Think About It 4.1

1. Why is it not enough to consider what customers want to buy when trying to measure the demand for a product? Need to consider what they can afford as well.

2. Managers are not always aiming to increase demand; sometimes they might want to decrease it. Can you think of situations when this might be the case?

Answers might include:
Managers may want to promote more profitable products in their range rather than less profitable ones; the government may want to discourage e.g. smoking.

Think About It 4.2

1. Can you think of anything you consume where the extra utility of a unit in a given time period does not fall as you consume more?

What do you think? Usually you do not enjoy consuming an item again and again as much or, do you disagree?

2. What would it imply if your extra utility from consuming a product always increased with more consumption?

It would suggest you would be willing to pay more for extra items and the demand curve is upward sloping.

3. If the extra (marginal) utility of consuming a product is falling, but positive, what is happening to your total utility?

It is increasing but at a diminishing rate.

4. Could the marginal utility be negative when you consume a unit? If so, what would happen to your total utility?

It would mean you are worse off by consuming it.

5. Choose a type of business you know. What could it do to increase the utility you get from consuming its products? What might be the difficulty doing this?

May be they need to change the product, the speed of service, the nature of the service…

Business Analysis 4.1

Discuss the factors that might affect demand for websites enabling extra marital affairs.

Answers might include:
Reasons could include:
- Social norms
- Population size
- Pressure on marriages e.g. stress levels, state of the economy
- Personal recommendation

Think About It 4.3

A Ferrari is less essential to life than water and yet the price of a Ferrari is much higher than ten gallons of water. Why do you think this is?

Because the marginal utility of a Ferrari is higher than the marginal utility of water. The total of utility of water is higher but the value of an extra unit is not so consumers are willing to pay more for the Ferrari.

Data Analysis 4.1

1. If the change in quantity demanded is an increase of 8 per cent following a decrease in price of 2 per cent, what is the price elasticity of demand? Is demand price elastic or inelastic? Explain your answer.

Price elasticity of demand = $\frac{+8\%}{-2\%} = -4$ 

2. If the change in quantity demanded is an increase of 8 per cent following a decrease of price of 20 per cent, what is the price elasticity of demand? Is demand price elastic or inelastic? Explain your answer.

Price elasticity of demand = $\frac{+8\%}{-20\%} = -0.4$

Think About It 4.4

1. What impact do you think a 1 per cent increase in the price would have on your demand for the following items? Think about why differences might occur.

A: A daily newspaper
B: A health club membership fee
C: The television licence fee
D: The bus fare into town
E: The price of a sandwich
F: Car insurance

You could defend various views depending on the context e.g., a sandwich might be price elastic unless you have little choice and there is no other sandwich shop nearby. A bus fare might be price inelastic unless you have lots of other options.
2. Do you think that demand for the following is price elastic or inelastic?

A: Emergency plumbers  
B: Children's school clothes  
C: Tickets to music concerts

Again, it depends on the circumstances e.g. how many providers of school clothes are there? In an emergency you are likely not to be very sensitive to price so A is probably price inelastic. The answer to C may depend on how much the tickets are, how much money you have, and whether it is your favourite band.

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Data Analysis 4.2

A price reduction from 40 to 38 pence increases sales of an energy bar from 200,000 to 210,000 units a week. Calculate the price elasticity of demand for these bars.

Percentage change in quantity demanded = (+10,000/200,000)*100 = +5%  
Percentage change in price = (-2/40)*100 = -5%  
Price elasticity = +5%/ -5% = -1

p97.
Data Analysis 4.3

1. What would the price elasticity of demand have been in the worked example if membership numbers were to have risen to 800?

Percentage change quantity demanded = ([800-500]/500)*100 = +60%  
Percentage change in price = (£40/£400)*100 = -10%  
Price elasticity of demand = +60%/ -10% = -6

2. What would have happened to total revenue?

New total revenue = price* quantity = £360 * 800 = £288,000

3. What does this show about price changes, price elasticity, and revenue?

Demand is price elastic; a price cut has led to such a proportionately large increase in quantity demanded that revenue has increased.

Business Analysis 4.2

1. Why might the price elasticity of demand for tobacco vary between developed and developing countries?

- May vary depending on price compared to incomes.  
- May vary according to awareness of the dangers of smoking.
2. How do you think the price elasticity might vary between different age groups? What about different income groups?

Because it may vary according to what percentage of your income it represents. Different age groups may have different attitudes to smoking and therefore be more or less willing to stop.

3. If these estimates are correct, would a price increase lead to a rise or fall in revenue for tobacco companies? Explain your answer.

If demand is price inelastic this means a price increase will increase revenue.

p100.
Think About It 4.5

1. What is likely to be the difference between the price elasticity of demand for a category of product (such as chocolate) and a particular brand of chocolate (such as Mars)? Explain your answer. (Note: Think about how easy it is to find a substitute for a brand compared with the product as a whole.)

Demand for the brand is more price elastic than demand for the market; this is because you can switch from one brand to another more easily than from the product category as a whole to another product category.

2. What effect do you think the following actions are likely to have on the value of the price elasticity of demand for your product?

A: Heavy investment in branding. Make more price inelastic.
B: The launch of a rival product by a competitor. Make more price elastic.
C: A very favourable rating in a magazine. Make more price inelastic.

3. Imagine that you are given £1,000. For what three things might you use the money? (Note: These alternatives are substitutes for each other even if they are very different products.)

This is completely up to you!

p101.
Think About It 4.6

Which of the following statements about the price elasticity of demand are true and which are false?

A: If demand is price inelastic, a change in price does not change the quantity demanded. False - there is a change in quantity demanded but it is smaller proportionately than the change in price.
B: If demand is price inelastic, a fall in price increases revenue. False - an increase in price increase revenue.
C: A heavily branded product is likely to be price elastic. False - likely to be price inelastic.
D: If the price elasticity of demand is −2, an 8 per cent fall in price will lead to a 4 per cent rise in quantity demanded. False - it will lead to a 16% (i.e. 2 * 8)
increase in quantity demanded.

**E: The price elasticity of demand along a demand curve is constant.** False - it is price elastic at high price and price inelastic at lower prices.

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**Business Analysis 4.3**

**What factors may be increasing demand for British pork?**

*Answers might include:*
  - Social trends e.g. popularity of turkey v pork
  - Religious reasons
  - The promotion of pork
  - Income levels
  - Health issues

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**Business Analysis 4.4**

1. **Explain three reasons for the decline in demand for pubs.**

*Answers might include:*
  - Increasing tax on alcohol
  - The smoking ban deterred some people who wanted to smoke and drink
  - The increasing awareness of the dangers of alcohol and of drink driving
  - Cheap alcohol from supermarkets

2. **Do you think the decline in demand for pubs is likely to continue in the future?**

*Answers might include:*
Most of the above trends look set to continue; may change nature of pubs e.g. more focus on food and targeting new segments such as breakfasts.

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**Data Analysis 4.4**

1. **If income levels increase from £20,000 to £24,000 and sales of your furniture increase from 300 units a week to 330, what is the income elasticity of demand?**

   Percentage change in quantity demanded = \((+30/300)\times100 = +10\%\)
   Percentage change in income = \((£4000/£20,000)\times100 = +20\%\)
   Income elasticity of demand = \(+10/+20 = +0.5\)

2. **If the income elasticity of demand is +0.1 and incomes increase by 20 per cent, how much would the quantity demanded increase? If sales were originally 400 a week, how much would they be after the income increase?**

   Quantity demanded increases by 0.1\times20 = 2\%
   2\% of 400 = \((2/100)\times400 = 8\) units
   Sales will be 408 units.
3. If income levels increase from £20,000 to £24,000 and sales of your furniture fall from 300 units a week to 270, what is the income elasticity of demand?

Percentage change in quantity demanded = (-30/300) * 100 = -10%
Percentage change in income = (+ 4000/20000) * 100 = +20%
Income elasticity of demand = -10/+20 = -0.5

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Business Analysis 4.5

Explain the reasons why
(a) the proportion of income spent on food has fallen:

As income increases spending on food will not increase proportionately; necessity rather than luxury.

(b) the proportion of income spent on tobacco has fallen:

As incomes increase people may become more concerned about health and fitness and reduce smoking.

(c) the proportion of income spent on cars and holidays has risen:

Incomes have risen since 1977. These are luxury products; as incomes increase consumers switch to these.

p111.
Data Analysis 4.5

1. Product A has increased in price from £2 to £2.50. As a result, sales of your product have fallen by 5 per cent. What is the cross-price elasticity of demand? Are the products complements or substitutes? Explain your answer.

Percentage change in quantity demanded = -5%
Percentage change in price of other product = (+ 0.50/2.00) * 100 = + 25%
Cross price elasticity = -5/+25 = -0.2
The products are complements but the relationship is not strong.

2. The cross-price elasticity of demand for two products is -2. What is the effect on the quantity demanded of one if the price of the other decreases by 4 per cent?

Change in quantity demanded = 2*4 = 8%. As the elasticity is negative then a FALL in price leads to an INCREASE in sales of the other product. So the sales of the product increase by 8%.

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Business Analysis 4.6

Do you think Sainsbury’s was right to cut its petrol prices?

Answers might include:
Depends on the availability of substitutes and how easy it is for consumers to find alternative petrol stations (i.e. are they close by?). If there are many substitutes close then the price cut may lead to proportionately greater increase in sales and therefore revenue would increase. However, Sainsbury’s may be doing this to be seen to be helping drivers – even if it is not profitable it may be seen to be socially desirable and enhance the brand image.

Suggested Answers to Short Answer Questions

1. Each extra unit of consumption of a product will lead to less extra satisfaction for consumers’ marginal utility falls.

2. A change in quantity demanded occurs when there is a change in price; there is a movement along the demand curve. A change in demand occurs when at each and every price there is a change in the quantity demanded; the demand curve shifts.

3. 
   a) No depends on the price elasticity of demand
   b) No; price multiplied by the quantity sold
   c) Yes; as the price falls the quantity demanded increases giving a negative relationship between one variable and another
   d) Yes
   e) No, a 10% increase in price will reduce quantity demanded by (0.5*10)= 5%

4. 
   a) No it depends on the price elasticity of demand
   b) No it varies at different points along the demand curve
   c) No it is price inelastic
   d) Yes
   e) No, quantity demanded will change but by less than the change in price (in percentages)

5. The strength of the brand-a strong brand should make demand price inelastic; the time period- over time consumers can find more alternatives and therefore demand becomes more price elastic.

6. Substitutes have a positive cross price elasticity; an increase in the price of A means consumers switch to buy more B. Complements have a negative cross price elasticity; an increase in the price of A leads to less A and less B being demanded.

7. A normal has a negative price elasticity and a positive income elasticity of demand; an inferior good has a negative price elasticity and a negative income elasticity of demand; a luxury good has a negative price elasticity and a high positive income elasticity.

8. The increase in income will lead to a 1.5*20= 30% increase in sales. Sales were 400 units. Now they will be 400 + (0.3*400) = 520 units.

9. Marginal utility is the extra satisfaction from consuming another unit of a product; total utility is the total satisfaction from consuming a product.

10. A Giffen good has a positive price elasticity; more is demanded at a higher price.