Performance management

Topic 2

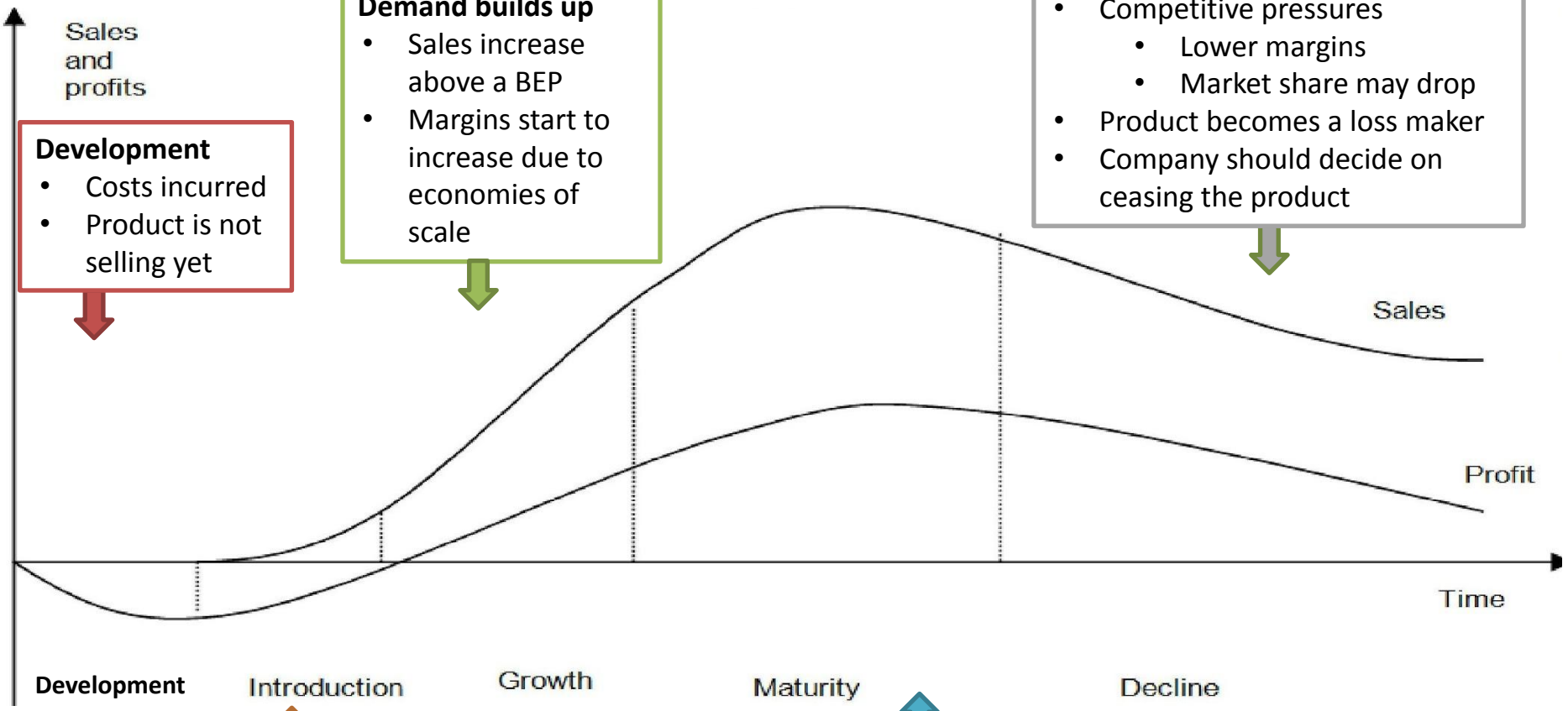
Life cycle costing

Reference: Chapter 2c

ACCA exam references

Topic list	Syllabus reference
1. The product life cycle	A3 (a)
2. Life cycle costs	A3 (c)
3. Life cycle costing in manufacturing and service industries	A3 (b)

1. The product life cycle



Development
- Costs incurred
- Product is not selling yet

Demand builds up
- Sales increase above a BEP
- Margins start to increase due to economies of scale

Market becomes saturated
- Competitive pressures
  - Lower margins
  - Market share may drop
- Product becomes a loss maker
- Company should decide on ceasing the product

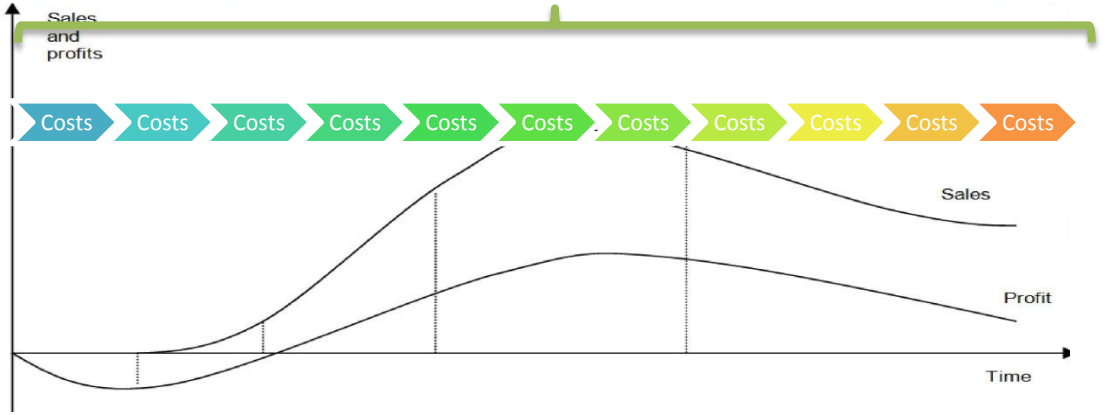
Product is introduced to the market
- Customers are mainly unaware of the product
- Heavy advertising
- High capital expenditure costs to increase capacity

Market becomes well penetrated and opportunities for expansion decline
- Usually the most profitable stage
- Company tries to prolong this stage by modifying or improving a product

2. Life cycle costs

Life cycle costing estimates the costs and revenues attributable to a product over its entire life cycle.

It is accumulation of costs over the product's entire life.



Research and development costs

- Design costs
- Cost of making a prototype
- Testing costs
- Production process and equipment: development and investment

Cost of purchasing any technical data (like patents)

Training costs

Production costs

Distribution costs

Marketing and advertising

- Customer service
- Field maintenance
- Brand promotion

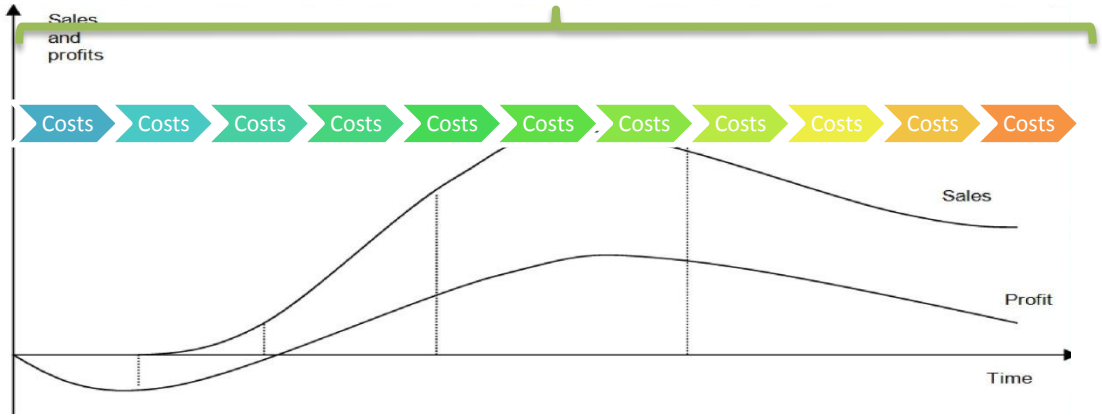
Inventory costs

Retirement and disposal costs

2. Life cycle costs

Don’t stick to periods

Rather **stick to product life span**



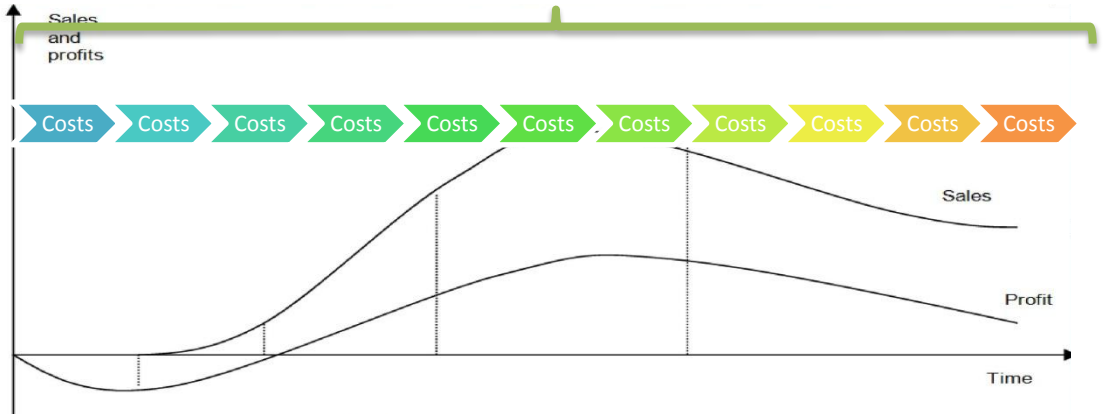
Why to calculate life cycle costs?

- In the end, was the product profitable?
- At the beginning:
  - Will the product be profitable in “total”?
    - Should we start to develop it?
      - When shall we expect profits?

If you don’t expect the product to be profitable in “total” don’t start to produce it.

2. Life cycle costs

BENEFITS OF LIFE CYCLE COSTING



Helps asses profitability over the full life of a product

- Should we start the product
- Should we continue with the same modification, or
- Start to develop the product

Earlier actions

- To generate more revenue, or
- To lower the costs

Short-lived products

- Continuous development of new products
- Sales volumes and prices may be estimated accurately

Better decisions

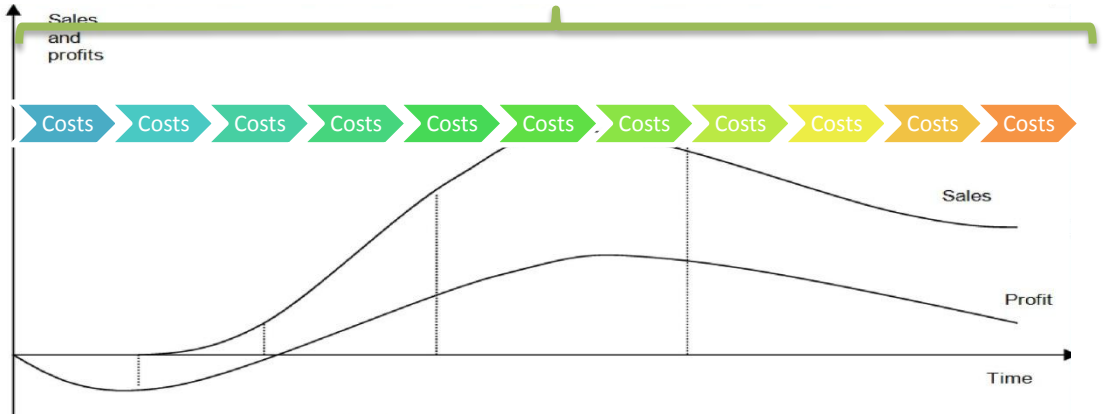
- How to act taken a particular life cycle stage

Encourages longer-term thinking and forward planning

- Providing more useful information than traditional planning

2. Life cycle costs

BENEFITS OF LIFE CYCLE COSTING



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3. Life cycle costing in manufacturing and service industries

May be used in both manufacturing and services

All **costs are traced to individual** products or services

- Encourages managers to think how to act at a particular stage

Effective when paired with target costing

- What costs should be at particular stages?

3.1 Maximizing return over the product life cycle

70-90% of a product life-cycle costs are determined by the decisions made early in the life cycle, at the design or development stage.
-> careful and smart design of the product and manufacturing and other processes will keep costs to a minimum over the product life span.

3.1.1 Minimize the time to market

- First mover effect
  - No rivalry
  - Higher margins
  - Faster growth of market share
  - Association of a product with the company

  A half-year delay usually lowers total profitability by 25%
  - Thus be quick after decided to start the product

3.1.2 Minimize the break-even time (BET)

- In LCC BET => total revenue = all costs incurred to date (incl. design and development)
- To keep the company liquid
- Sooner launch – sooner repayment – sooner ready for new product - survive

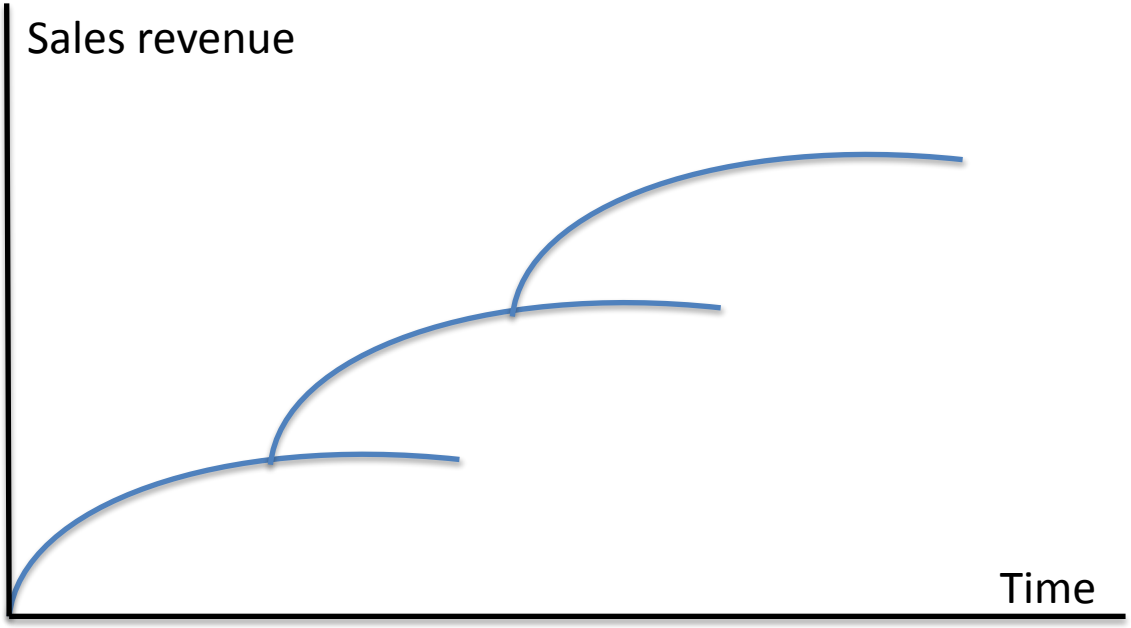
3.1 Maximizing return over the product life cycle

3.1.3 Maximize the length of the life span

- Product life cycle can be influenced by the actions of management and competitors

Ex:

- Different uses for the same product
- New versions/modifications
- New markets
- Etc.



3.2 Service projects and life cycles

- Difference of a LC between a service and products is that R&D stages would not usually exist in the same way.
- Stages are based on processes
  - Every process should be evaluated carefully in advance
    - How to carry the process out
    - How to minimize costs at a particular process

For projects

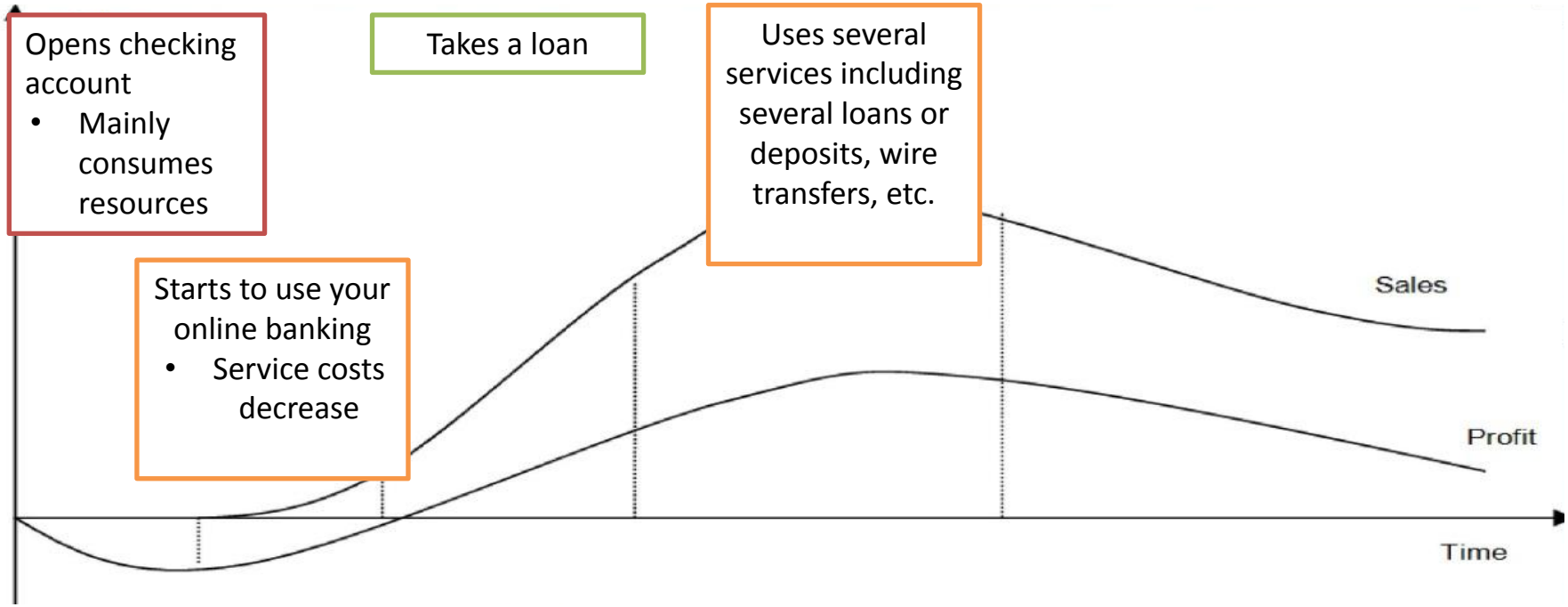
- DCF calculations are used to cost them over their life cycle in advance
- Monitor
  - If every stage is completed on time
  - Costs are inline with the standards

3.3 Customer life cycles

Maximize the return from a customer over their life cycles

- Extend the life cycle of a particular customer (decrease churn rate)
  - Encourage customer loyalty
    - Loyalty cards
    - Customer loyalty focus activities and processes
    - Etc

  Existing customers are more profitable than new ones
  - Customers become more profitable over their life cycle



Question – Life cycle costing

Solaris specializes in the manufacture of solar panels. It is planning to introduce a new slimline solar panel specially designed for small houses. Development of the new panel is to begin shortly and Solaris is in the process of determining the price of the panel. It expects the new product to have the following costs.

	Year 1	Year 2	Year 3	Year 4
Units manufactured and sold	2 000	15 000	20 000	5 000
	$	$	$	$
R&D costs	1 900 000	100 000		
Marketing costs	100 000	75 000	50 000	10 000
Production cost per unit	500	450	400	450
Customer service costs per unit	50	40	40	40
Disposal of specialist equipment				300 000

The Marketing Director believes that customers will be prepared to pay $500 for solar panel but the Financial Director believes it will not cover all of the costs throughout the life cycle.

Required:

Calculate the cost per unit looking at the whole life cycle and comment on suggested price.

Question – Life cycle costing

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Life cycle costs	
	$'000
R&D (1 900 + 100)	2 000
Marketing (100 + 75 + 50 + 10)	235
Production (1 000 + 6 750 + 8 000 + 2 250)	18 000
Customer service (100 + 600 + 800 + 200)	1 700
Disposal	300
Total life cycle costs	22 235
Total production ('000 units)	42
Cost per unit	529.40

Higher than proposed price of $500

Either:
- Charge a higher price
- Look at ways to reduce costs

Price increase may be impossible
Think whether possible to reduce costs
- Analyze each part of the costs during the life cycle
- Try to make the process cheaper:
  - Different materials
  - Cheaper staff
  - More efficient technology
  - Etc
- Try to find inefficiencies which may be improved