2. Planning and budgetary control systems

2.1 Budgets and responsibility accounting & Master Budget
Introduction

- Budgeting is the most widely used accounting tool for planning and controlling organisations.

- A budget is the quantitative expression of a proposed plan of action by management for a future time period and an aid to the coordination and implementation of the plan.
Learning Objectives

1. Define what a master budget is and explain its major benefits to an organisation
2. Describe major components of the master budget
3. Prepare the budgeted profit statement and its supporting budget schedules
4. Describe responsibility centres and responsibility accounting
5. Explain how controllability relates to responsibility accounting
Learning Objective 1

Define what a master budget is and explain its major benefits to an organisation.
Budgeting Cycle

- Planning the performance of the organisation
- Providing a frame of reference, a set of specific expectations against which actual results can be compared
- Investigating variations from plans
- Correcting action follows, if necessary
- Planning again.
What is a Master Budget?

- A master budget is a comprehensive expression of management’s operating and financial plans for a future time period (usually one year).
- The master budget is summarised in a set of budgeted financial statements.
Master Budget

- It embraces the impact of both *operating* decisions and *financing* decisions.

  n Operating decisions centre on the use of scarce resources.

  n Financing decisions centre on how to obtain the funds to acquire those resources.
Advantages of Budgets

- Budgets compel planning, including the implementation of plans.
- They provide performance criteria.
- They promote coordination and communication within the organisation.
Budgets

- Budgeting is most useful when done as an integral part of an organisation’s strategy analysis.

- Strategy describes how an organisation matches its own capabilities with the opportunities in the marketplace to accomplish its overall objectives.
Budgets (Continued)

- Budgeted performance measures can overcome two key limitations of using past performance:
  1. Past results incorporate past misallocations and sub-standard performance.
  2. The future may be expected to be very different from the past.
Coordination is the meshing and balancing of all factors of production or service and of all the departments and business functions so that the company can meet its objectives.

Communication is getting those objectives understood and accepted by all the employees in the various departments and functions.
Management Support

- Top management has the ultimate responsibility for the budgets of the organisation they manage.

- Management at all levels should understand and support the budget and all aspects of the management control system.
Time Coverage of Budgets

- Budgets typically have a set time period (month, quarter, year).
- This time period can itself be broken into sub-periods.
- The most frequently used budget period is one year.
- Businesses are increasingly using rolling budgets.
Learning Objective 2

Describe major components of the master budget
Master Budget Components

Master Budget

Operating Budget

Financial Budget

Master Budget Components
(Continued)

- Operating budget
  - Supporting budget schedules
  - Revenue budget
  - Production budget in units
  - Direct materials purchase budget
Master Budget Components (Continued)

- Direct labour budget
- Cost of goods sold budget
- Non-manufacturing costs budget
- Budgeted P&L Account
Master Budget Components (Continued)

- Financial budget
  - Capital budget
  - Cash budget
  - Budgeted balance sheet
  - Budgeted statement of cash flows
Learning Objective 3

Prepare the budgeted profit statement and its supporting budget schedules
Operating Budget

- The foundation of the operating budget is the revenue budget.
- The following data relates to Maui Diving, a producer of diving equipment.
Operating Budget (Continued)

- Two kilograms of direct materials are budgeted per unit at a cost of €2.00 per kg, €4.00 per unit.
- Three direct labour-hours are budgeted per unit at €7.00 per hour, €21.00 per unit.
- Variable overhead is budgeted at €8.00 per direct labour-hour, €24.00 per unit.
- Fixed overhead is budgeted at €5,400 per month.
Variable non-manufacturing costs are expected to be €0.14 per revenue euro.

Fixed non-manufacturing costs are €7,800 per month.
Maui Diving expects 1,100 units to be sold during the month of August.

Selling price is expected to be €240 per unit.

How much will budgeted revenues be for the month?

1,100 \times €240 = €264,000
Production Budget

- Budgeted sales (units)
+ target closing finished goods stock (units)
- opening finished goods stock (units)
= budgeted production (units)
Production Budget (Continued)

- Assume that target closing finished goods stock is 80 units.
- Opening finished goods stock is 100 units.
- How many units need to be produced?
Maui Diving Production Budget
for the month of August

Units required for sales 1,100
Add closing stock of finished units 80
Total finished units required 1,180
Less opening stock of finished units 100
Units to be produced 1,080
Each finished unit requires 2 kg of direct materials at a cost of €2.00 per kg.

Desired closing stock equals 15% of the materials required to produce next month’s sales.

September sales are forecasted to be 1,600 units.

What is the closing stock in August?

480 kg.
Direct Materials Usage Budget
(Continued)

- September sales: $1,600 \times 2 \text{ kg per unit} = 3,200 \text{ kg}$
- $3,200 \times 15\% = 480 \text{ kg (the desired closing stock)}$
- What is the opening stock in August?
- $1,100 \text{ units} \times 2 \times 15\% = 330 \text{ units}$
How many kilograms are needed to produce 1,080 units in August?

1,080 \times 2 = 2,160 \text{ kg.}
Direct Materials Purchases Budget

Maui Diving Direct Material Purchases
Budget for the month of August

- Units needed for production: 2,160
- Target closing stock: 480
- Total material to provide for: 2,640
- Less opening stock: 330
- Units to be purchased: 2,310
- Unit purchase price: €2.00
- Total purchase cost: €4,620
Direct Manufacturing
Labour Budget

Each unit requires 3 direct labour-hours at €7.00 per hour.
<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units produced</td>
<td>1,080</td>
</tr>
<tr>
<td>Direct labour-hours/unit</td>
<td>3</td>
</tr>
<tr>
<td>Total direct labour-hours</td>
<td>3,240</td>
</tr>
<tr>
<td>Total budget · €7.00/hour</td>
<td>€22,680</td>
</tr>
</tbody>
</table>

**Maui Diving Direct Labour Budget**

for the month of August
Manufacturing Overhead Budget

- Variable overhead is budgeted at €8.00 per direct labour-hour.
- Fixed overhead is budgeted at €5,400 per month.
Maui Diving Manufacturing Overhead
Budget for the month of August

Variable overhead:
(3,240 × €8.00) €25,920

Fixed overhead 5,400

Total €31,320
Closing Stock Budget

n Cost per finished unit:

n Materials €4
Labour 21
Variable manufacturing overhead 24
Fixed manufacturing overhead 5*
Total €54

n *€5,400 ÷ 1,080 = €5
Closing Stock Budget (Continued)

- What is the cost of the target closing stock for materials?
  \[ 480 \times \€2 = \€960 \]

- What is the cost of the target finished goods stock?
  \[ 80 \times \€54 = \€4,320 \]
Cost of Goods Sold Budget

Direct materials used:
2,160 × €2.00 = €4,320

Direct labour = 22,680

Total overhead = 31,320

Cost of goods manufactured = €58,320
Assume that the opening finished goods stock is €5,400.

Closing finished goods stock is €4,320.

What is the cost of goods sold?
Opening finished goods stock $5,400

+ Cost of goods manufactured $58,320

= Goods available for sale $63,720

− Closing finished goods stock $4,320

= Cost of goods sold $59,400
Cost of Goods Sold Budget
(Continued)

Cost of goods manufactured

+ Finished goods opening stock

= Cost of goods available for sale

− Finished goods closing stock

= Cost of goods sold
Non-manufacturing Costs Budget

Maui Diving Other Expenses

Budget for the month of August

Variable expenses:

\( (€0.14 \times €264,000) \)  €36,960

Fixed expenses  7,800

Total  €44,760
Budgeted P&L Account

- Maui Diving has budgeted sales of €264,000 for the month of August.
- Cost of goods sold is budgeted at €59,400.
- What is the budgeted gross margin?
### Budgeted P&L Account (Continued)

**Maui Diving Budgeted Income Statement**  
for the month ending 31 August

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>€264,000</td>
<td>100%</td>
</tr>
<tr>
<td>Less cost of sales</td>
<td>59,400</td>
<td>22%</td>
</tr>
<tr>
<td><strong>Gross margin</strong></td>
<td>€204,600</td>
<td>78%</td>
</tr>
<tr>
<td>Other expenses</td>
<td>44,760</td>
<td>17%</td>
</tr>
<tr>
<td>Operating profit</td>
<td>€159,840</td>
<td>61%</td>
</tr>
</tbody>
</table>
A cash budget shows expected cash receipts and disbursements; it indicates the months having cash shortages and excesses.

The following example assumes that all revenues are from charge sales.

It is assumed that Maui Diving pays for all of its purchases: labour, manufacturing overhead and other expenses during the month.
Cash Budget (Continued)

Maui Diving has the following collection pattern:
- 50% in the month of sale
- 27% in the month following sale
- 20% in the second month following sale
- 3% uncollectable
- 100%
Cash Budget (Continued)

- Budgeted charge sales are as follows:
  
  - June  €200,000
  - July  €250,000
  - August €264,000
  - September €260,000

- What are the expected cash collections in August?
Cash Budget (Continued)

Budgeted Cash Receipts
for the month ending 31 August

August sales: €264,000 × 50%  €132,000
July sales:   €250,000 × 27%  67,500
June sales:  €200,000 × 20%   40,000
Total        €239,500
# Cash Budget (Continued)

**Budgeted Cash Disbursements for the month ending 31 August**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>August purchases</td>
<td>4,620</td>
</tr>
<tr>
<td>Direct labour</td>
<td>22,680</td>
</tr>
<tr>
<td>Total overhead</td>
<td>31,320</td>
</tr>
<tr>
<td>Other expenses</td>
<td>39,760*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>98,380</strong></td>
</tr>
</tbody>
</table>

*Other expenses exclude depreciation.*
Cash Budget (Continued)

Cash Budget for the month ending 31 August

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budgeted receipts</td>
<td>€239,500</td>
</tr>
<tr>
<td>Budgeted disbursements</td>
<td>98,380</td>
</tr>
<tr>
<td>Net increase in cash</td>
<td>€141,120</td>
</tr>
</tbody>
</table>
Learning Objective 4

Describe responsibility centres and responsibility accounting
What is Responsibility Accounting

It is a system for evaluating the performance of managers based on activities under their supervision.
Responsibility Centre

- It is any part, segment or sub-unit of a business that needs control.
  - Production
  - Service
Types of Responsibility Centres

- Cost centre – reports only costs while a revenue centre reports only revenues.
- Profit centre – reports revenues, expenses and net profit or net loss.
- Investment centre – reports revenues, expenses, profit or loss and the investment used by the centre.
Feedback and Fixing Blame

- Budgets coupled with responsibility accounting provide systematic help for managers, particularly if managers interpret the feedback carefully.
Learning Objective 5

Explain how controllability relates to responsibility accounting
It is the degree of influence that a specific manager has over costs, revenues or other items in question.

A controllable cost is any cost that is primarily subject to the influence of a given responsibility centre manager for a given time period.
Controllability (Continued)

- Responsibility accounting focuses on information and knowledge, not control.
- A responsibility accounting system could exclude all uncontrollable costs from a manager’s performance report.
- In practice, controllability is difficult to pinpoint.
End of Chapter 2.1