Chapter 6
ACTIVITY-BASED COSTING AND ACTIVITY-BASED MANAGEMENT

Part (a)

6-13 Four decisions for which ABC information is useful are:
1. pricing and product mix decisions,
2. cost reduction and process improvement decisions,
3. product design decisions, and
4. decisions for planning and managing activities

ABC information is useful for these decisions only when there is a relatively high proportion of indirect costs and when products and processes are diverse. Through more accurate costs for each of a range of outputs by using ABC, managers can be more confident about their actions in relation to the above decisions. They can set prices relative to the competition that are appropriate for the business, establish profitable product mix, and be sure that they are reducing the appropriate costs through the appropriate process improvement decisions. ABC can likewise affect design decisions by ensuring that personnel allocate to the design project the resources that it consumes. Similarly, activity-based budgeting gives better information through more accurate budgets.

Part (b)

6-20 The management accountant faces a difficult challenge. The benefits of a better accounting system show up in improved decisions by managers. It is important that the controller have the support of these managers when seeking increased investments in accounting systems. Statements by these managers showing how their decisions will be improved by a better accounting system are the controller’s best arguments when seeking increased funding. For example, the new system will result in more accurate product costs which will influence pricing and product mix decisions. The new system can also be used to reduce product costs which will lower selling prices. As a result, the customer will benefit from the new system.
Part (c)
The following output groups are representative of the core areas of police work:

- community safety and support;
- crime investigation;
- road safety and traffic management;
- emergency response and management; and
- services to the judicial process

Crime investigation
- Investigation of personal crimes
- Investigation of property crimes

Judicial support
- Presentation of evidence
- Preparation of brief

Road safety and traffic management
- Traffic patrol
- Random breath tests

Investigation
- Homicide
- Assault
- Sexual assault
- Investigation of property crimes
- etc

Court
- Homicide
- Assault
- Sexual assault
- Traffic
- Investigation of property crimes
- etc

Patrol tasked ... etc.
- Homicide
- Assault 1 00
- Sexual assault 2 00
- Investigation of property crimes
- Traffic patrol 1 00

Continued...
Community police services
  – Community patrols
  – Police station services
  – Community programs
  – Information services
  – Event management
Crime management
  – Targeting crimes against the person
  – Targeting crimes against property
  – Targeting illegal drug activity
  – Targeting other criminal activity
Traffic services
  – Traffic policing
  – Traffic crash investigation
Emergency response management
  – Emergency response management and coordination coordination
Criminal justice support
  – Services to the criminal justice system
  – Custodial services
Ministerial support services

Problems that may have been experienced in this case include:

- the difficulty of collecting activity data—how many of the officers recording their data did so every 15 minutes, and how many left it until the end of the shift and provided inaccurate data? There are also many occasions when an officer could not pause to fill out data sheets, such as when chasing and arresting suspects, attending accidents, directing traffic, and so on. Some of these occasions would require a sequence of activities before they could attend to data recording
- The difficulty of identifying activities as opposed to processes and tasks. Decisions need to be made with regard to how activities are defined (we can define activities at a micro level and a macro level, for example). People filling out these activity data sheets also often have difficulty classifying what they are doing as one activity or another due to a close relationship between them
- It is often difficult to identify and draw up a list of individual activities and their activity drivers because activities are non-repetitive. An activity may be repeated, but in a different way each time
- The terminology used in data collection can be familiar to some people but foreign to others who are used to a different term for the activity (this is less likely in the police force). Some organisations have a dictionary of terms so that terminology in one part of the organisation can be translated to the terminology used in another part of it
- the nature of an activity, the demands on an officer can differ significantly between rural and urban environments
- Guidance to costing activities is often found in the use to which the information is to be put, but this ‘non-repetitive production environment’ and the heterogeneous nature of service outputs may make it difficult to identify service outputs. If a range of common activities is performed and each service makes different use of these activities, then it will be possible to draw up a list of activities and activity drivers, but it will be necessary to produce a separate bill of activities for each service that is produced. Again, they may differ between locations. There may also need to be an extensive list of activities.
Part (d) 6-45(30-40 min.) Department and activity-cost rates, service sector

1. Overhead costs = A$41 220 + A$494 640 + A$392 360 + A$268 700 = A$1 196 920

Budgeted overhead rate = Total overhead costs/Total technician labour costs

= A$1 196 920 / A$736 080
= A$1.6260 per dollar of technician labour cost

<table>
<thead>
<tr>
<th>Activity</th>
<th>Budgeted Cost (1)</th>
<th>Cost Driver (2)</th>
<th>Units of Cost Driver (3)</th>
<th>Activity Rate (4) = (1) ÷ (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>A$ 41 220</td>
<td>Total number of procedures</td>
<td>13 740</td>
<td>A$3.00 per procedure</td>
</tr>
<tr>
<td>Maintenance</td>
<td>A$494 640</td>
<td>Total dollars of depreciation</td>
<td>3 273 480</td>
<td>A$0.15 per dollar of depreciation</td>
</tr>
<tr>
<td>Sanitation</td>
<td>A$392 360</td>
<td>Total cleaning minutes</td>
<td>173 700</td>
<td>A$2.26 per cleaning minute</td>
</tr>
<tr>
<td>Utilities</td>
<td>A$268 700</td>
<td>Total procedure minutes</td>
<td>257 700</td>
<td>A$ 1.04 per procedure minute</td>
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</tbody>
</table>

* Allocated overhead = Budgeted overhead rate x Technician labour costs
<table>
<thead>
<tr>
<th></th>
<th>X-rays</th>
<th>Ultrasound</th>
<th>CT scan</th>
<th>MRI</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technician labour</td>
<td>A$122 880</td>
<td>A$211 200</td>
<td>A$192 000</td>
<td>A$210 000</td>
<td>736 080</td>
</tr>
<tr>
<td>Depreciation</td>
<td>64 480</td>
<td>536 000</td>
<td>878 000</td>
<td>1 795 000</td>
<td>3 273 480</td>
</tr>
<tr>
<td>Materials</td>
<td>44 160</td>
<td>33 000</td>
<td>48 000</td>
<td>62 500</td>
<td>187 660</td>
</tr>
<tr>
<td><strong>Allocated activity costs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>11 520</td>
<td>13 200</td>
<td>9 000</td>
<td>7 500</td>
<td>41 220</td>
</tr>
<tr>
<td>Maintenance</td>
<td>9 672</td>
<td>80 400</td>
<td>131 700</td>
<td>269 250</td>
<td>491 022</td>
</tr>
<tr>
<td>Sanitation</td>
<td>43 392</td>
<td>49 720</td>
<td>101 700</td>
<td>197 750</td>
<td>392 562</td>
</tr>
<tr>
<td>Utilities</td>
<td>19 968</td>
<td>68 640</td>
<td>62 400</td>
<td>117 000</td>
<td>268 008</td>
</tr>
<tr>
<td><strong>Total budgeted cost</strong></td>
<td>316 072</td>
<td>992 160</td>
<td>1 422 800</td>
<td>2 659 000</td>
<td>5 390 032</td>
</tr>
<tr>
<td><strong>Budgeted number of procedures</strong></td>
<td>÷3,840</td>
<td>÷4,400</td>
<td>÷3,000</td>
<td>÷2,500</td>
<td></td>
</tr>
<tr>
<td><strong>Budgeted cost per service</strong></td>
<td>82.31</td>
<td>225.49</td>
<td>474.27</td>
<td>1063.60</td>
<td></td>
</tr>
</tbody>
</table>

3. Using the disaggregated activity-based costing data, managers can see that the MRI actually costs substantially more and x-rays and ultrasounds substantially less than the traditional system indicated. In particular, the MRI activity generates a lot of maintenance activity and sanitation activity. Managers should examine the use of these two activities to search for ways to reduce the activity consumption and ultimately its cost.