CASE 2

1. ABC is beneficial when traditional overhead allocation results in inaccurate product costing. Wall Dêcor should investigate the product costing system because in order to sell the unframed prints the stores must mark them up only slightly above their cost, while the framed prints enjoy a large profit margin. Traditional overhead allocation often results in inappropriate overhead allocation when one product is a high-volume item (in this case, the unframed prints) and another product is a more complex, low-volume item (in this case, the framed prints).

Another indication that ABC would be beneficial occurs when company managers have begun to develop their own costing systems because they have lost faith in the traditional system. In this case, the production manager does not have faith in the company's costing system and instead has developed her own costing system.

2. The activity-based overhead rates can be calculated by dividing the estimated overhead associated with each activity by the expected use of the cost driver.

CASE 2 (Continued)

Activity	Cost Driver	Estimated Overhead	Expected Use of Cost Driver	Activity-Based Overhead Rate
Picking prints	Number of prints	$ 30,600	(80,000 + 15,000 + 7,000) = 102,000 prints	$0.30 per pick
Inventory selection and management	Number of components: Print (1) Print and frame (2) Print, mat, and frame (3)	$ 91,700	Prints: 80,000 components Print and frame: 15,000 X 2 = 30,000 components Print, mat, and frame: 7,000 X 3 = 21,000 components Total = 131,000 components	$0.70 per component
Website optimization	Number of prints at capacity			
Unframed		$ 25,800	Unframed prints— 100,000 print capacity	$0.258 per print
Framed		$103,200	Framed or framed and matted prints— 25,000 capacity	$4.128 per framed or framed and matted print
Framing and matting	Number of components at capacity	$123,900	Print and frame: 16,000 X 2 = 32,000 components at capacity Print, mat, and frame: 9,000 X 3 = 27,000 components at capacity Total = 59,000 components	$2.10 per component
		$375,200		

CASE 2 (Continued)

3.

Description	Lance Armstrong Print	John Elway Steel-Framed Print, No Matting	Lambeau Field Wood-Framed Print, with Matting
Direct materials			
Print	$12.00	$16.00	$20.00
Frame and glass		4.00	6.00
Matting			4.00
Total	12.00	20.00	30.00
Direct labor			
Picking			
([10/60] X $12)	2.00	2.00	2.00
Matting and framing			
([20/60] X $21)		7.00	
([30/60] X $21)			10.50
Total	2.00	9.00	12.50
Manufacturing overhead by activity			
Picking prints			
@ $0.30 per pick	0.30	0.30	0.30
Inventory selection and management			
@ $0.70 per component (1, 2, and 3)	0.70	1.40	2.10
Website optimization			
@ $0.258 per print	0.258	0.00	0.00
@ $4.128 per framed or framed and matted		4.128	4.128
Framing and matting			
@ $2.10 per component		4.20	6.30
Total	1.258	10.028	12.828
Total product cost	$15.258	$39.028	$55.328

4. In Case 1 the high-volume prints consumed the greatest amount of overhead because it was assumed all manufacturing overhead was driven by print cost combined with sales volume, regardless of the mix of unframed prints and framed prints. Since far more unframed prints were sold, most of the overhead was allocated to unframed prints.

CASE 2 (Continued)

Under ABC, this changes. Although still based on estimates, ABC first provides an analysis of how resources were consumed by activity. Next, in the second step of allocation, activity costs are allocated to unframed prints and framed prints using different types of drivers. These drivers are designed to model how manufacturing overhead resources were consumed at the product level. For example, the last activity (framing and matting) is allocated to framed items only. The reason is that unframed prints do not consume framing and matting equipment, space, and general overhead resources.

The primary implication for the company is that the product costs will be more accurate, which will result in better product pricing and more accurate evaluation of the relative profitability of the products.

5. There are some costs that are very difficult to allocate because it is difficult to determine a meaningful cost driver that captures differences across products. Time and resources dedicated to web optimization for an integrated system fall into this category. In this case, in order to reflect the significant difference between the amount of time spent on web optimization by the IT staff on unframed prints versus framed prints, the total cost of web optimization was first split between these two categories. Time of IT staff was used to subdivide the cost by resource consumption between unframed prints and framed prints. This allocation, although it may appear simple, is sometimes very difficult to accomplish in the real world. Once identified, management can see that much of IT's resources are being consumed by framed and matted items.

6. The advantage of ABC versus traditional predetermined overhead allocation is that ABC allocates costs based on the activities that generate those costs. This results in more accurate product costing. By breaking costs down into more refined categories, product costing will be even more accurate. However, having more categories is costly from a record-keeping perspective. Increasingly, there is an effort by ABC consultants to "keep it simple" so as to reduce the cost of implementing ABC. It is believed that many of the benefits of ABC can be attained with relatively simple systems.

CASE 2 (Continued)

7. By allocating fixed overhead costs using operating capacity as the basis, management can see how much, approximately, each item costs at capacity. Although this is somewhat arbitrary, it does provide a benchmark for comparability and improvement. The advantage is that management can manage costs based on a standard.

If expected sales volume is used to allocate fixed overhead costs, then the allocation rate will fluctuate as sales fluctuate. This reduces the usefulness of analysis across years and makes planning very difficult. In fact, it can result in a vicious cycle: As volume decreases, the fixed cost per unit goes up, so product cost goes up. In response, management raises prices (because the product cost has risen). When the price rises, volume falls even further, and the cycle starts over again. Keep in mind that costs must be controlled at the activity level. Therefore, an activity cost at a standard is what is necessary for measurement, resource allocation, and evaluation. By allocating based on capacity these fluctuations can be eliminated (as long as capacity doesn't vary). Therefore, the use of operating capacity for allocating fixed overhead costs can result in better decision making.

8. (a) The allocation of the overhead to the three product categories would be as follows:

Unframed prints

Activity Cost Pool	Expected Use of Cost Driver	Overhead Rate	Cost Assigned
Picking prints	80,000	$0.30	$ 24,000
Inventory selection management	80,000	0.70	56,000
Website optimization	80,000	0.258	20,640
Framing and matting	na		
Total			$100,640

Steel-framed prints

Activity Cost Pool	Expected Use of Cost Driver	Overhead Rate	Cost Assigned
Picking prints	15,000	$0.30	$ 4,500
Inventory selection management	30,000	0.70	21,000
Website optimization	15,000	4.128	61,920
Framing and matting	30,000	2.10	63,000
Total			$150,420

CASE 2 (Continued)

Wood-framed prints with matting

Activity Cost Pool	Expected Use of Cost Driver	Overhead Rate	Cost Assigned
Picking prints	7,000	$0.30	$ 2,100
Inventory selection management	21,000	0.70	14,700
Website optimization	7,000	4.128	28,896
Framing and matting	21,000	2.10	44,100
Total			$89,796

(b) The total overhead allocated was $340,856, ($100,640 + $150,420 + $89,796). This is $34,344 less than the total overhead of $375,200. The overhead rates for website optimization and framing and matting were both determined using the capacity amount rather than the expected sales amount. The reasons for this were discussed earlier. Since expected/ actual sales were less than capacity, the overhead is underapplied. This cost of $34,344 can be viewed as the cost of operating at less than capacity. In order to reduce this amount, management should either figure out ways to increase sales or reduce fixed costs by shifting resources to other products.

