from the merger.

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