**Chapter 6**

**Management control systems**

**Chapter learning objectives:**

<table>
<thead>
<tr>
<th>Lead</th>
<th>Component</th>
<th>Indicative syllabus content</th>
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</table>
| B.1 Evaluate the tools and processes required for strategy implementation. | (a) Recommend appropriate measures for the strategic control and direction of various types of organisation. | • Business unit performance and appraisal, including transfer pricing and taxation, reward systems and incentives.  
• Non-financial measures and their interaction with financial measures.  
• Risks of performance measurement, including the Balanced Scorecard (BSC).  
• Lean systems.  
• Cost of quality.  
• Big Data as a strategic resource. |
| (b) Recommend solutions for the risk of dysfunctional behaviour arising from the associated models of performance measurement. | | • Dysfunctional behaviour associated with measures of control and direction. |
| C.1 Evaluate control systems for organisational activities and resources. | (a) Evaluate the appropriateness of control systems for the management of an organisation. | • Application of control systems and related theory to the design of management accounting control systems and information systems in general.  
• Control systems within functional areas of a business including HR, sales, purchases, treasury, distribution, IT.  
• Identification of appropriate responsibility and control centres within the organisation.  
• Performance target setting.  
• Performance appraisal and feedback.  
• Cost of quality applied to the management accounting function and ‘getting things right first time’.  
• Management responses to risks in control systems. |
1. Organisations as systems

- An organisation is a system.
- A typical system:
  \[
  \text{Input} \Rightarrow \text{Process} \Rightarrow \text{Output}
  \]
- An organisation has objectives.
- The organisation needs controls so that its objectives can be achieved.

SYSTEMS THEORY

- A system will have subsystems.
- If an organisation is a system, the finance, HR and operations functions are its subsystems.
- A **closed system** does not interact with its environment.
- An **open system** interacts with and is influenced by its environment.
- Business organisations are open systems.
- Every system has an objective; so does every business.
- Controls enable changes to be incorporated effectively.
- Controls enable a system to keep on track towards its objectives.
- **Feedback control** compares planned and actual outputs and implements corrective action.
- **Feed-forward control** implements actions for prospective differences before they actually occur.
- **Primary feedback** is provided to the line manager.
- **Secondary feedback** is when variance information is sent to higher level management.
  - Minor variances may be dealt with by the line manager alone.
  - When variances require changes to a plan, secondary feedback is provided to the decision-making team higher up.
- **Negative feedback** is where a variation is reversed to bring the system to a stable condition.
- **Positive feedback** is when a variation is allowed to continue.
• **Open loop** systems are those where external influence is allowed in the control system.
• **Closed loop** systems are those where control actions are accommodated within the system.

### 2. Control in organisations

• **Management control** is how a company is steered through changing business environments to achieve success.
• **Management control systems** are the processes that assist managers in steering the company to success through changing environments.
• Control systems must be continuously monitored to determine where improvements and adaptations to the constantly changing environment can be made.

### Performance targets

• Performance targets are the standards against which the success of the company is assessed.
• These standards should include both financial and non-financial targets.
• Information for the financial targets is retrieved from the accounting system.
• Financial information is often dated and short-term.
• Non-financial factors are more futuristic and long-term.
• Non-financial factors include reputation and development of new products.
• Performance targets require careful consideration as they are perceived to be a sign of a manager’s success.
• Targets that are too high will be demotivating.
• Targets that are too low will result in a lethargic workforce.
• Targets set should be such as to keep the manager focused on the long-term success of the company.

### Management accounting control systems

• A management accounting control system assists managers in planning and control functions.
• Each system is different as it depends on the business for which it was designed.
• However, every system has basic commonalities.
• The type of organisational structure determines the type of control system.

• Organisational structure might be:
  • Functional
  • Divisional
  • Matrix, or
  • Network.

**Responsibility accounting**

• Responsibility accounting is based on the principle of controllability.

• Every manager is held responsible for only those aspects of the business that he controls.

• Evaluating managers on factors that they cannot control is demoralising for them.

• Performance measures for investment centres include:
  • Return on investment (ROI)
  • Residual income (RI)

\[
ROI = \frac{Profit \ before \ interest \ & \ tax}{Operations \ management \ capital \ employed} \times 100
\]

\[Residual \ Income = Accounting \ profit - Notional \ interest \ on \ Capital\]

• Economic value added (EVA).

**Traditional management accounting systems**

Traditional methods include:

• Standard costing
• Variance analysis
• Budgeting
• Overhead allocation
• Investment appraisals using NPV, IRR, ARR
• Transfer pricing

**Drawbacks of traditional accounting systems**
• Most provide repetitive fixed information that is not helpful to managers.
• Some of their assumptions are questionable, such as the treatment of labour costs as variable.
• They require too much time and effort to produce information of little value.
• They focus on low cost and hence cannot support strategies when the focus is not on low cost.

Beyond budgeting - drawbacks of budgeting

• Budgets place constraints on any change to routines when there is a change in business environment.
• Budgets focus on short-term targets.
• Budgets are based on assumptions that will likely become obsolete in changing environments.
• Budgets limit flexibility as all the focus is on achieving that budget.
• Budgets, being a top-down control tool, discourage empowerment in lower level management.
• Budgets are historic and internally focused instead of being futuristic and able to adapt to changes in external environment.

Modern manufacturing techniques

• Globalisation
• Competition
• JIT
• TQM
• Intelligent machines

Impacts on manufacturing:

• Computerisation led to the introduction of “intelligent machines” that can complete multiple tasks unsupervised.
• Greater and faster processing of production data.
• The selection of relevant data for analysis from the vast number of data records now created.
Just-in-time (JIT)

JIT is a method of organising the flow of production so that:

- It allows flexible production.
- It minimises stock levels.
- It minimises manufacturing waste.
- It reduces cost due to lower inventory, faster throughput and fewer defects.

Conditions for successful JIT implementation:

- High and steady demand levels.
- Co-ordinated daily schedules of suppliers and customers.
- Reliability and flexibility of suppliers to provide quality materials and timely delivery.
- Reliable transport system.
- Appropriate factory layout to enable receipt of goods at the relevant production point.

When to implement/use JIT:

JIT and control systems

Control systems must produce performance and control information regarding:

- Elimination of waste in non-value adding activities, e.g. waste and reworking of defective products, overproduction, transport of goods, waiting time, maintaining inventory.
• Reducing setup time by performing tasks in advance or while the machines are still completing the previous run.

• Continuous improvement, i.e. working towards the ideal (perfect quality and no wastage).

**Total quality management (TQM)**

TQM involves:

• Aiming at zero errors.

• Getting things right the first time.

• Exceeding customer expectations.

Therefore, a good system and a strong quality culture should focus on:

• Avoiding mistakes.

• Continuous improvement.

• Participation by everyone.

• Committed senior management.

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**Continuous improvement**

• Organisations should continue to strive for improvement.

• Employees should be encouraged to suggest improvements.

• Look for improvements in all functions of the business.

• Reinforce this culture through rewards and incentives.
Value analysis

- Value-adding activities add to the worth of the product.
- Non-value adding activities add no value to the product.
- Reducing resources used by non-value adding activities reduces cost.

Economic value added (EVA)

- A performance measurement method for investment centres/companies.
- It measures the value added to the company.
- It focuses on the value created for the shareholders
- It measures the “true” economic profit of the company.
- Economic Profit = Net Operating Profit After Tax
- Capital charge = economic value of business assets x % cost of capital
- \[ \text{EVA} = \text{NOPAT} - \text{Capital charge} \]

Similar to residual income:

- in calculation by subtracting capital charge from net profit
- in their focus on net profit

Different from residual income:

- RI uses accounting profit and capital employed figures
- EVA uses economic profit and capital employed estimations

3. Transfer pricing

- The issue of transfer pricing arises on intra-company trading, i.e. when a division sells products to another division.
- The product has to be charged to avoid appearing as a loss for the selling division.
- The price at which products are sold to other division(s) is called the transfer price.
• The net effect on the profit of the company as a whole is nil.
• The transfer price agreed upon determines the division of profit between the two divisions.
• Divisions will only trade with each other if it is beneficial for their departments.
• Transfer prices may be imposed by the head office.
• Alternatively, they may be agreed upon by the divisional managers.
• Preference should be to sell/buy internally.

4. Objectives of Transfer Pricing

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
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<tbody>
<tr>
<td>Goal congruence</td>
<td>There should be goal congruence between the company and the individual divisions. The short-term benefit to a division should not be detrimental to the company as a whole.</td>
</tr>
<tr>
<td>Performance measurement</td>
<td>The transfer pricing system should provide a reasonable measure of managerial performance.</td>
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<tr>
<td>Maintaining divisional autonomy</td>
<td>Transfer pricing policy should reinforce the management system. For instance, if the management is decentralised, the transfer price should not be imposed centrally.</td>
</tr>
<tr>
<td>Minimising the global tax liability</td>
<td>Transfer pricing can be used to reduce taxes when the company is operating across borders.</td>
</tr>
<tr>
<td>Recording the movement of goods and services</td>
<td>This helps in recording the movement of stock.</td>
</tr>
<tr>
<td>A fair allocation of profits between divisions</td>
<td>Transfer prices agreed can allocate profit fairly between the trading divisions.</td>
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</tbody>
</table>

Setting a transfer price

• Transfer prices vary over the length of the life cycle of the product.
• Using cost as the transfer price provides no motivation for the selling division.
• Using a cost-plus approach provides no incentive to control costs.
• Using standard costing is most appropriate.
• Standard costs are reviewed yearly.
• Standard costing also provides an incentive for cost control.
Transfer prices can be used to discourage new competitors.

**Test Your understanding 1: Transfer pricing**

Company Louis Miller is selling lamps. Division B is producing bulbs and division M is producing metal base for the lamps. Products from division B and M constitute a Louis Miller famous lamp.

Led bulbs can be sold on the market for $8.50. The variable cost of a single led bulb is $5.50 and the fix cost is $2 per unit. There is a high demand for the led bulbs, so division B will always have a possibility to sell to the outside market, whatever the capacity of the plant is. Currently division B is producing at its 100% capacity 10,000 bulbs per month.

Division M has recently created a new innovative and modern looking base for its lamp and would like division B to deliver the bulbs for its trial 500 unit batch. There would also be a $0.2 saving per unit in packaging as the bulbs transferred internally do not required any additional boxes.

<table>
<thead>
<tr>
<th>What transfer price per unit should the Division B quote in order to maximise group’s profit?</th>
<th>$ per unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input the number up to two decimal places.</td>
<td></td>
</tr>
</tbody>
</table>
5. **Transfer pricing: International concerns**

- Relevant for multinational companies operating across national boundaries.
- Transfer prices are set so that subsidiaries in high tax countries show less profit.
- Profit can be diverted to subsidiaries in low tax countries.
- This will not affect the total profit.
- However, it will reduce the total taxes payable.
- The tax authorities monitor transfer prices.
- If the transfer prices are unrealistic, the company may have to pay tax in both countries.
- Otherwise, double taxation agreements exist in most countries.
- Most countries follow OECD guidelines and use the arm’s length price.
- Methods to determine arm’s length prices:
  - Comparable price method (comparable uncontrolled prices - CUPS).
  - Resale price method (reverse calculation from the final sale price).
  - Cost-plus method (gross margin added to production cost).

6. **Government action on transfer prices**

- Multinational companies may be required to validate their transfer prices.
- There may also be tax laws on transfer prices in order to prevent tax avoidance.
- Alternatively, some countries have relaxed tax laws to encourage foreign investment.

7. **Transfer Pricing: Cash flow management**

- When a country’s laws prevent dividend payments to the parent company, high transfer prices could be a way of getting cash remitted to the home country.
- However, this becomes difficult when the country also has tax laws stipulating that transfer prices should be set using the arm’s length principle.

8. **Transfer Pricing: Currency management**

- This is relevant to companies operating across borders.
- A decision needs to be made regarding the currency in which to deal.
• Exchange rates need to be monitored.
• There is a risk of loss if there should be an adverse change in the exchange rate.
• If one company is in a losing position, the other will likely make a profit from the exchange rate movement.
• The responsibility to manage the currency risk should be with a central department.

Non-financial performance indicators

• These are gaining importance.
• Help to present a more complete picture.
• Cover a range of factors other than profit.
• Set targets and measure performance against them.
• Performance can also be benchmarked against best practice in the industry.

Balanced scorecard

• Uses a range of indicators to assess performance.
• Focuses on four perspectives (with a few examples):

  - Financial perspective:
    • profit, ROI, EVA, cash flow
  - Customer perspective:
    • customer satisfaction, customer retention, on time deliveries, market share
  - Innovation and learning perspective:
    • revenue share from new products, employee productivity
  - Internal business perspective:
    • products requiring re-work, production time
Drawbacks of the balanced scorecard:

- The perspectives are not all consistent with each other.
- There may be conflicts when trying to achieve all targets in all perspectives.
- Too much focus on targets may result in losing focus on the main objective - shareholder wealth.

Consequences of performance targets:

- Tunnel vision: too much focus on numbers and figures at the expense of qualitative factors.
- Achieving targets but not the broader objective.
- Myopia: short-term concentration on targets at the expense of long-term performance.
- Risk of misrepresentation to show targets as achieved.
- Risk of misinterpretation of the meaning of an indicator.
- Performance measurement discourages innovation by putting too much emphasis on reaching targets.

Strategic management accounting

The preparation and presentation of information for decision making, laying particular stress on external factors. - CIMA

- Closely follows the organisation’s strategy.
- Linked with achieving competitive advantage.
- Analyses information from competitors.
- Focus on continuous cost reduction.
- Emphasises non-financial indicators.

Lean Accounting:

- Focus on cost-cutting.
- Eliminating wasteful activities.
- Cutting out “unnecessary” fat.
- JIT and TQM follow the lean concept.
Lean management accounting:

- Delivers only relevant value-adding information.
- Focuses on value streams.
- Information for non-financial indicators.
- Encompasses modern methods such as target costing, lifecycle costing.
- Generates simple reports.
- Makes certain that reports are accessible to the relevant managers.

9. Modern manufacturing techniques: drawbacks

- Questionable ethics in JIT systems when a large customer intimidates a small supplier to agree to their order on their terms.
- The concept of continuous improvement is unrealistic in the face of other important business issues.
- Pressure to achieve all the targets in the four perspectives of the balanced scorecard might result in conflicts, and the whole objective of the technique would be neglected.

Solution to Test Your Understanding on transfer pricing:

The correct answer is $8.30

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Variable Cost of 1 bulb</td>
<td>$5.50</td>
</tr>
<tr>
<td>Fixed Cost of 1 bulb</td>
<td>$2.00</td>
</tr>
<tr>
<td>Market price of 1 bulb</td>
<td>$8.50</td>
</tr>
</tbody>
</table>

Capacity is not an issue here. The bulbs can always be sold externally. Therefore there is no interest for division B to sell to division M at a discounted price.

However if a bulb is sold internally, there would be a saving of $0.2 per unit on packaging.

In order to maximise the company's profit, division B shouldn't sell its bulb for a price lower than what it can get on the outside market. Therefore the correct price would be $8.50 (market price) - $0.2 (packaging saving) = $8.30
10. Chapter summary