The ExP Group

ACCA PM | ExPress Notes

Performance Management

SBL SBR AFM APM ATX AAA

BT MA FA LW PM TX FR AA FM

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Hello

Thank you for downloading a copy of these ExPress notes and I hope you find them useful for your studies.

We provide these ExPress notes free of charge to individual students as part of our CSR initiatives. The notes are designed to help students assimilate and understand the most important areas for the exam as quickly as possible.

A word of warning though in that they have not been designed to cover everything in the syllabus so you should only use these notes for either an overview of the key areas before you start your main studies or as part of your final revision in the run up to your exams.

Importantly though, we want you to be successful in your exams so good luck with your studies and please do let us know how you get on.

All the best,

Steve

About The ExP Group

We were born with one passion, with one aim, with one desire. To use technology the way it should be used. To use technology to open up education, and in particular financial education, to whoever needs it regardless of their income, wealth, race, sex, religion or location.

We wanted to use technology to empower individuals to develop themselves through financial expertise, organisations to improve their performance through enhanced human capital and ultimately communities and families to benefit as a result.

We're on target and since our birth we have had the privilege of working with and learning from inspirational individuals and organisations from all 4 corners of the world in countries as varied as the UK in the north, Singapore in the east, South Africa in the south and the Cayman Islands in the west.

We're only part way through our journey but we're doing better than we expected. The best is yet to come though,

Education + Technology = Ethical Empowerment.

Thank you for being part of our story.

01 Specialist Cost & Management Accounting Techniques

Key Knowledge – Activity Based Costing (ABC)

ABC is a method that seeks to group overhead costs according to the activities causing those costs. The activities giving rise to the costs are called "cost drivers". By linking costs to activities (cost drivers), it becomes possible to charge costs to the agents undertaking those activities.

Example

A factory clinic with total annual costs of $500,000 serves two Workshops A and B.
Workshop A has 200 employees and Workshop B has 300 employees.

A conventional way of apportioning the cost would be on the basis of employees:

Workshop A: (200/500) x 500,000 = 200,000
Workshop B: (300/500) x 500,000 = 300,000
500,000

An ABC approach might look at the number of visits to the clinic by the employees of A and B.

Workshop A: 150 visits p.a.
Workshop B: 70 visits p.a.

In this case, the apportionment could be:

Workshop A: (150/220) x 500,000 = 340,909
Workshop B: (70/220) x 500,000 = 159,091
500,000

The different levels of usage may reflect different degrees of occupational hazard present in the two workshops.

ABC advantages: provides a more precise way to determine costs per unit of output, especially since not all overhead costs are driven by production volumes.

Budgetary planning, pricing decisions and managing performance are all facilitated by ABC.

ABC disadvantages: it can be complex and costly to implement. It is not a "plug-in-and-go" system! It is therefore imperative that management carefully weigh the costs against the (expected) benefits from ABC before deciding to implement it.

Key Knowledge – Target Costing

This is a market-oriented approach to costing that starts by identifying the likely price that a product can fetch in the market, deducts the profit that the product is expected to earn, and arrives at the maximum (target) cost of manufacturing the product.

Such a method usually requires successive iterations in order to close a "cost gap", i.e. where the costs are above the targeted level. Product re-design, alternative materials and production processes are examined in order to achieve the desired level of costs.

Key Knowledge – Life Cycle Costing

A product normally "lives" beyond one accounting period and the costs connected to its development/design, launch and maintenance fall unevenly across time periods. This method takes a comprehensive view of the costs relating to the product throughout its life-cycle.

Key Knowledge – Throughput Accounting

This method is consistent with a JIT environment and focuses on the bottlenecks in a production process; by eliminating these bottlenecks, it raises the amount of output that can flow through the process (assuming there is demand for the output – the idea is not to produce for inventory!).

The throughput accounting approach itself considers all costs (including direct labour) as fixed and treats only direct materials as being variable in the short term. Throughput means revenue less material costs.

The throughput accounting ratio is calculated as: $\frac{Return\ per\ factory\ hour}{Cost\ per\ factory\ hour}$

Where:

Return per factory hour = $\frac{Throughput\ per\ unit}{Time\ on\ bottleneck\ process\ per\ unit}$

Cost per factory hour = $\frac{Total\ factory\ costs}{Total\ bottleneck\ resource\ time\ avaialable}$

02 Decision Making Techniques

The Big Picture

One of management's responsibilities involves making decisions affecting the firm in the short-run based on relevant costs.

What is relevance?

A relevant cost is a cash cost which is uniquely incurred (or avoided) as a consequence of taking a decision; cash, because it is the main determinant of value (unlike accounting profit); and unique in the sense that is not common to the alternative choices that are under consideration.

Example

A company seeking to determine whether to continue to transport its products by truck or to switch to the railroad discovers that insurance costs are identical in both choices; in that case, insurance costs are not relevant to the decision.

If, however, there is a difference in the two insurance costs, then one can speak of the difference between the two choices as being "incremental"; this difference (referred to in some places as the "differential") is relevant to the decision under consideration.

Future

Relevant costs refer to the future, i.e. they can be influenced prospectively by choice. It follows that:

Sunk costs are not relevant: They have already taken place and cannot be reversed.

Committed costs, if they cannot be avoided, are likewise not relevant, even if the timing of their occurrence is in the future. Their "unavoidability" has already been established in the past (making them effectively the equivalent of sunk costs).

In keeping with the above logic, relevant costs therefore involve cash, are incremental and relate to the future.

Relevant costs need to be identified with care, as they may include opportunity costs.

Example

A company considers building a storage facility on the site of a parking lot. If the parking lot had been generating parking fees that will now be lost, then this foregone revenue is an opportunity cost.

Key Knowledge – Break Even Analysis

Cost-Volume-Profit (CVP) Analysis

The breakeven formula

Total Costs = Fixed Costs + Unit Variable Cost x Number of Units

Total Revenue = Sales Price x Number of Units

If

TC = Total Costs,

FC = Fixed Costs,

V = Unit Variable Cost,

X = Number of Units,

TR = Total Revenue,

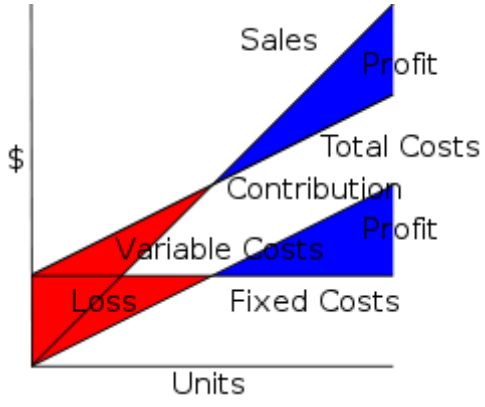
SP = Selling Price,

C = SP – V = Unit Contribution and

CM%= C/SP = Contribution Margin,

Then the *break-even point* (the output level at which TR=TC) is:

- In units sold: X = FC/C
- In dollar sales: TR = FC/CM%



- Safety Margin = Budgeted Sales – Break-even point (units/dollars)
- C is an important indicator, as it shows the contribution of each unit sold towards covering fixed costs. Therefore, in the short run, the firm may prefer to produce/sell below break-even in order to recover some of its fixed costs.

Relevant costs, incremental analysis and linear programming

- Relevant costs are costs expected to vary with the action taken
  - Past (sunk) costs are irrelevant
  - Fixed costs are irrelevant if there is idle capacity
  - Variable (marginal) costs are relevant
  - Opportunity costs (foregone benefits) are relevant
- Incremental analysis uses relevant costs in order to quantify the short-term effects of business decisions taken.

Applying incremental analysis in business decision-making

- Accept or reject a special order
  - Accept if selling price exceeds variable production cost and there is spare capacity
- Make (in-sourcing) or buy (out-sourcing)
  - Outsource least efficient activities if full capacity reached
- Capital budgeting
  - Invest if marginal cost of investing is below marginal cost of not investing (marginal benefit foregone)
- Disinvestment
  - Divest if (marginal revenue generated + cost of resulting idle capacity + severance payments + restoration costs) fall below marginal cost of production + salvage value of assets

Key Knowledge – Limited Factor Decisions

Determining optimal mix of products where there is one limiting factor

1. Calculate contribution per unit generated by each product.
2. Identify the number of units (kg/litres) of the limited factor used by each product.
3. (1) ÷ (2) = contribution per unit of limited factor generated by each product.
4. Produce product with highest contribution per unit of limited factor first, up to maximum demand, then produce product with second highest, etc. until all the limited factor is used up.

Determining optimal mix of products where there is more than one limiting factor

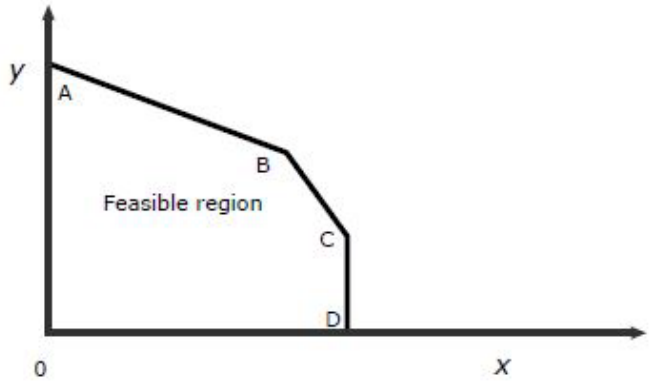
Use linear programming:

1. Define variables (Let X = output of product 1, Y = output of product 2)

2. Define objective function: (This expresses total contribution). Y = mX + nY (where m = contribution per unit for X and n = contribution per unit for Y).

3. Define constraints: Shows maximum use of each limited resource – (e.g. 3X + 4Y ≤ 4,000 would be a constraint where each unit of X uses 3 units of the resource and each unit of Y used 4 units of the resource, and the resource is limited to 4,000 units per period).

4. Draw diagrams of all the constraints and plot the objective function for one value of contribution. Point of maximum contribution is where a line parallel to the contribution line is within the feasible region bounded by all the constraints, e.g. here the point of maximum contribution will be one of the corner points, A, B, C or D.



Key Knowledge – Pricing Decisions

The pricing of a product or service is crucially influenced by several factors:

Internal: How much does it cost us to produce it?

External: How much is a customer willing to pay for it?

The latter is further influenced by how much the competition is charging for the same (or similar) product or service.

Key Knowledge – The Price Elasticity of Demand

This measures the sensitivity of (customer) demand to a change in prices. There is usually an inverse relationship: when price goes up, demand goes down (and vice versa).

$$\text{PED} = \frac{\%\text{ change in demand}}{\%\text{ change in price}}$$

Example

A cinema increases its ticket prices from $4 to $6; as a result, the number of cinema goers drops from 2,000 to 1,500.

$$\text{The PED} = \frac{500/2000}{(2/4)} = \frac{25\%}{50\%} = 0.5$$ (Note: Ignore + or – signs; take the absolute value)

In the above example, demand is considered inelastic, because the PED < 1. When PED > 1, then demand is considered elastic.

Key Knowledge – Demand Equation

Whereas the PED is expressed in percentages, the demand equation (or function) is portrayed as a downward sloping straight line which shows price and demand combinations in their full values. The equation is expressed as

$P = a - bQ$

Where:

P = price – corresponding to the dependent variable (y-axis) on a graph;

Q = (Quantity) demanded – corresponding to the independent variable (x-axis);

a = the maximum price (where Q = 0) -- corresponding to the y-intercept; and

b = the slope of the (negatively-sloping) line (change in P / change in Q).

Example

On an average Saturday night, a cinema (capacity: 225) attracts 150 visitors at a price of $5. If the price of the ticket is decreased by $0.50 then 25 more people will come.

In order to fill up the cinema, the ticket price would have to be set at:

5 = a – (0.50/25) x 150; therefore, a = 8, and

P = 8 – 0.02Q

At Q = 225, P = $3.50

Key Knowledge – Total Cost Function

An equation can also be formulated to express the relationship between total costs and variable costs:

$$Y = aX + b$$

Where:

Y = Total costs;

X = Output – corresponding to the independent variable;

a = fixed cost – corresponding to the Y intercept;

b = the variable cost per unit -- corresponding to the slope of the total cost line

Example

The variable cost per unit of a bottling process is 10 cents per unit. Fixed costs amount to $5,000. At an output level of 20,000 units, what is the total cost?

Y = $5,000 + ($0.10) x 20,000

= $7,000

When working with bulk discounts and other sales volumes, it is important to make sure that fixed costs remain unchanged over the output range covered. If they increase (as a result of expanding the production capacity, for example) then the new (higher) level of fixed costs need to be included in the calculation of total costs.

Key Knowledge – Pricing Strategy

There is a variety of pricing strategies with which one should be familiar:

Cost plus: A mark-up is added to a given cost base (which can be variable or full production cost).

Skimming: Enter the market at a high price to catch customers willing and able to pay the price.

Penetration pricing: Go in at a very low price to win market share.

Premium pricing: Maintain a high price due to the nature of the product.

Target pricing: This method "backs into" the price by calculating the required profit and the possible production costs first.

Promotional Pricing: These are in support of campaigns to raise customer awareness of a product.

Perceived value pricing: Plays on perception of value and what the market is willing to pay.

Value Pricing: Increasing the value content of the product so as to defend market share (in times of difficult economic conditions or competition).

Product-line pricing: Sell a "core" product cheaply and price high related products.

Volume-discounting pricing: The bigger the order, the lower the price per unit.

Discriminatory pricing: Pricing the same product at different levels in different markets (geographical) or market segments (customers).

Psychological Pricing: Plays on the emotion of the consumer.

Product Bundle Pricing: Combining products into one pack and pricing it overall.

Complementary product pricing: This refers to products that are used in conjunction with other products (e.g. printers and cartridges, razor grips and blades, staplers and staples, automobiles and spare parts). Typically, the approach to pricing may be low for the main product and more expensive for the "re-fills".

Relevant cost pricing: Basing the price on a keen (accurate) understanding of the real costs of the product or service.

Make-Buy

A make-buy decision requires the determination of all relevant costs.

Example

An automotive components producer can supply itself externally with car heaters for $210 per unit. In considering whether to make these internally, the company calculates that an equivalent unit can be made in 2 labour hours using $100 worth of materials.

Labour is currently at full capacity producing carburettors which generate contribution of $100. A carburettor takes 2.5 hours to produce. Labour costs $10 per hour. The carburettor also absorbs fixed overhead costs at the rate of $20 per labour hour.

The relevant costs are ($):

Materials:	100