

PRODUCT LIFECYCLE

The Journey

Higher

Design and Manufacture

LESSON OBJECTIVES

Learning Intention

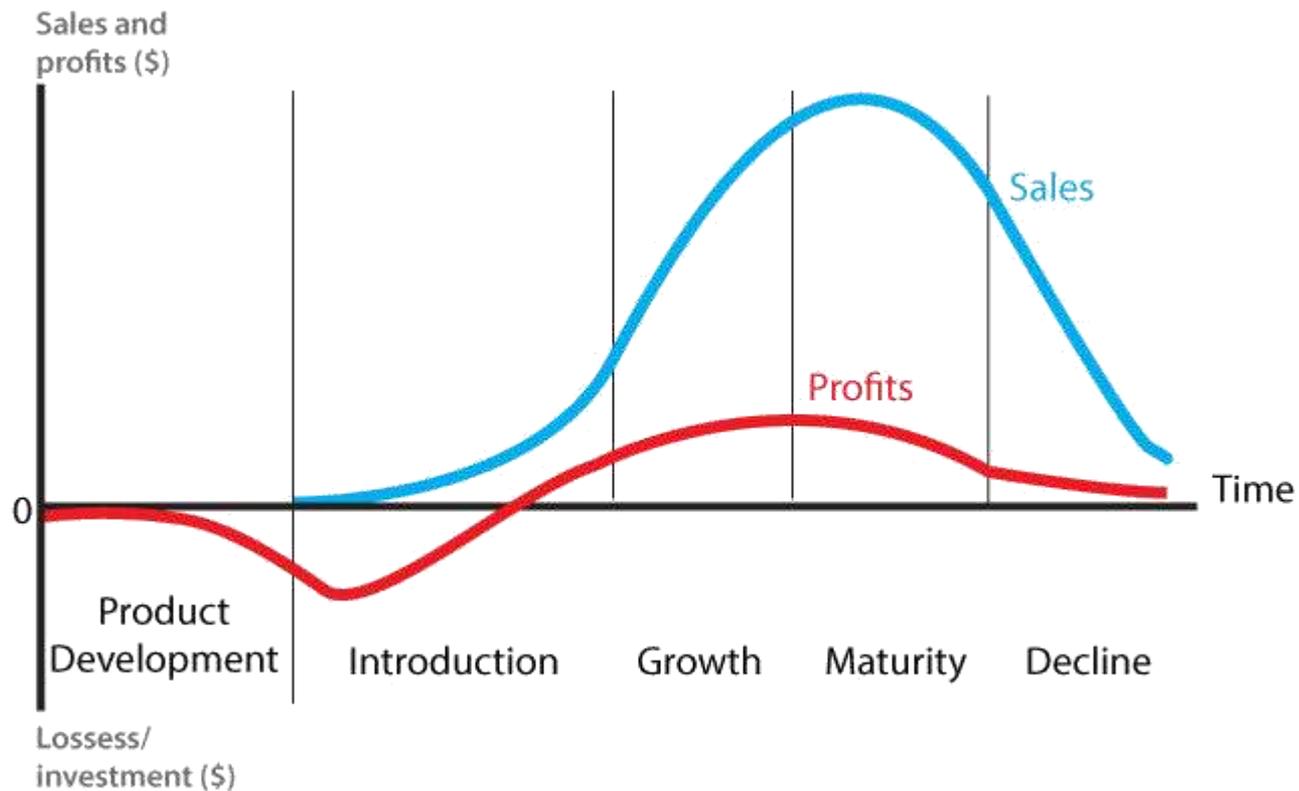
- ★ Developing my knowledge in the journey a product takes.

Success Criteria

- ✓ Be able to sketch and describe the key elements of the lifecycle of a product.

LIFECYCLE

- Product Lifecycle covers the following areas.



SUMMARY OF EACH STAGE

- Product Development
 - Initial concept development.
 - High Research and Development Costs (R&D).
 - No sales.
 - Aim is to complete this phase quickly.

- Introduction

- Sales start
- Big push on advertising
- Product Endorsement
- Costs increase due to ramp up of production
- Costs increase due to Marketing
- Setup sales network



- Growth

- High volume of sales
- Reduced costs in R&D for this product
- Niche market
- Profit



- Maturity

- Sales begin to flatten and then drop off due to the product reaching end of life
- Impact of newer products from competitors
- Changes in technology



- Decline

- Sales are dropping off sharply due to the end of the product life.
- Demand has reduced significantly
- Profit remains as no investment costs
- No support in place to fix broken products



During the Maturity and Decline stages, how can we maximise our profit?

How can we ensure we are not left with excess stock and unwanted materials?

EXTENDING A PRODUCTS LIFETIME

- To maximise sales
 - Special offers
 - BOGOF
 - Upgrades
 - Change of packaging/colour



EXTENDING A PRODUCTS LIFETIME

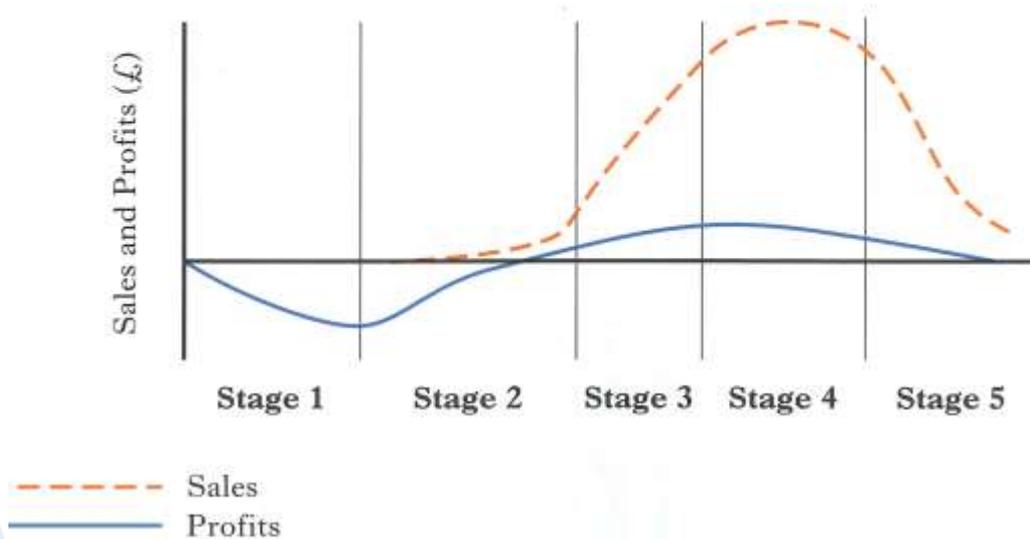
All of these techniques will help **extend the sales of the product**. In doing so it will use up any materials/components that have already been manufactured. This will **improve long term profit**.

What manufacturing product system would eliminate or at least reduce exposure to a loss on left over products/materials?

DEVELOPING MY UNDERSTANDING

Product Life Cycle

Product Life Cycle: Sales and Profits



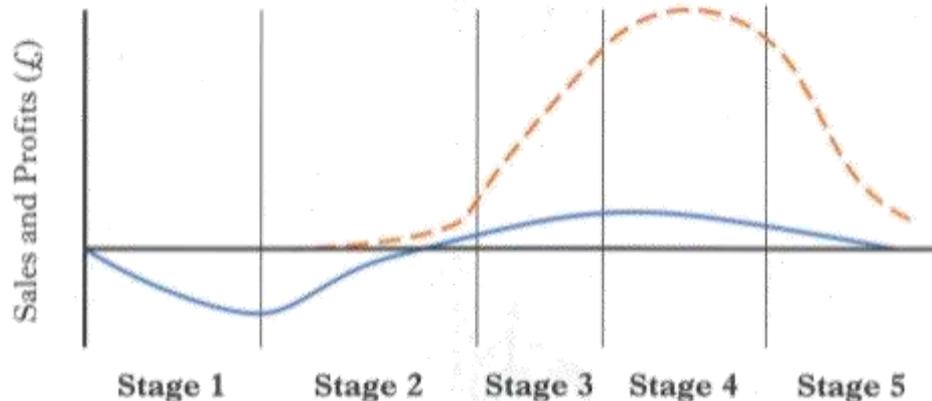
Explain the Life Cycle shown in the graph above for **stages 2-5**.

6

This is a typical question that is asking you to EXPLAIN the stages of the graph. When it says **EXPLAIN** you must provide an answer that is structured and written in sentences. You **CANNOT** provide **ONE WORD** or **BULLET POINT** answers.

DEVELOPING MY UNDERSTANDING : THE SOLUTION

Product Life Cycle: Sales and Profits



Explain the Life Cycle shown in the graph above for **stages 2–5**.

6

--- Sales
— Profits

Stage 2 of the chart shows the initial sales starting to rise. As the sales increase, the costs of developing and marketing the new product are offset and the product starts to move into profit.

Stage 3 of the chart shows the product becoming more popular and sales increase quickly. The larger volume of sales means the profit increases as well.

Stage 4 of the chart shows the product reaching maturity as the sales increase to a peak and then start to drop off. Profit also reaches a peak and then also falls as sales decrease.

Stage 5 shows the product in decline as the sales are now falling and as sales fall profit starts to drop off more significantly than before.

OBSOLESCENCE

Higher Design and Manufacture

OBSOLESCENCE

- By now we should be able to look at products and relate the terms **PLANNED OBSOLESCENCE** and **PERCEIVED OBSOLESCENCE** to them.
- We may not see an exam question that specifically says “What is Obsolescence?” you should introduce your new found knowledge into questions that relate to;
 - Lifecycle
 - JIT (just in time production)
 - Sustainability
 - Circular Economy (make, use, dispose)
 - 6 R’s (Reduce, Rethink, Refuse, Recycle, Reuse, Repair)

PLANNED OBSOLESCENCE

- Most laptops will last you more than 5 years.
- Most washing machines will last more than 5 years.
- If all our products were to last a lifetime, how are companies going to make money?
- Planned obsolescence is when a product is **designed to last for a finite length of time.**
- Depends on the product as to how long a company wants it to last.
 - Examples could be
 - T.V. typically 3 to 4 years
 - Car approx 10 years

PLANNED OBSOLESCENCE

- It can be achieved by;
 - Bringing in **new models or features**.
 - **Limiting parts for repairs** (this is called limited product support).
 - **Refusing people access to the designs** (no repair shops).

PERCEIVED OBSOLESCENCE

- People will buy products because there is a **newer one out**, **not** because what they have is **broken**.
- They will buy what their friends or neighbours have to give the impression of wealth or style.