CHAPTER 6
Departmental Costing and Cost Allocation

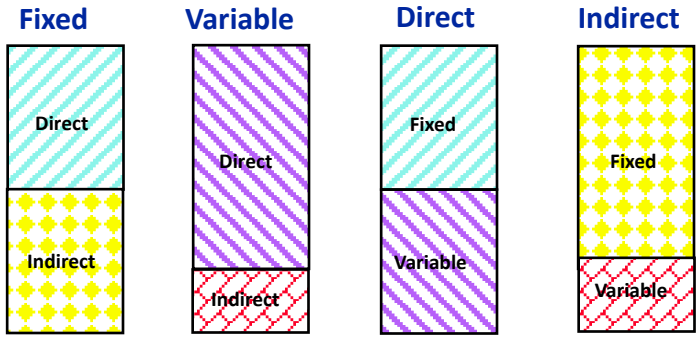
In Chapter 5 we discussed organizational costing, which requires the classification of costs according to their relationship to volume. In this chapter we introduce departmental costing, which requires an additional classification of costs—the relationship between costs and the department being analyzed. Because some costs are organizational in nature rather than department specific, it becomes necessary to allocate such costs to the individual departments.

Direct Versus Indirect Costs

- In addition to their *relationship to volume* (Chapter 5), costs can be classified by their relationship to the unit of activity:
  - Direct, which are those costs unique and exclusive to a department.
  - Indirect, or overhead, which are those costs associated with shared resources used by the entire organization.
- These classifications will be used to assign costs to departments within an organization.

Cost Allocation Basics (Cont.)

Note that the two cost allocation categories overlap one another. (The proportions shown are for illustration only.)



Cost Allocation

- The goal of cost allocation is to assign all overhead costs to the departments that create the need for such costs, typically the *patient services departments*.
- Note that overhead departments often are called cost centers, while patient services departments are called revenue centers.
- To begin, we must define two terms used in cost allocation. Then, we will illustrate two methods of cost allocation.

Cost Pool

- A cost pool is the *overhead amount* to be allocated. In general, a cost pool consists of the direct costs of one overhead department.
- However, if the costs of a single overhead department *differ substantially* in nature, and are *used in different proportions*, multiple cost pools should be used. For example, Financial Services' overhead might be divided as follows:
  - Billing and collections cost pool
  - Budgeting cost pool

Cost Drivers

- A cost driver is the *basis* on which the cost pool will be allocated.
- For example, the cost driver for facilities overhead (building space depreciation, maintenance, utilities, and so on) might be the *amount of space* used by each department that uses the organization's facilities.

Cost Drivers (Cont.)

- The selection of cost drivers is *critical* to the cost allocation process.
- Cost drivers should create an allocation that is *highly correlated* with the actual amount of overhead services consumed by the user departments. (The more overhead services consumed, the greater the allocation.)
- Effective cost drivers will have these two important attributes:
  - They should be perceived as being *fair*.
  - They should promote *organizational cost reduction*.

Discussion Items

Overhead cost allocation is a "pain." Why is it necessary?

Suppose a hospital uses *amount of space occupied* (*square footage*) as the cost driver for the allocation of Housekeeping Services. Does this driver have the attributes of a good driver? (Remember, the attributes are fairness and promotes organizational cost reduction.)

Departmental Allocation Process

1. Identify the cost pool

Identify the cost pool, which is the dollar cost of the overhead activity to be allocated.

To illustrate, assume that a hospital's *Housekeeping Department* has direct costs of $100,000.

Departmental Allocation Process (Cont.)

2. Determine the cost driver

The cost driver is the *basis* on which the overhead costs will be allocated.

Assume that the cost driver for Housekeeping Services is the *amount of space occupied*. User departments in total occupy 200,000 square feet of space.

Departmental Allocation Process (Cont.)

3. Calculate the allocation rate

The allocation rate is the numerical value used to make the allocation:

$$\text{Allocation rate} = \frac{\text{Dollars in cost pool}}{\text{Total volume of cost driver}}.$$

Here, the allocation rate is $100,000 ÷ 200,000 = $0.50 per square foot of space occupied.

Departmental Allocation Process (Cont.)

4. Determine the allocation amount

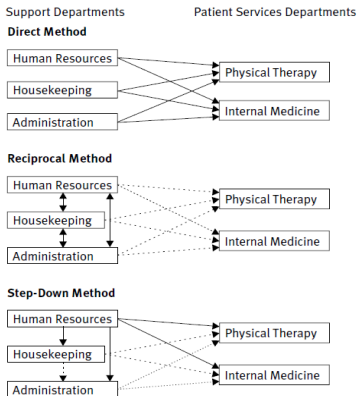
Each user department is then allocated some portion of Housekeeping overhead costs.

Assume the Critical Care Department occupies 10,000 square feet of space. Its allocation would be $0.50 × 10,000 = $5,000.

Allocation Methods

- Mechanically, cost allocation can be accomplished in a variety of ways.
- Regardless of the method, all overhead costs must ultimately be allocated to the departments that create the need for such costs, which typically are the ***patient services departments***.
- There are several allocation methods:
  - Direct method
  - Step-down method
  - Reciprocal method

Allocation Methods Schematic



Allocation Methods (Cont.)

- In the direct method, the costs of each support department are allocated *directly to*, and *only to*, the patient services departments.
- In the step-down method, *some (but not all)* of the intra-support department relationships are recognized. This method is more complex than the direct method, but still manageable.

Allocation Methods (Cont.)

- The reciprocal method recognizes *all* of the support department inter-relationships, but it requires a system of simultaneous equations or a complex set of iterative calculations.

Direct Method Illustration (Situation)

- Consider the *direct cost allocation system* used at Mercy Hospital.
- To simplify the illustration, we have reduced the number of departments to four:
  - Support (overhead) departments
    - Facilities Services
    - General Administration
  - Patient services departments
    - Routine Care
    - Critical Care

Direct Method Illustration (Situation Cont.)

- Mercy uses the following cost drivers:
  - The cost driver for the Facilities Services cost pool is the *amount of space* used by each patient services department.
  - The cost driver for the General Administration cost pool is the *amount of revenue* generated by each patient services department.

Direct Method Illustration (Data)

Projected Revenues by Patient Services Department

Routine Care	$22,000,000
Critical Care	5,000,000
Total revenues	$27,000,000

Projected Costs for All Departments:

Patient Service Departments (Direct Costs)

Routine Care	$ 8,300,000
Critical Care	3,300,000
Total direct costs	$11,600,000

Direct Method Illustration (Data)

Projected Costs for All Departments (Cont.):

*Support Departments (Direct Costs)**

Facilities Services	$ 8,600,000
General Administration	5,250,000
Total overhead costs	$13,850,000
Total costs of both patient and support services	$25,450,000
Projected overall profit	$ 1,550,000

*Note: The direct costs of the support departments will become the overhead costs of the patient services departments.

Direct Method Illustration (Data)

Selected Patient Services Department Data:

	Square Feet	Revenue
Routine Care	261,000	$22,000,000
Critical Care	39,600	5,000,000
Total	300,600	$27,000,000

DM Illustration (Allocation Rates)

Facilities Services

$8,600,000 in overhead costs to be allocated across 300,600 square feet: $8,600,000 ÷ 300,600 ≈ $28.61 per sq. ft. This is the allocation rate.

General Administration

$5,250,000 in overhead costs to be allocated across $27,000,000 in revenue dollars: $5,250,000 ÷ $27,000,000 ≈ $0.194 per revenue dollar.

DM Illustration (Allocation Amounts)

From Facilities Services:

To Routine Care

$28.61 × 261,000 = $7,467,066

To Critical Care

$28.61 × 39,600 = $1,132,934

$8,600,000

DM Illustration (Allocation Amounts)

From General Administration:

To Routine Care

$0.194 × 22,000,000 = $4,277,778

To Critical Care

$0.194 × 5,000,000 = $ 972,222

$5,250,000

DM Illustration (P&L Statements)

	Routine Care	*Margin*
Revenues	$22,000,000	
Direct costs	8,300,000	
Profit on direct costs	$13,700,000	62.3%
Indirect costs		
Facilities Services	7,467,066	
General Administration	4,277,778	
Profit on total(full)costs	$ 1,955,156	8.8%
Critical Care		
Revenues	$ 5,000,000	
Direct costs	3,300,000	
Profit on direct costs	$ 1,700,000	34.0%
Indirect costs:		
Facilities Services	1,132,934	
General Administration	972,222	
Profit on total(full)costs	-$ 405,156	-8.1%

Step-Down Method Illustration
(Note: This material is in the chapter supplement.)

- Now, assume that Mercy Hospital uses the *step-down method*.
- Assume the same cost drivers:
  - Amount of space for Facilities Services.
  - Salary dollars for General Administration.
- Mercy's managers conclude that Facilities Services provides more support to General Administration than vice versa.

Step-Down Method Illustration (Data)

Selected Department Data:

	Square Feet	Salary Dollars
Routine Care	261,000	$ 8,148,000
Critical Care	39,600	2,035,000
General Administration	15,000	---
Total	315,600	$10,183,000

SD Illustration (Initial Allocation Rate)

Facilities Services

$8,600,000 to be allocated across 315,600 square feet: $8,600,000 ÷ 315,600 ≈ $27.25 per square foot.

SD Illustration (Initial Allocation)

From Facilities Services:

To General Administration

$27.25 × 15,000 = $ 408,745

To Routine Care

$27.25 × 261,000 = $7,112,167

To Critical Care

$27.25 × 39,600 = $1,079,088

$8,600,000

SD Illustration (Second Allocation Rate)

General Administration

$5,250,000 + $408,745 = $5,658,745 to be allocated across $10,183,000 in salaries: $5,658,745 / $10,183,000 ≈ $0.56 per dollar.

SD Illustration (Second Allocation)

From General Administration:

To Routine Care

$0.56 × 8,148,000 = $4,527,885

To Critical Care

$0.56 × 2,035,000 = $1,130,860

$5,658,645

SD Illustration (P&L Statements)

Routine Care

Revenues	$22,000,000
Direct costs	8,300,000
Indirect costs	
Facilities Services	7,112,167
General Administration	4,527,885
Projected profit	$ 2,059,948

Critical Care

Revenues	$ 5,000,000
Direct costs	3,300,000
Indirect costs	
Facilities Services	1,079,088
General Administration	1,130,860
Projected profit	($ 509,948)

SD Illustration (Recap)

Routine Care Total Overhead

Direct method	$11,744,844
Step-down method	$11,640,052
Difference (−1.0%)	−$ 104,792

Critical Care Total Overhead

Direct method	$ 2,105,156
Step-down method	$ 2,209,948
Difference (+5.0%)	+$ 104,792

That's all for Chapter 6