In the competitive domain of online and offline retail, one of the most important factors in attracting customers is right product pricing. But how do you decide the optimal price for a product? Is reducing the price always beneficial, or does marking up the price increase profitability? This module will help you learn how to zero in on the price that most suits your business strategy.

Understanding Price Markup and Markdown

The different types of price markdowns being offered in the market today are as follows:

- Flat price cut
- Discount offered
- Freebies offered
- Buy X Get Y
- Loyalty benefit
- Gift voucher
- Organising events

One of the main reasons for price markdown is to offload extra inventory. There are many causes of extra inventory pile up:
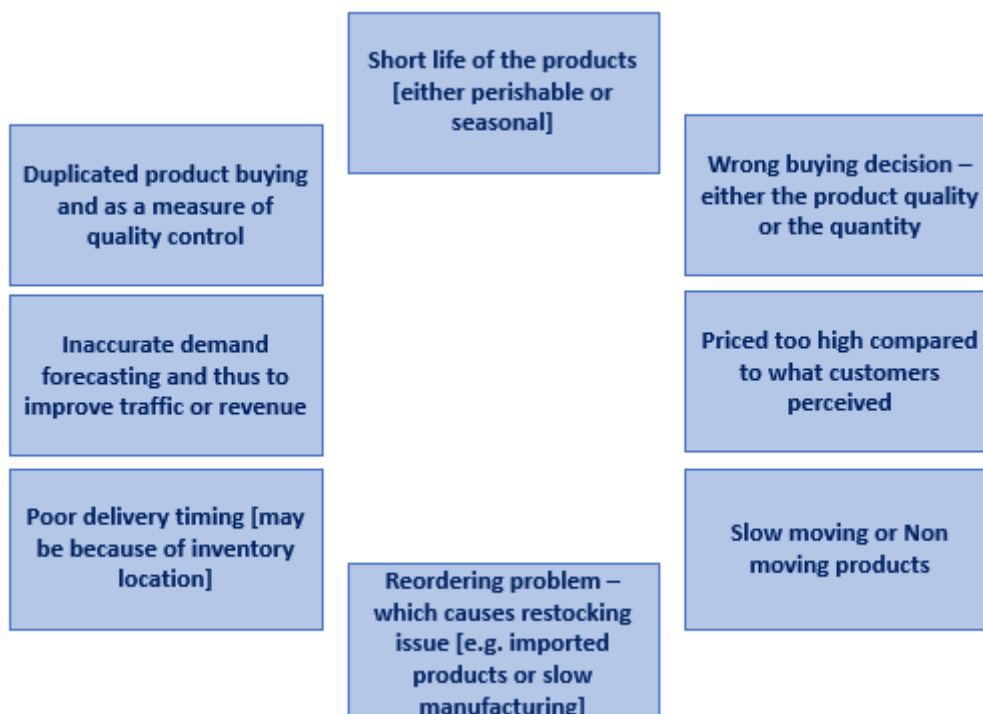
Short life of the products [either perishable or seasonal]

Duplicated product buying and as a measure of quality control

Wrong buying decision – either the product quality or the quantity

Inaccurate demand forecasting and thus to improve traffic or revenue

Priced too high compared to what customers perceived

Poor delivery timing [may be because of inventory location]

Reordering problem – which causes restocking issue [e.g. imported products or slow manufacturing]

Slow moving or Non moving products

Figure 1: Reasons for Inventory Pile-Up

The other reasons for price markdown are:
- To improve sales, revenue and profit margin
- To improve store footfall
- As a measure of quality control
- As an effect of an entry of new brand or product
- To improve cross-product sale

The different types of price markups being used in the industry are as follows:
- Surge price for service offerings in:
  - Transportation
 - Food delivery
- Surge price for premium limited products

Why use price markup?

Let's look at what you can do with the strategy of price markup:

1. Optimise supply chain cost: Consider an e-commerce company that delivers products at your doorstep, and charges a certain markup to meet various supply chain costs such as:
   - Delivering to remote locations or to certain pin codes
   - Delivering the next day or within two days
   - Handling cash on delivery orders
   - Special instructions like gift wrapping

2. Bring equilibrium in demand-supply: Consider fleet services or food delivery companies that charge surge pricing during heavy hours of demand while their supply remains the same or goes down, or delivering at odd hours (e.g. late night)

If you analyse the sales figures post a price markdown, you will notice a slight dip, however, the new business as usual (BAU) level will be higher than before.
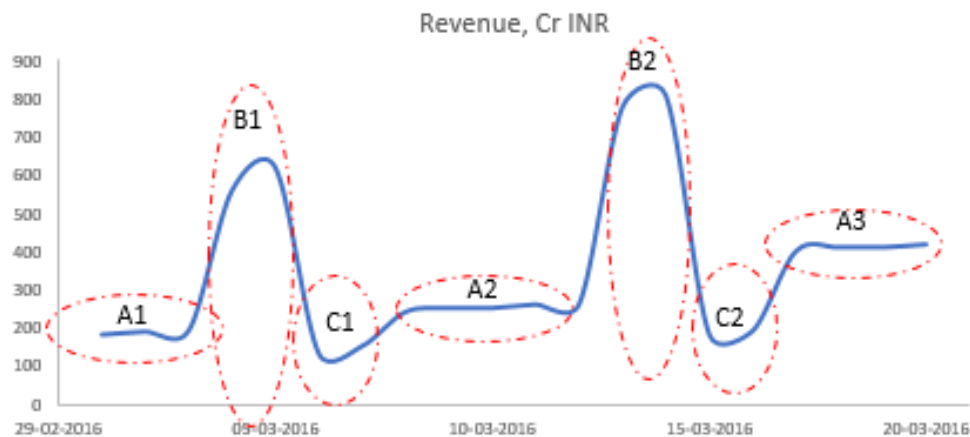
Figure 2: Dip in Revenue after Markdown

The Four-Force Model of Price Optimisation

There are four major factors that impact the pricing of a product:
1. Demand elasticity/price elasticity of demand
2. Competition benchmark
3. Internal economics
4. Category dynamics

Demand Elasticity/Price Elasticity of Demand

'Price elasticity of demand' (sometimes also known as 'demand elasticity') is a measure of the relationship between a change in the quantity demanded of a particular good and a change in its price. Price elasticity of demand is a term in economics often used when discussing price sensitivity. The formula for calculating price elasticity of demand is:

Price Elasticity of Demand = % Change in Quantity Demanded / % Change in Price

If a small change in price is accompanied by a large change in the quantity demanded, the product is said to be elastic (or responsive to price changes). Conversely, a product is inelastic if a large change in price is accompanied by a small change in the quantity demanded.

Similarly, discount elasticity of demand is a measure of the relationship between a change in the quantity demanded of a particular good and a change in the amount of discount offered.

Competition Benchmarking

Competition price index is the relative comparison of prices at a retail store with the prices at another store. This is a unit-free number which represents how expensive your store is compared to your competitors. This is generally calculated for the same or similar products. However, values at aggregated levels are also used to understand the competitive price positioning of a store.

Prices are only matched with desired competitors, and only for the same products. For example, in the case of books, the ISBN number can be matched and thus the price of same book in different stores can be figured out. In this way, the competition price index is calculated and actions are taken accordingly. Once prices are mapped between two retailers for exactly the same products, then, based on pricing strategy rules, decisions are taken whether to match the competitor's price or maintain a positive or negative delta in terms of the percentage or absolute pricing term.

In advanced benchmarking, not only are the prices of the products mapped, but also are other features, e.g. the number of days for delivery, free or paid delivery, any additional discount available, etc.

How would you collect information about your competitors? For an online business, there are website crawlers. However, how do offline retail stores compare their competitive price positioning? There are mainly two ways:

1. **Market survey** or panel research by market research companies: These survey agencies appoint random sample customers, observe their buying decisions, and monitor which products are bought at which prices. Accordingly, the competition price index is prepared.
2. **Basket analysis**: A retailer can decide various basket combinations which are commonly purchased together, and go to its competitor stores to shop for the same baskets. In this way, it can compare its own prices to the competitors' offerings. This is done periodically to get a better sense of the price positioning.

Internal Economics

The internal factors that determine the optimal pricing are:
- Target profit margin = Selling price – Total cost
- Run rate of product = Average number of products sold per day at base line price
- Days to sale through = Total number of products in inventory / Run rate of the product
- Credit note offers

Category Dynamics

The category of products being offered also has an impact on the optimal pricing. The various factors in this regard are as follows.

Seasonality of the products being offered

Figure 3: Seasonality

Branded products vs Private label products

The pricing of a private label product is a black box for the customers and there is a large scope of increasing the profit margin.

Figure 4: Branded Products vs Private Label Products

What to Optimise for in Price Optimisation?

The optimisation goal of a company depends on the position of the company in the market and its maturity level.
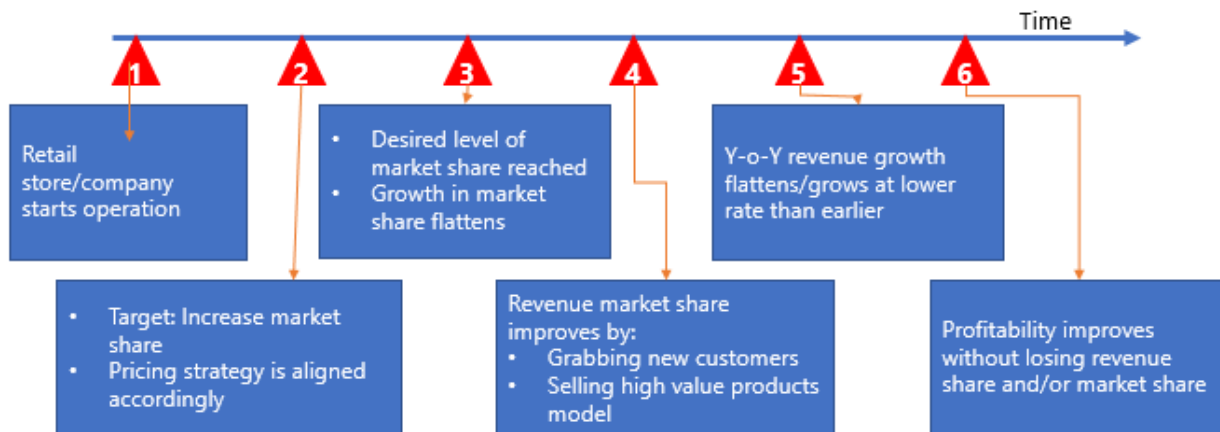

Figure 5: Company Lifecycle

Optimising for Market Share

Market share can be calculated in different ways:

1. **Unit sell market share of retailer A** = Number of units sold by Retailer A / Number of total units sold in the market. This can be derived as a whole, or according to product category.

2. **Customer market share of retailer A** = Number of unique customers who shop from retailer A / Total number of unique retail customers. For example, to calculate the market share of Big Bazaar, the denominator could either be all the customers who shop from organised supermarket/ hypermarket kind of stores, or they could be all retail customers.

3. **Product market share of retailer A** = Number of unique products sold through retailer A / Total number of unique products sold in the retail market.

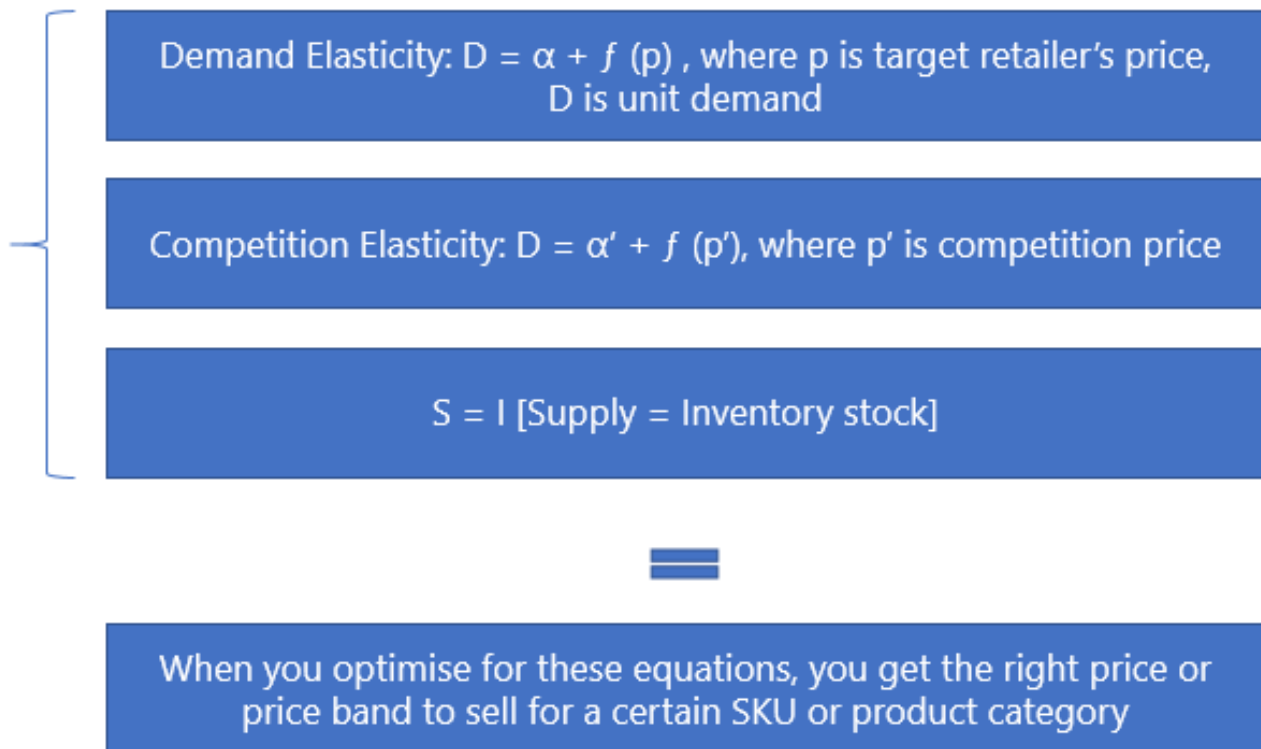Market share can be optimised by solving for the following linear problem:

Demand Elasticity: $D = \alpha + f(p)$, where p is target retailer's price, D is unit demand

Competition Elasticity: $D = \alpha' + f(p')$, where p' is competition price

$S = I$ [Supply = Inventory stock]

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When you optimise for these equations, you get the right price or price band to sell for a certain SKU or product category

Figure 6: Optimising for Market Share

Optimising for Revenue Market Share

Revenue market share of A = Gross merchandise value (GMV) sold by retailer A / GMV of the total retail market

As in the earlier case of unit market share or customer market share, here too, the comparison is mainly done with all the similar competitive retailers in the market. For example, in the case of online retail, the revenue market share of Amazon = GMV of Amazon / GMV of all ecommerce retailers put together.
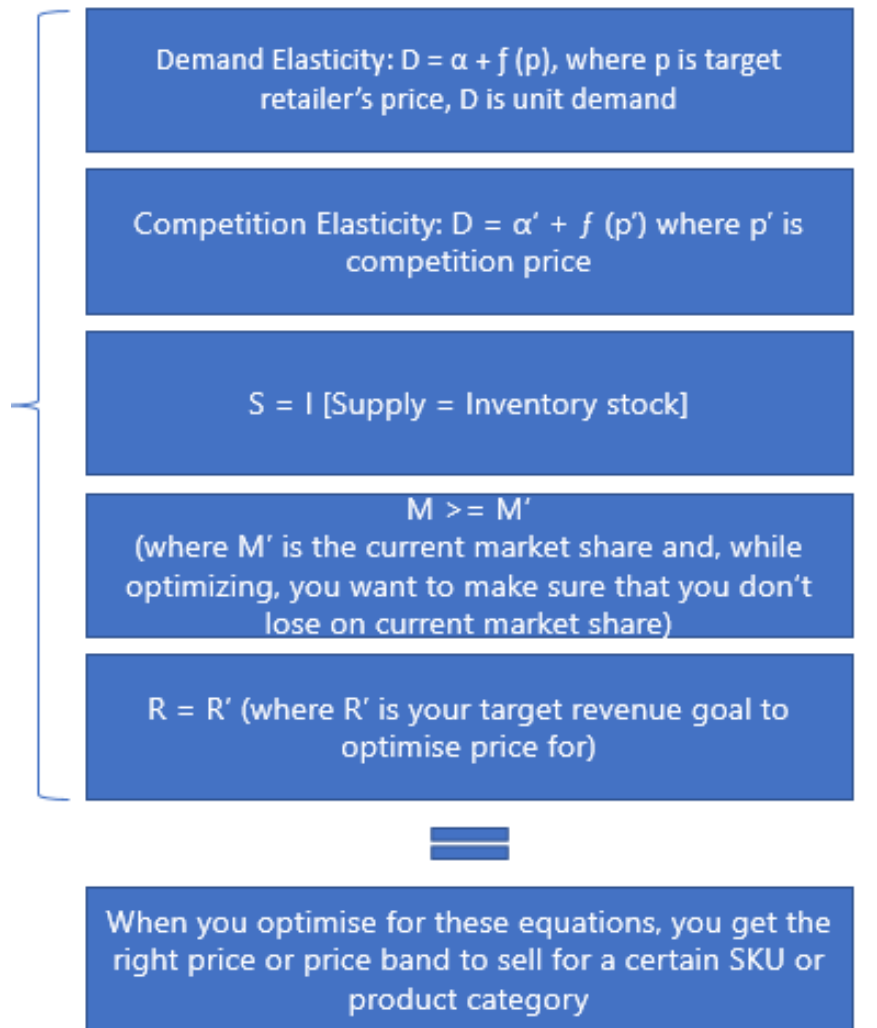
Figure 7: Optimising for Revenue Market Share

Optimising for Revenue and Profit
This is a tough problem as profitability may come through various ways:

- Reducing buying cost
- Reducing supply chain cost
- Reducing other costs
- Increasing selling price

Many a time, such an exercise is attempted in pieces. That's because each of these levers are operated by different departments. Price is the last factor that you should try to touch. First, try to optimise on all sorts of costs.

For example, delivery cost in ecommerce is charged based on the volume of the packet, not by its weight. If a memory card is sent in a 500 gm (the minimum size) box, then its delivery cost would increase so much that selling the memory card would stop being profitable.

Thus, for every product category, you should check which particular profit lever is causing the loss and how to stitch it. The right pricing comes last, only when all other cost factors are taken care of.