

Chapter Fifteen: Allocation of Support-Department cost.

Example 1

Exercise 12.23 [LO 4] Cost Allocations: Direct Method

Société Réussite has two production departments, P1 and P2, and two support service departments, S1 and S2. Direct costs for each department and the percentage of service costs used by the various departments for the month of May are as follows:

Department	Direct costs	Percentage of services used by			
		S1	S2	P1	P2
S1	€ 120,000		40%	30%	30%
S2	140,000	25%		45%	30%
P1	200,000				
P2	180,000				

Required

Build a spreadsheet to compute the allocation of support service department costs to producing departments using the direct method.

Example 2

Problems

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Problems

Problem 12.28 [LO 4] Service Cost Allocation: Direct Method

Danych SA allocates service costs to its East and West Divisions. During the past month, it incurred the following service costs (monetary values given in Polish zloty, PLN):

Computing services	PLN 465,000
Human resources	1,560,000
Custodial services	228,000

The following information concerning various activity measures and service uses by each of the divisions is available:

	East	West
Area occupied (m ²)	1,000	3,000
Payroll (for HR)	PLN 825,000	PLN 255,000
Computer time	150	80
Computer storage (GB)	350	250
Equipment value	PLN 315,000	PLN 360,000
Operating profit, before allocations	PLN 1,035,000	PLN 1,245,000

Required

Build a spreadsheet to allocate the service costs to the two divisions using the direct method and the most appropriate of these allocation bases. For computing services, use computer time only.

Example 3

E-book, an on line book retail, has two operating departments-Corporate Sales and Consumer Sales- and two support departments- Human resource and information systems. Each sales department conducts merchandising and marketing operations independently. E-book users number of employees to allocate human resource costs and processing time to allocate information systems costs. The following data are available for September, 2009.

Data	Supporting Departments		Operating Departments	
	Human Resource	Information System	Corporate Sales	Consumer Sales
Budgeted costs incurred before any cost allocation	\$ 72700	\$ 234400	\$ 998270	\$ 489860
Support work supplied by Human resource department (Budgeted number of employees)	-	21	42	28
Support work supplied by information system department (Budgeted processing time – in minutes)	320	-	1920	1600

Required:

1. Allocate the support departments' costs to operating departments using the direct method.
2. Rank the support departments based on the percentage of their services to other support departments.
3. Use this ranking to allocate the support departments' costs to the operating departments based on the step-down method.

Example 4

The Central Valley Company has prepared department overhead budgets for budgeting-volume levels before allocations as follows:

Support Departments

Building and grounds	\$ 10000	
Personnel	1000	
General Plant administration	26090	
Cafeteria: operating loss	1640	
Storeroom	<u>2670</u>	\$ 41400

Operating Departments

Machining	\$ 34700	
Assembly	<u>48900</u>	\$ 83600
		<u>\$ 125000</u>

Bases for allocation are to be selected from the following:

Department	Direct Labor Hours	Numbers of employees	Square Feet of Floor Space	Manufacturing Labor Hours	Numbers of Requisitions
Building and grounds	0	0	0	0	0
Personnel	0	0	2000	0	0
General Plant administration	0	35	7000	0	0
Cafeteria: operating loss	0	10	4000	1000	0
Storeroom	0	5	7000	1000	0
Machining	5000	50	30000	8000	2000
Assembly	15000	100	50000	17000	1000
Total	20000	200	100000	27000	3000

Required:

- Using the direct method, allocate support-department costs. Develop overhead cost per direct manufacturing labor hour for machining and assembly departments. *Allocate the costs of the support departments in the order given in this problem.* Use the allocation base for each support department you think is most appropriate.
- Using the step-down, allocate support-department costs. Develop overhead cost per direct manufacturing labor hour for machining and assembly departments. Use the allocation base for each support department you think is most appropriate.
- Based on the following information about two jobs, determine the total overhead costs for each job by using rates in requirement 2.

	Direct manufacturing Labor Hours	
	Machining	Assembly
Job 88	18	2
Job 89	3	17

Example 5:

The Manes Company has two products. Product 1 is manufactured entirely in department X. Product 2 is manufactured entirely in department Y. To produce these two products, the Manes Company has two support departments : A (a materials – handling department) and B (a power –generating department).

An analysis of the work done by departments A and B in a typical period follows:

Supplied by	Used by			
	A	B	X	Y
A	-	100	250	150
B	500	-	100	400

The work done in department A is measured by the direct labor-hours of materials-handling time. The work done in department B is measured by the kilowatt-hours of power. The budgeted costs of the support departments for coming year are as follows:

	Department A (material Handling)	Department B (Power Generation)
Variable indirect labor and indirect material costs	\$ 70,000	\$10,000
Supervision	10,000	10,000
Depreciation	20,000	20,000
	\$100,000	\$40,000
	+ power cost	+material handling costs

The budgeted costs of the operating departments for the coming year are \$500,000 for department X and \$800,000 for department Y. Supervision costs are salary costs. Depreciation in department B is the straight line depreciation of power-generation equipment in its 19th year of an estimated 25-year useful life; it is old, but well-maintained, equipment.

Required:

- What are the allocations of costs of support departments A and B to operating departments X and Y using:
- the direct method,
 - the step-down method (allocate department A first),
 - the step –down method (allocate department B first), and
 - the reciprocal method

Example 6

Dewan's Book and Music Store has two service departments, Warehouse and Data Center and *two Production Departments, Music and Books*. Data on budgeted overheads of departments and warehouse-hours and number of computer log-on hours are as follows:

Data	Support Departments		Production Departments	
	Warehouse Department	Data Center Department	Music	Books
Budgeted overheads	\$350,000	\$117,000	\$125,000	\$150,000
Budgeted warehouse-hours	-	500	1,000	1,500
Number of computer hours	200	-	800	1,000

- Using the direct method, what amount of Warehouse Department costs will be allocated to Books Department?
 A) \$140,000 B) \$210,000 C) \$150,000 D) \$175,000
- Using the direct method, what amount of Data Center Department costs will be allocated to Music Department?
 A) \$150,000 B) \$65,000 C) \$52,000 D) \$60,000
- Using the direct method, what amount of total overheads of Music Department?
 A) \$125,000 B) \$140,000 C) \$317,000 D) \$265,000
- Using the direct method, what amount of overheads to be charged to a Job order No. XYZ, who required 100 labor hours of the total labor hours of 1000 hours at Music Department and 35 labor hours of the total labor hours of 2000 at Books Department?.
 A) \$212,5 B) \$7437,5 C) \$31700 D) \$39137,5
- Using the step-down method, what amount of Data Center Department cost will be allocated to the Warehouse Department if the service department with the highest percentage of interdepartmental support service is allocated first? (Round up)
 A) \$50,000 B) \$150,000 C) \$15,000 D) \$0
 Answer: D
- Using the step-down method, what amount of Warehouse Department cost will be allocated to Music Department if the service department with the highest percentage of interdepartmental support service is allocated first? (Round up)
 A) \$233,333 B) \$116,667 C) \$243,333 D) \$121,667
- Using the step-down method, what amount of Data Center Department cost will be allocated to Music Department if the service department with the highest percentage of interdepartmental support service is allocated first? (Round up)
 A) \$117,342 B) \$66,667 C) \$92,592 D) \$77,925