

Applying Factors Affecting Design in a PMI Chart

Select **ONE** case study that highlights a current, sustainable design marketed. With reference to the Factors Affecting Design, **evaluate** the **positive**, **negative** & **interesting** components associated with the chosen design.

- Examples Include:**
- Aesthetics
 - Function
 - Ergonomics
 - Finance
 - Quality
 - Obsolescence
 - Advantages
 - Benefits
 - Strengths
 - Disadvantages
 - Challenges
 - Weaknesses
 - Noteworthy
 - Curious Facts
 - Unexpected Findings

CASE STUDIES:

- Adidas Futurecraft Loop Sneakers - article [here](#)
- Tesla Solar Roof - article [here](#)
- IKEA's Upcycled VÄXELBRUK Collection - article [here](#)
- Soma Glass Water Bottles - article [here](#)

EXTENSION:

Research and investigate an external, sustainable design (subject to approval) and fill out the table provided below.

POSITIVES	NEGATIVES	INTERESTING
Factor Affecting Design: Description:	Factor Affecting Design: Description:	Factor Affecting Design: Description:
Factor Affecting Design: Description:	Factor Affecting Design: Description:	Factor Affecting Design: Description:
Factor Affecting Design: Description:	Factor Affecting Design: Description:	Factor Affecting Design: Description:

Collaborate with another student who has chosen a **DIFFERENT** design for the PMI table. **Compare** PMI charts and collectively write a comprehensive statement for each design.

In summary...

However, ...

It was interesting to note that...

Project Analysis

What is a Design Brief?

A statement explicitly outlining the problem and associated expectations to achieve for a specific design project.

Define Parameters

Explain how parameters impact on a design project?

Define Criteria of Success

ACTIVITY I

Brainstorm a list of criteria that can be used to **evaluate the success of a potential design**.

Elaborate on each criterion stated + support it with relevant design examples [use ICT].



Completed early? Extend beyond this brainstorm! Add another criterion with more examples...

ACTIVITY 2

Independently **examine** and fill out the provided table based on your proposed design. After a thorough completion and approval, participate in collaborative discussions with peers. It is important to elaborate upon and **construct** additional criteria for success.

Please remember to:

- Write in positive, achievable terms.
- Identify key points that you will consistently reference to maintain focus and direction.
- Relate each criterion stated to the design brief and parameters previously identified.
- Analyse, elaborate and evaluate each criterion to determine the minimum requirements to achieve success.

Criteria	Critical Analysis	Impact if NOT Achieved	Standard to Achieve
Functional and aesthetic criteria expressed in achievable terms - "It must..."	Why is this criteria essential/important?	What is the impact on the design if this criterion is deemed unsuccessful?	What is the minimum requirement to consider this criterion achieved?

EXTENSION

Identify possible experiments and/or design processes that could be conducted to complete each criterion successfully. Are the experiments safe in a school context?

P4.1 uses design processes in the development and production of design solutions to meet identified needs and opportunities

Market Research using the **FIVE P's**

What are the 5 P's?

PRODUCT | PRICE | PROMOTION | PLACE | PACKAGING



Referencing your proposed design, *investigate* all five P's with assistance from ICT.

As designers, it is advisable to document multiple potential solutions to maximise the opportunities and success of your design projects.

PRODUCT	
PRICE	
PROMOTION	
PLACE	
PACKAGING	

Select ONE potential solution from each category and elaborate further below.

Evaluate why each solution would be most appropriate, relate back to the design brief.

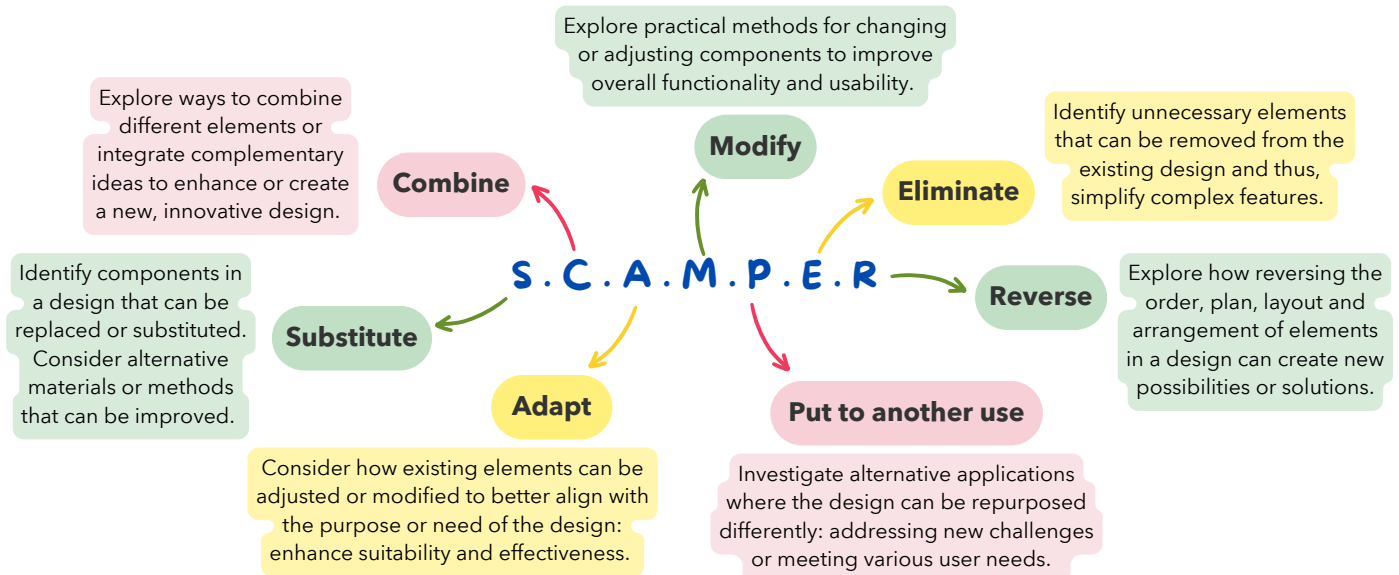
EXTENSION

Compare TWO potential solutions from each "P". Evaluate the positives and negatives.

S . C . A . M . P . E . R

What is SCAMPER?

A creative brainstorming technique that prompts critical thinking and inspires smart decision-making through the exploration of design ideas from seven different perspectives.



1. Examine ONE existing design that corresponds with your chosen sustainable design. To adequately critique the design idea, complete the SCAMPER table provided below independently, utilising relevant information and resources available through ICT.

S <i>substitute</i>	
C <i>combine</i>	
A <i>adapt</i>	
M <i>modify</i>	
P <i>put to another use</i>	
E <i>eliminate</i>	
R <i>reverse</i>	

2. Analyse your SCAMPER table and use the information noted to **create** a PMI table for your revised design. Appropriately relate points to Factors Affecting Design.

Revised Design: _____

POSITIVES	NEGATIVES	INTERESTING
Factor Affecting Design: Description:	Factor Affecting Design: Description:	Factor Affecting Design: Description:
Factor Affecting Design: Description:	Factor Affecting Design: Description:	Factor Affecting Design: Description:

NOTE: refer to the 'Applying Factors Affecting Design in a PMI Chart' resource for extra support.

EXTENSION Assess each column and write a comprehensive, ongoing evaluation of the new design.

P3.1 investigates and experiments with techniques in creative and collaborative approaches in designing and producing

MARKETING MIX Product Planning - The Product Lifecycle

ACTIVITY 1

Watch Youtube Video: What is The Product Lifecycle?

Link - <https://www.youtube.com/watch?v=8yiBnW82NpM>.

Key Notes:

-
-
-
-
-

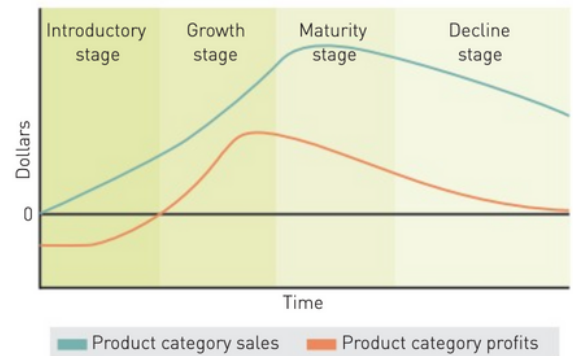


Figure 18.5 Stages of a product life cycle can be mapped using a graph.

ACTIVITY 2

Investigate each stage of the Product Life Cycle by completing the table below. For the 'Food Example' column, refer to **ONE** food brand and **outline** their actions across **ALL** stages. Appropriately use ICT.

Below is an **example** sourced from the 'Food Tech Focus Stage 6' textbook: Cadbury Dairy Milk Chocolate

NOTE: In response to changes in consumers' interest and requirements for the product, changes in market conditions or new competitors, the marketing strategy for a product will be formulated several times throughout a product life cycle.

EXTENSION: Identify reasons why you believe a new product would fail and support with specific food examples.

THE LIFE CYCLE OF CADBURY DAIRY MILK CHOCOLATE

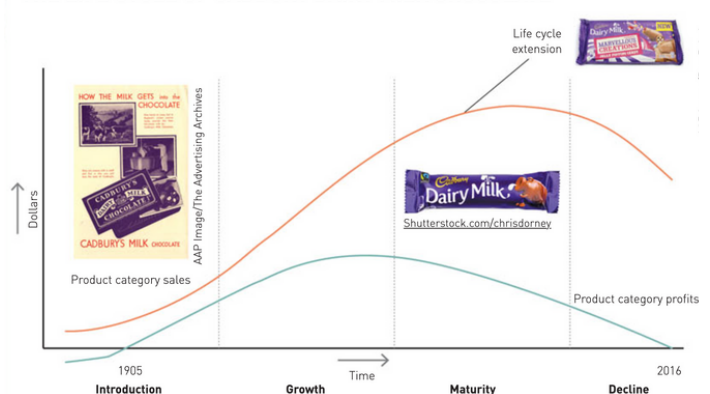


Figure 18.7 The Cadbury life cycle

STAGE	DEFINITION + KEY POINTS	FOOD EXAMPLE
Introductory Stage		
Growth Stage		
Maturity Stage		
Decline Stage		

H1.3 justifies processes of food product development and manufacture in terms of market, technological and environmental considerations.

H4.1 develops, prepares and presents food using product development processes.

MARKETING MIX Price Structures

Helpful summary resource to reference when studying

ACTIVITY 1

Investigate and **summarise** the various pricing strategies below in small groups.

Refer to pages 322-324 of the 'Food Tech Focus Stage 6' Textbook for extra support.

PRICING STRATEGY	WHAT IS IT?	WHEN IS IT USED?	FOOD EXAMPLE
Penetration Pricing	The product price is below that of competitors for long enough to obtain a foothold (secure position) in the market. Once an adequate market share and sales are achieved, the prices gradually increase.	<ol style="list-style-type: none"> 1. When a company enters a new market segment for the first time. 2. When a me-too product is being launched. 	
Bundle Pricing			
Captive Pricing			
Competitive Pricing (aka Status Quo Pricing)		Commonly used when a company introduces a copy cat product.	
Geographical Pricing			
Optional Pricing			
Premium Pricing	A high price is set to establish the product as exclusive and of high quality.		
Product Line Pricing			
Psychological Pricing			
Price Skimming			 Ruby Kit Kat Chocolate
Value Pricing			

H1.3 justifies processes of food product development and manufacture in terms of market, technological and environmental considerations.

H4.1 develops, prepares and presents food using product development processes.

ACTIVITY 2

Explain the most appropriate Pricing Structure related to the following food product.

Consider the product's target market, brand image & position, cost of ingredients/production

PRODUCT	APPROPRIATE PRICING STRATEGY
Ben & Jerry's Ice Cream Chocolate Fudge Brownie 458mL	
McDonalds: The Signature Collection of Angus Burgers (Classic Angus Cheese, The Original Angus & Angus Mushroom Supreme Burger)	
Value Size Weet-Bix - Customers receive Free Socks when purchasing 2 packets for \$12.99	

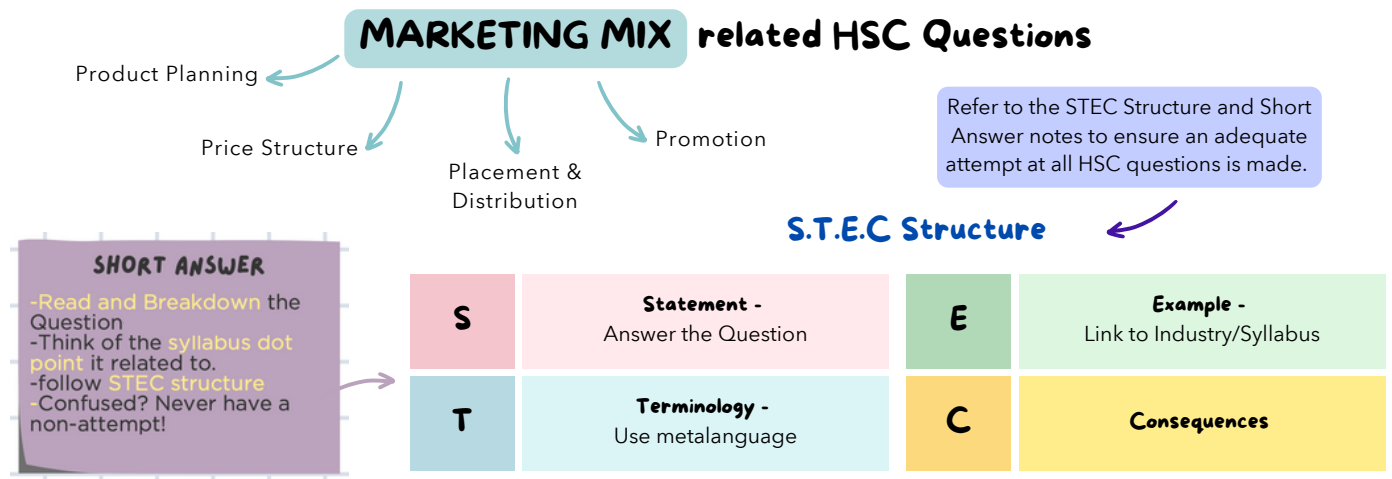
EXTENSION

Appraise an additional pricing strategy that companies may apply when marketing the products listed above. Explain the relevancy and potential long-term impact on sales.

H1.3 justifies processes of food product development and manufacture in terms of market, technological and environmental considerations.

H4.1 develops, prepares and presents food using product development processes.

STAGE 6 HSC FOOD TECHNOLOGY



2013 HSC:

Recommend a price structure that could be used to successfully market a me-too chicken-flavoured rice cracker.

2 marks

2015 HSC:

A self-heating can has been developed. When the can is opened a reaction is set off, heating the contents. This technology has been used to produce a new hot chocolate beverage.

Describe a place and distribution system that could be used to market this product to the target market.

3 marks

2017 HSC:

A food manufacturer has developed a range of ice-cream products based on their biscuit range. These are sold in packets of four in the freezer section of the supermarket.

Describe the type of food product development this represents.

2 marks

H1.3 justifies processes of food product development and manufacture in terms of market, technological and environmental considerations.

H4.1 develops, prepares and presents food using product development processes.

- Read and Breakdown the Question
- Think of the syllabus dot point it related to.
- follow STEC structure
- Confused? Never have a non-attempt!

Example -
Link to Industry/Syllabus

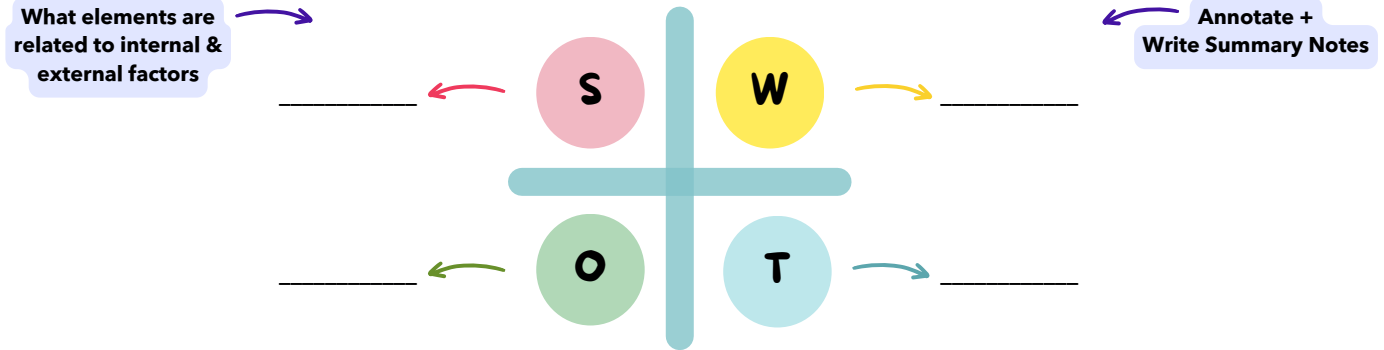
Consequences

[illegible]

H1.3 justifies processes of food product development and manufacture in terms of market, technological and environmental considerations.
H4.1 develops, prepares and presents food using product development processes.

SWOT Analysis

The single most useful and relevant method of assessing the likely success or failure of a new product concept. It allows businesses to match internal strengths and external opportunities.



ACTIVITY 1

By **implementing** the theory learnt, your existing knowledge and appropriate ICT, **analyse** a food company that interests you by conducting a **SWOT analysis**.

Chosen Company: _____

STRENGTHS	WEAKNESSES
OPPORTUNITIES	THREATS

ACTIVITY 2

Conduct a **SWOT Analysis** in your student workbook on at least one HSC question below:

2016 HSC QUESTION

A multinational chocolate company is looking to improve its profitability. The company decides to develop a chocolate product which uses new technologies including edible packaging.

2012 HSC QUESTION

An Australian food company produces an extensive range of fresh food products. The company is considering opening an online shopping site, Oz E-foods, to sell directly to consumers.

H1.3 justifies processes of food product development and manufacture in terms of market, technological and environmental considerations.

H4.1 develops, prepares and presents food using product development processes.

ACTIVITY 3

Complete the two multiple choice questions sourced from the 2010 HSC examination.

Which of the following would be identified as a threat in the development of a new food product?

- a. A downturn in the economy
- b. Increased production facilities and costs
- c. Limited size and full of the workforce
- d. Availability of a new processing technology

A SWOT analysis may be used by a food company to assess which of the following?

- a. Success or failure of new product concerns
- b. Ingredients for new product formulations
- c. Staff development programs
- d. Salary level for senior staff

TIP:
Cross out the answers one-by-one to eliminate distractions and narrow down the correct answer.

EXTENSION

Research and **analyse** a case study of a food company that has successfully used SWOT analysis to inform strategic decision-making of a product. **Creatively** present your findings in an infographic, highlighting whether or not this analysis helped to achieve stated goals.

H1.3 justifies processes of food product development and manufacture in terms of market, technological and environmental considerations.

H4.1 develops, prepares and presents food using product development processes.
