# FACTFILE: GCE PROFESSIONAL BUSINESS SERVICES

## UNIT AS 3: FINANCIAL DECISION MAKING – FINANCIAL DECISION MAKING PROCESS

## Learning Outcomes

**Students should be able to:**

- analyse how a business uses financial data for making decisions on:
  - investing;
  - expanding;
  - diversifying; and
  - increasing employee numbers.

## Decision Making

Decision making is the process of determining and selecting the most appropriate choice of action from a range of alternatives, in order to ensure the best outcome.

In the context of the financial environment, this would imply that managers make decisions which should lead to the best financial outcome for a business.

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### Financial Decision Making in a Business

Decision making in a business must be effective and efficient, aimed at ensuring the business achieves its objectives.

Key Business Objectives:

- Survival: the business may find itself in a difficult financial situation.  Examples of these include: bankruptcy, insolvency, poor industrial relations, loss of sales revenues or market share.
- Profit Maximisation: the business operates in such a way that it minimises costs to ensure that profits are maximised.
- Growth: the business might be engaged in a growth strategy which is focussed on ensuring optimal growth in sales revenues, market share, profitability or maximising cash flows.

## Importance of Effective Decision Making

Effective decision making is important for the following reasons:

- To enable management to exercise their 'stewardship' function and account for all the resources under their control;
- To enable management to report on the use of resources and the extent to which resources are used efficiently;
- To enable management to plan ahead in order to achieve business objectives, such as survival and/or growth;
- To enable management to meet the needs of stakeholders, e.g. customers, staff, management or government;
- To enable management to achieve non-financial objectives, such as corporate social responsibility, or ethical goals e.g. improve the ethical behaviour of staff and create a positive image of the business globally, nationally or locally;
- To enable management to meet their legal obligations, e.g. health and safety laws, minimum wage regulations, industry-specific legislation (food standards laws, gambling laws, licensing laws).

## Financial Decision Making Scenarios in a business

A Professional Business Services Firm might provide client businesses with a range of advice in relation to the following decision making scenarios:

- **Investing:** this might use financial data such as final accounts or investment appraisal data.
- **Expanding:** this might use financial data including budgets, variance analysis and accounting ratios.
- **Diversifying:** this might use financial data including budgets, accounting ratios or cash flows.
- **Increasing Staff numbers:** this might use financial data e.g. budgets and variance analysis.

## Summary

Decision making can be thought of as a process of determining and selecting the most appropriate choice of action from a range of alternatives, in order to ensure the best outcome.

In the context of the financial environment, this implies that managers make decisions which should lead to the best financial outcome for a business.  Such decision making occurs at various levels of a business from strategic to operational and across a range of different scenarios.

## Questions

1. Explain what is meant by the term 'decision making' using three different examples.
2. Evaluate the importance of decision making by managers to a shareholder.  Support your answer with reference to three different scenarios.

# APPENDIX 1:
## WORKED EXAMPLES

**Q1: Ratio Analysis:**

Barbara runs a hairdressing salon and she has asked you, as her Business Consultant for advice in reviewing key financial data related to the business.

**Table 1: Financial Data – Barbara's Hair Salon**

| | 2016 (£) | 2017 (£) |
|---|---|---|
| Sales Revenues | 19,500 | 20,000 |
| Cost of Sales | 14,900 | 17,000 |
| Gross profit | 4,600 | 3,000 |

You are required to:

a. Calculate the gross profit margin for each financial period. (4 marks)

b. Analyse two possible reasons for the change in gross profit margin. (6 marks)

c. How would you, as a Business Consultant advise Barbara to improve the situation? (6 marks)

**Q2.**

The directors of Sweet Pie Bakery Limited have appointed you as a Business Consultant to assist in formulating a capital expenditure plan for the next four years. The directors have identified three potential baking machines which would enable them to expand the business. The following are the estimated cash flows:

| **Project** | **Apple Pie Machine** | **Mince Pie Machine** | **Rhubarb Pie Machine** |
|---|---|---|---|
| **Cash flows (£'000):** | | | |
| 2017 | -120 | -150 | -60 |
| 2018 | 60 | 40 | 10 |
| 2019 | 60 | 50 | 30 |
| 2020 | 50 | 60 | 40 |

**Discount Factors: 10%**

| | |
|---|---|
| Year 0 | 1.000 |
| Year 1 | 0.909 |
| Year 2 | 0.826 |
| Year 3 | 0.751 |
| Year 4 | 0.683 |

**Additional information:**

- Consumer demand for apple pies and rhubarb pies are constant throughout each year; however, consumer demand for mince pies is seasonal and tends to occur in the last 3 months of a year.
- Assume a discount factor of 10%.
- Assume that the directors have a total budget of £180,000 to invest in all feasible projects in order to facilitate business growth.
- The company has access to appropriate sources of funding to support the capital investment strategy.
- Investment targets:
  - net present value must not be negative; and
  - payback period should be attained as soon as possible.

In your role as a Business Consultant to the directors, you are required to:

a. Calculate, for each project, the:
- Payback period
- Net Present Value (NPV) (18 marks)

b. Advise the directors which machine(s) the company should invest in (if at all). (4 marks)

c. Discuss the use of Net Present Value as a method of investment appraisal in a business such as Sweet Pie Bakery Limited. (12 marks)

d. Formulate an investment strategy which the board of directors might undertake, subject to:
(i) the feasibility of each project; and
(ii) the total funding available. (8 marks)

e. Evaluate the usefulness of a hire purchase as a source of finance if the board were to proceed with the purchase of an Apple Pie Machine. (8 marks)

**Q3.**

Barney produces and sells stainless steel BBQ sets. The following data is reported in respect of the most recent financial period:

| **Year ended 31 December 2016** | **Original Budget (£)** | **Flexible Budget (£)** | **Actual (£)** | **Variance (£)** |
|---|---|---|---|---|
| Sales Quantity | 1,000 | 800 | 850 | |
| Sales Revenues | 10,000 | 8,000 | 8,500 | |
| Direct Materials | 4,000 | 3,200 | 4,000 | |
| Direct Labour | 2,000 | 1,600 | 2,000 | |
| Overheads | 2,000 | 1,600 | 1,200 | |
| Net Profit | 2,000 | 1,600 | 1,300 | -- |

As Barney's Business Consultant, you are required to:

a. Calculate the following variances:
   a. Sales revenue variance (2 marks)
   b. Material variance (2 marks)
   c. Labour variance (2 marks)
   d. Overhead variance (2 marks)

b. Analyse one reason why each variance might arise in Barney's business. (8 marks)

c. State one way in which each variance might be improved as a means of improving Barney's business performance. (8 marks)

**Q4.**
Tara Rose operates a children's playgroup service for children, called Tara's Playgroup. The Statement of Financial Position as at 31 December 2016 is shown below.

| | | | |
|---|---|---|---|
| **Tara's Playgroup** | | | |
| **Statement of Financial Position as at 31 December 2016** | | | |
| **Non-Current Assets** | Cost (£) | Depreciation (£) | WDV (£) |
| Premises | 10,000 | 0 | 10,000 |
| Vehicles - Minibus | 1,000 | 900 | 100 |
| Total Non-Current Assets | 11,000 | 900 | 10,100 |
| **Current Assets** | | | |
| Inventories | | | 1,200 |
| Trade Receivables | | 2,000 | |
| Allowance for Trade Receivables | | 200 | 1,800 |
| Cash | | | 850 |
| Prepayment | | | 50 |
| Total Current Assets | | | 3,900 |
| **Total Assets** | | | 14,000 |
| | | | |
| **Equity** | | | |
| Capital | | | 10,000 |
| Add Net Profit | | | 1,000 |
| | | | 11,000 |
| Less Drawings | | | 1,600 |
| Total Equity | | | 9,400 |
| **Non-Current Liabilities** | | | |
| Bank Loan | | | 2,000 |
| **Current Liabilities** | | | |
| Trade Payables | | | 500 |
| Bank | | | 2,000 |
| Accruals | | | 100 |
| Total Current Liabilities | | | 2,600 |
| **Total Equity and Liabilities** | | | 14,000 |

Tara is disappointed with the net profit this year, since her Business Consultant calculated a net profit of £4,000 last year. Sales had remained constant at £20,000 each year. Tara provides a collection/drop-off service for children – collecting/dropping-off children at their homes and transporting them to and from the playgroup, however she wishes to replace the old minibus with a new one for reasons of health and safety. She is also worried about the bank overdraft which has increased from £500 to £2000 over the last twelve months.

As her Business Consultant, Tara has asked you to:

a. Calculate the following ratios:
    a. ROCE (2 marks)
    b. Net profit margin (2 marks)
    c. Current Ratio (2 marks)
b. Analyse the financial performance of the business using each ratio. (6 marks)
c. Discuss two ways in which Tara might improve cash flow in the business. (6 marks)
d. Discuss the benefits and limitations of using ratio analysis for decision making purposes. (12 marks)
e. Discuss the use of leasing as a source of finance to Tara, if she wishes to replace the minibus. (12 marks)

**Q5.**
You are a senior manager in a professional business services firm. You are training new members of staff in your firm who have just left college and started careers as trainee business consultants. You must prepare notes which:

a. Explain the difference between cash flow and profit. (4 marks)
b. Explain the term 'investment appraisal'. (3 marks)
c. Explain the term 'budget'. (3 marks)
d. Explain the term 'unfavourable variance'. (3 marks)
e. Discuss the use of a bank loan as a source of finance. (12 marks)
f. Discuss the benefits and limitations of a cash flow forecast. (12 marks)

(Note: in answering the above questions, you should support your answers using a business of your own choice, which operates in the local economy, with which you may be familiar.)

## Suggested Solutions

**Q1. Calculate the Gross Profit Margin for each period:**

(a)

| | 2016 | 2017 | |
|---|---|---|---|
| Gross Profit Margin | £4600/£19500 x 100% | £3000/£19000 x 100% | |
| GPM % | 24% | 16% | (4) |

(b) Reasons for the change in gross profit margin:

- Fall in sales revenues – this could be due to a loss of market share arising from a decline in the number of customers coming into the salon and/or an increase in sales prices which customers are not prepared to pay;
- Increase in costs – material costs may have increased (shampoos, hair conditioner, hair spray), which results in a higher cost per customer which in turn would depress profits. (6)

(c) Potential improvements which Barbara can implement:
- Reverse the price increases that customers might have been forced to pay;
- Review any quality defects in the service provided – if customers are not satisfied with the service, ask them for reasons why and take corrective action;
- Review costs – reduce expenses; don't spend money on obsolete inventories that date quickly e.g. shampoo, conditioner;
- Improve the service provided to customers, e.g. provide them with magazines to read whilst waiting, or tea/coffee/water;
- Use a website or launch a promotional campaign to increase customer awareness;
- Use cheaper products to reduce costs, e.g. cheaper brands of shampoo or conditioner.

**Q2. For each project calculate the payback period and the net present value (NPV):**

(a) Payback:
**Apple Pie Machine**

| Year | £'000 Ann. C/Flows | £'000 Cum. C/Flows |
|---|---|---|
| 0 | -120 | -120 |
| 1 | 60 | -60 |
| 2 | 60 | 0 |
| 3 | 50 | 50 |

**Payback** **2 yrs**

**Mince Pie Machine**

| Year | £'000 Ann. C/Flows | £'000 Cum. C/Flows |
|---|---|---|
| 0 | -150 | -150 |
| 1 | 40 | -110 |
| 2 | 50 | -60 |
| 3 | 60 | 0 |

**Payback 3 yrs**

**Rhubarb Pie Machine**

| Year | £'000 Ann. C/flows | £'000 Cum. C/Flows |
|---|---|---|
| 0 | -60 | -60 |
| 1 | 10 | -50 |
| 2 | 30 | -20 |
| 3 | 40 | 20 |
| | **2 yrs and** | **182.5 days** |

**Net Present Value:**

**Apple Pie Machine**

| Year | £'000 Ann. C/Flows | DCF10% | £'000 Pres. Val-ue |
|---|---|---|---|
| 0 | -120 | 1 | -120 |
| 1 | 60 | 0.909 | 54.54 |
| 2 | 60 | 0.826 | 49.56 |
| 3 | 50 | 0.751 | 37.55 |
| | | **npv** | **21.65** |

**Mince Pie Machine**

| Year | £'000 Ann. C/Flows | DCF10% | £'000 Pres. Val-ue |
|---|---|---|---|
| 0 | -150 | 1 | -150 |
| 1 | 40 | 0.909 | 36.36 |
| 2 | 50 | 0.826 | 41.30 |
| 3 | 60 | 0.751 | 45.06 |
| | | **npv** | **-27.28** |

**Rhubarb Pie Machine**

| Year | £'000 Ann. C/flows | DCF10% | £'000 Pres. Val-ue |
|---|---|---|---|
| 0 | -60 | 1 | -60 |
| 1 | 10 | 0.909 | 9.09 |
| 2 | 30 | 0.826 | 24.78 |
| 3 | 40 | 0.751 | 30.04 |
| | | **npv** | **3.91** |

b. As a Business Adviser, I would advise the directors to invest in the following machines:

1. Apple Pie Machine
2. Rhubarb Pie Machine. (4 Marks)

c. Discuss the use of Net Present Value as a method of investment apprais l:

Benefits:

- More robust method of investment appraisal since it adjusts for financial risk through the use of the discount factor – in this case, 10%. This method often ensures that the correct investment decision is made in every case, compared with other methods such as payback or accounting rate of return.
- Forces owners/managers to forecast accurately and plan ahead over the lifespan of the project – in this case, up to four years, which leads to better decision making.
- Allows 'what-if' analysis or comparisons to be undertaken across investment projects and is relatively simple, since it only considers the use of cash flows throughout the analysis.

Limitations:

- It can be difficult for owners/managers, such as in The Sweet Pie Bakery Ltd to estimate the annual cash flows and the discount factor – any significant differences will lead to a different project outcome.
- Some managers find the concept of discounting difficult to understand, compared to profitability – and this may lead to conflicting decisions between directors.
- The use of discounting focuses on the quantitative issues of a project only – this may be at variance with other business strategies (e.g. product development, diversification) since there may be other non-financial factors to consider in the context of the decision making process (e.g. staff training, surplus staff resources), since the analysis often assumes that surplus resources can be utilised elsewhere, which may not be the case.

Conclude: NPV is a more robust investment appraisal method and should be used where possible.

(12 Marks)

d. Proposed Investment Strategy:

| Project: | Cost: | PaybackNPV | (£'000) | Decision |
|---|---|---|---|---|
| Apple Pie Machine | £120,000 | 2 years | 21.65 | Invest |
| Rhubarb Pie Machine | £60,000 | 2.5 years | 3.91 | Invest |
| Mince Pie Machine | £150,000 | 3 years | -27.28 | Do Not Invest |
| Total funds available | £180,000 | | | |

The directors are advised to invest in both the Apple Pie Machine and the Rhubarb Pie Machine as they meet all investment targets, and sufficient funding is available to finance each project.

The Apple Pie Machine has the highest NPV. In addition, demand for apple pies does not appear to be subject to seasonal fluctuations and is constant throughout each year, thus increasing reliability of obtaining the required cash flows to finance the project.

(8 Marks)

e. Use of Hire Purchase as a source of finance:

Benefits:

- Owners such as The Sweet Pie Bakery Ltd can avail of the use of the machine over the lifetime of the asset so are able to generate funds to finance revenues and meet repayment costs.
- Enables the directors of The Sweet Pie Bakery Ltd to spread the costs of purchase over the lifetime of the project and conserve cash flows to ensure growth of the business. The cost of the project, £120,000 can be spread over four years amounting to £30,000 per year thus saving £90,000 cash flow in year 1.

Drawbacks:

- The directors of The Sweet Pie Bakery Ltd will not actually own the asset until the final payment has been made, which could be 4 years, although if sufficient cash was available to, they could pay off the balance early. However, it is likely to be subject to early repayment charges by the finance company.
- The directors of The Sweet Pie Bakery Ltd are liable for any additional costs such as repairs, staff training and installation costs, which may be expensive and reduce cash flows.

Conclusion: hire purchase is a useful method of financing a project but directors need to be sure that the project is feasible prior to investment.

(12 Marks)

**Q3.**

a.

| **Year ended 31 December 2016** | **Original Budget (£)** | **Flexible Budget (£)** | **Actual (£)** | **Variance (£)** |
|---|---|---|---|---|
| Sales Quantity | 1,000 | 800 | 850 | n/a |
| Sales Revenues | 10,000 | 8,000 | 8,500 | 500F |
| Direct Materials | 4,000 | 3,200 | 4,000 | 800A |
| Direct Labour | 2,000 | 1,600 | 2,000 | 400A |
| Overheads | 2,000 | 1,600 | 1,200 | 400F |
| Net Profit | 2,000 | 1,600 | 1,300 | -- |

b. Analyse one reason why each variance might arise in Barney's business:

- Sales revenue variance: Barney was able to sell more units than was originally planned, ie. 850 compared with 800. This might have been due to good weather conditions, increasing demand for BBQ sets.
- Direct material variance: Barney had to increase consumption of materials in producing the BBQ sets, since he was able to sell more than originally anticipated, hence increased material costs of £800 in total.
- Direct labour variance: Barney had to increase the time taken/worked to complete the additional 50 orders for BBQ sets, as a result of increased demand – this meant either increasing the number of hours worked or increasing the overtime payments to staff/himself to complete production, costing £400.
- Overheads (Cost) variance: Barney was able to benefit from some savings through bulk buying of some items used to support production, e.g. reduced delivery charges, since greater numbers of units were delivered in batches. Therefore, savings of up to £400 were achieved and costs reduced.

(8 Marks)

c. State one way in which each variance might be improved as a means of improving Bar-ney's business performance.

- Sales revenue variance: Barney might increase sales prices per unit in order to increase sales revenues.
- Direct material variance: Barney could use cheaper materials of a similar quality stand-ard in order to reduce material costs.
- Direct labour variance: Barney might employ younger members of staff at the minimum wage rate in order to reduce wages costs, or pay himself less wages.
- Overheads (Cost) variance: Barney can negotiate cost deals through bulk buying of some items with suppliers.

(8 Marks)

**Q4.**

(a) As her Business Consultant, Tara has asked you to:
Calculate the following ratios:

a. ROCE (2 Marks)
£1000/(£14000-£2600) x 100%
= £1000/£11400 x 100%
= 8.8%

b. Net profit margin (2 Marks)
£1000/£20,000 x 100%
= 5%

c. Current Ratio (2 Marks)
£3900/£2600
= 1.5:1

b. Analyse the financial performance of the business, using each ratio.

ROCE:
- 8.8% currently being earned by Tara, which appears reasonable compared to alternative investments e.g. bank deposit, which currently attracts interest rates of 0-1%.
- Profit margin is low, therefore it's possible that the return is being generated by an efficient use of assets.

Net Profit Margin:
- 5% is currently being earned which is on the low side; this suggests that Tara's Playgroup business is incurring high levels of overheads and this should be checked with a view to reducing cost improving margin.

Current Ratio:
- 1.5:1 as currently calculated would suggest that Tara's Playgroup business is bordering on insolvency, since ideally, a current ratio should be 2:1;
- Issues which Tara should address in order to improve this ratio are (i) reduce stock/inventory levels; (ii) reduce the amount of debtors and encourage early repayment; (iii) try to reduce the bank overdraft, although this may be difficult with only £850 cash available.

(6 Marks)

c. Discuss two ways in which Tara might improve cash flow in the business.
- Sell more stock/inventories
- Increase sales prices of professional services provided to customers
- Reduce overheads
- Encourage earlier settlement of customer invoices i.e. offer a discount to customers to encourage earlier repayment

(6 Marks)

d. Discuss the benefits and limitations of using ratio analysis for decision making purposes.

Benefits:
- Provides a snapshot of the financial position of Tara's Playgroup business, as summarised in the financial statements, highlighting the key strengths and weaknesses of the business, in this case, low profitability and low levels of insolvency.
- Enables owners such as Tara to investigate issues further and formulate/implement strategies/policies to improve the financial positon, e.g. in order to improve the solvency position (current ratio), Tara needs to free up more cash flow, she can now focus attention on this matter.

Limitations:
- Out-of-date ratios are only as reliable as the information contained in the financial statements, which may be 5-6 months out of date by the time they are reviewed/checked for decision making purposes.

- Manipulation – the financial statements and resulting analysis may be subject to manipulation, e.g. window-dressing in order to present a more positive financial position at the financial year end than might otherwise be the case, therefore any analysis should be treated with caution.
- Different versions of the accounting ratios may be used by various businesses, so caution needs to be exercised when calculating the ratios and comparing performance with other businesses.

(12 Marks)

e. Discuss the use of leasing as a source of finance to Tara, if she wishes to replace the mini-bus.

- Leasing allows Tara to acquire a new non-current asset such as a minibus to allow the business to operate, provides continuity of operations and a convenient way to access new assets.
- Leasing allows Tara to spread the cost of purchase of the minibus over a longer timespan e.g. 4/5 years compared with an upfront acquisition cost immediately, which will have the effect of conserving cash flows in the short term.
- Leasing allows the business to use the asset, e.g. minibus whilst the payments are being made and leases can be tailored to suit the needs of the business e.g. a service package might be included or lease costs based on estimated annual mileage.
- Leasing costs can be controlled, since the payments are known in advance and Tara can budget accordingly.
- Ownership of the asset, ie. minibus, does not pass until the end of the lease period, so Tara does not own the property during lifetime of the lease agreement.
- Tara is still responsible for care and damages to the property during the lease agreement. Additional charges may be levied in the event of excessive mileage or damage to the property. Might be cheaper to purchase outright in some circumstances.

(12 Marks)

**Q5.**

a. Explain the difference between cash flow and profit.
- Cash flow is the actual inflows/outflow of cash in a business covering items such as sales revenues, expenses paid for by cash.
- Profit is the total sales revenues less all costs, subject to accounting adjustments and the inclusion of non-cash items e.g. depreciation, provision for bad debts, accounting adjustments.

The two may not necessarily be the same figure in a given financial period.

(4 Marks)

b. Explain the term 'investment appraisal'. (3 Marks)
- This is a critical analysis and evaluation of a range of alternative investment projects, which may be undertaken by a business adviser on behalf of a client business.
- The appraisal will initially review broad parameters related to the investments such as project objectives, costs, revenues, methodology to be employed and expected outcomes. In addition, the appraisal will consider the use of alternative methodologies, including payback, discounting, IRR, and ARR. Non-financial objectives may also be considered when evaluating outcomes, e.g. if Tara wishes to proceed with the purchase of a minibus, it is likely that health/safety issues will be a priority in addition to the cost of a minibus.

(4 Marks)

c. Explain the term 'budget'.
- A budget is a plan of action, expressed in financial terms covering the activities of a budget for a future specified time period. An example could be that Barney had budgeted to produce/sell 1,000 BBQ sets which would have yielded £2,000 of profit.

(3 Marks)

d. Explain the term 'unfavourable variance'. (3 Marks)
- An unfavourable variance arises where the budget cost of an item of expenditure is less than the actual cost, i.e. where the difference yields a negative value. An example could be in Barney's business, where he makes BBQ sets – Barney had budgeted to spend £3,200 on materials but actually spent £4,000, resulting in an overspend of £800 or an 'Adverse' variance.

(3 Marks)

e. Discuss the use of a bank loan as a source of finance.

- A bank loan provides a business such as Tara's Playgroup with access to funds which can then be used to acquire an asset, for example, the minibus, to allow the business to continue to operate. The business will then own the asset outright immediately.
- A bank loan enables a business owner like Tara, to spread the cost of the asset over a long time period thus conserve cash flows in the short term, e.g. loan repayments can be agreed over a 7 year period, over the lifetime of the asset.
- A bank loan may turn out to be expensive – Tara may find that she is paying excessive amounts of interest e.g. 20%, thus paying back more than the original loan – therefore she needs to budget carefully to ensure that she can afford this liability.

(12 Marks)

f. Discuss the benefits and limitations of a cash flow forecast.

- A cash flow forecast can facilitate future planning on the part of a business ad-viser for the benefit of a client e.g. if Barney prepared a cash flow forecast for his BBQ business, he could plan the purchase of his materials more accurately and save on costs.
- A cash flow forecast can be used by a business owner such as Barney to obtain additional sources of finance for his business, e.g. Barney might decide to expand output next year, and increase production to 1000 BBQ sets, therefore he may need additional finance to purchase more materials or rent a property to store the finished goods; the bank manager can then help Barney source additional finance based on his ability to repay using the cash flow forecast.
- A cash flow forecast employs estimates of future cash flows and employs assumptions about the probability of future events. These estimates and assumptions may be unrealistic or inaccurate, e.g. Barney originally estimated that he would produce/sell 1000 BBQ sets, however he only actually produced/sold 850, therefore any cash flow forecast prepared on the basis of the original budget, i.e. 1000 BBQ sets will be misleading and inaccurate.

(12 Marks)