

ACTIVITY BASED COSTING

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Internet: The roommates
discuss the allocation of
roommate.

| | Room 1 | Room 2 |
|---------|--------|--------|
| Room 1 | 100 | 100 |
| Room 2 | 100 | 100 |
| Room 3 | 100 | 100 |
| Room 4 | 100 | 100 |
| Room 5 | 100 | 100 |
| Room 6 | 100 | 100 |
| Room 7 | 100 | 100 |
| Room 8 | 100 | 100 |
| Room 9 | 100 | 100 |
| Room 10 | 100 | 100 |

Study Objectives

- Recognize the difference between traditional costing and activity based costing
- Identify the steps in the development of an activity based costing system
- Example Cases

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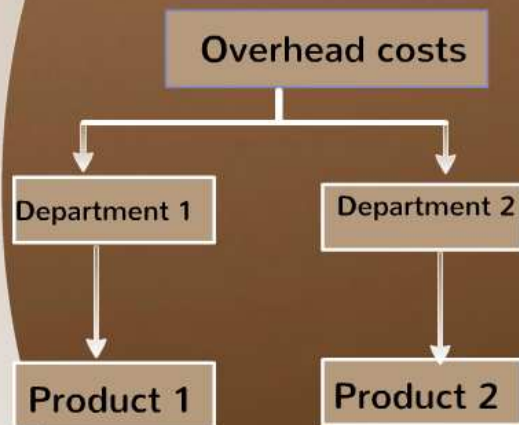
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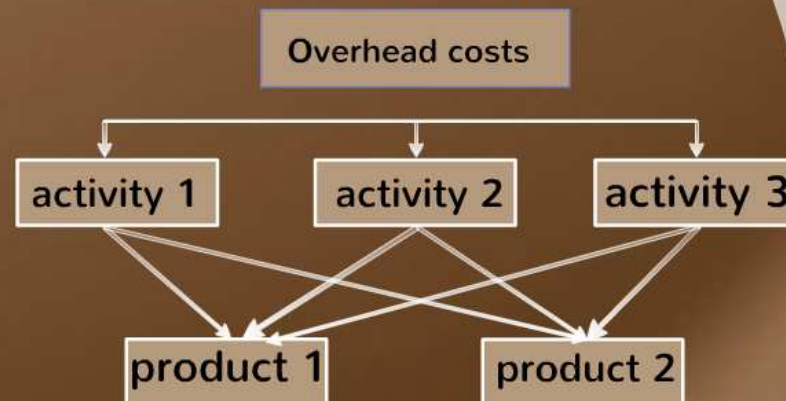
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The difference

Traditional two-stage system

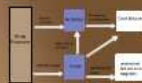


Activity based Costing



STEPS ABC

- Study process and costs
- Identify activities []
- Identify traceable costs []
- Assigning remaining costs to activities []
- Determine per-activity allocation rates
- Apply costs to objects



Identify activities

- **Unit level activities:** activities to product every one unit product. ex: 30000 baht for machines related to utilities, 10000 baht for calibration, 10000 baht to other costs of other units
- **Batch-level activities:** activities which are implemented every time of a batch process without paying attention to how many units in batch to be produced. ex: activity of purchasing order, setup machine.
- **Product-level activities:** related to specific product, no matter the volume of production. Ex) product design and marketing
- **Facility-level activity product:** activities without looking at who customers are, how much batch produced. it includes factory depreciation, security, landscaping, providing computer networking, etc

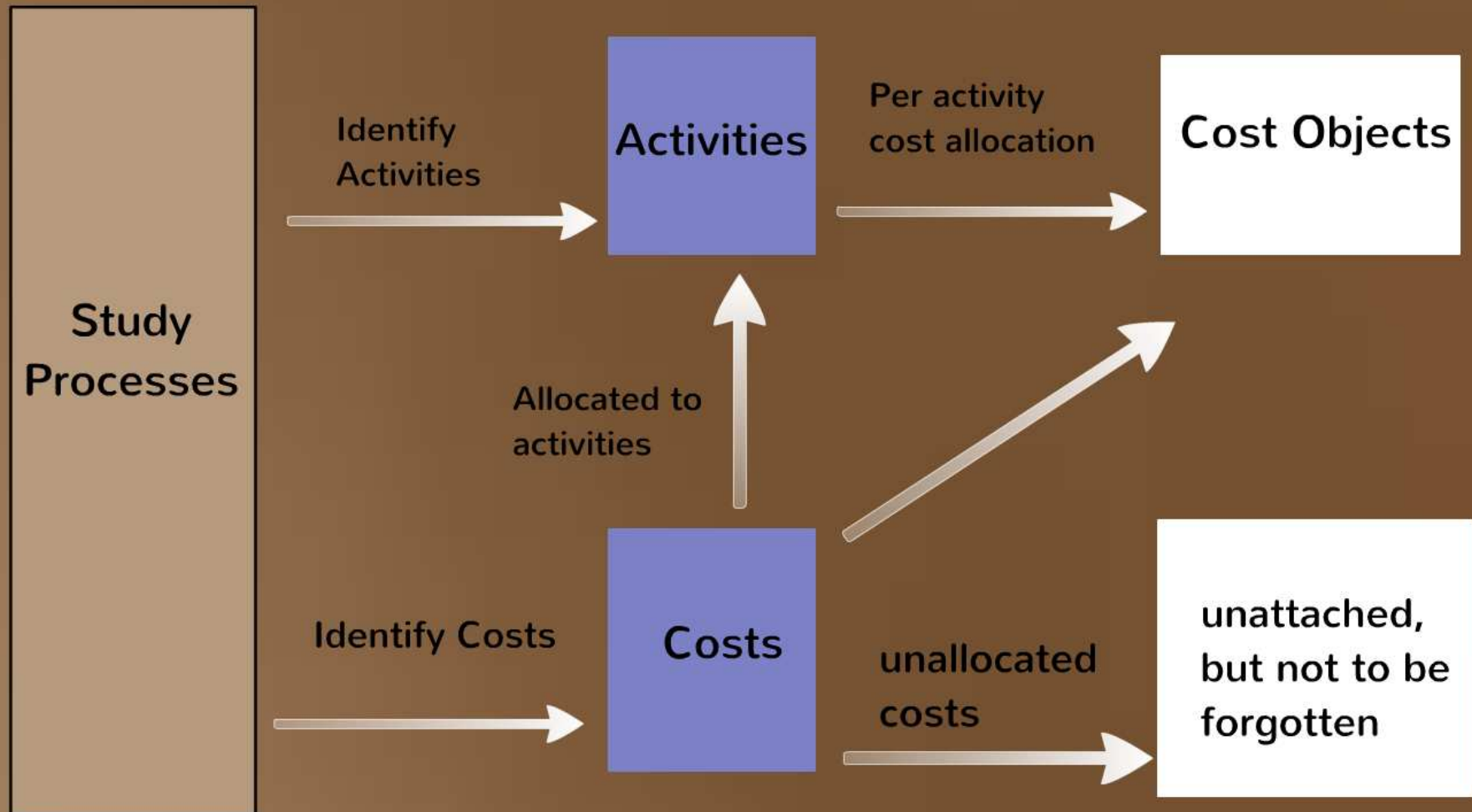
Identify traceable costs

- Ex) Direct material and direct labor in and end product

Costs are assigned to a related activity cost pool

Assigning remaining costs to activities

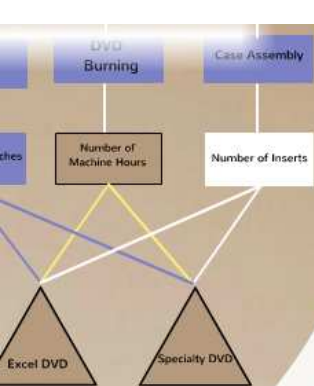
- Ex) the costs of an industrial engineering group that just sets up machines would be assigned to the machine set-up activity, which is then reallocated to products
- Some costs may remain unallocated
However, these should not be ignored



Step ABC in Health Care Organization:

- Identifying the major activities
- Assigning costs to cost pools/cost centers for each activity
- Definition of activity cost drivers
- Assigning the costs of activities to products





Example Traditional Costing System Versus an ABC System

Three roommates began sharing the costs (12000 baht per month) equally but were not participating in the activities of living there equally: eating, watching TV, and surfing the internet. The roommates called a meeting to discuss the allocation of the costs to each roommate.

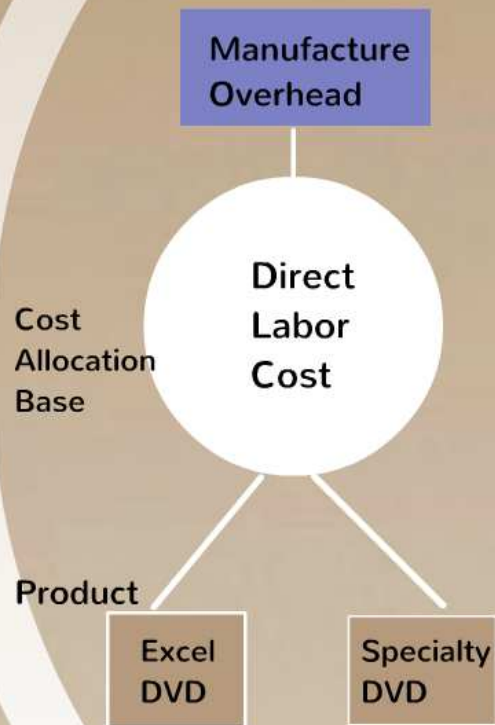
| Activity | Roommate A | Roommate B | Roommate C |
|----------------------|--------------|--------------|--------------|
| Eating | 4000 | 4000 | 4000 |
| Watching TV | 4000 | 4000 | 4000 |
| Surfing the Internet | 4000 | 4000 | 4000 |
| Total | 12000 | 12000 | 12000 |

| | Pink | Lee | Huong |
|-------------------------------------|-------|-------|-------|
| <hr/> | | | |
| More-refined cost allocation system | | | |
| Rent and utilities | 2500B | 2500B | 2500B |
| Cable TV | - | 900B | - |
| High-Speed Internet Access | 500B | 500B | 500B |
| Groceries | 600B | 1300B | 200B |
| <hr/> | | | |
| Total costs allocated | 3600B | 5200B | 3200B |
| Original cost allocation system | 4000B | 4000B | 4000B |
| Difference | 400B | 1200B | 800B |

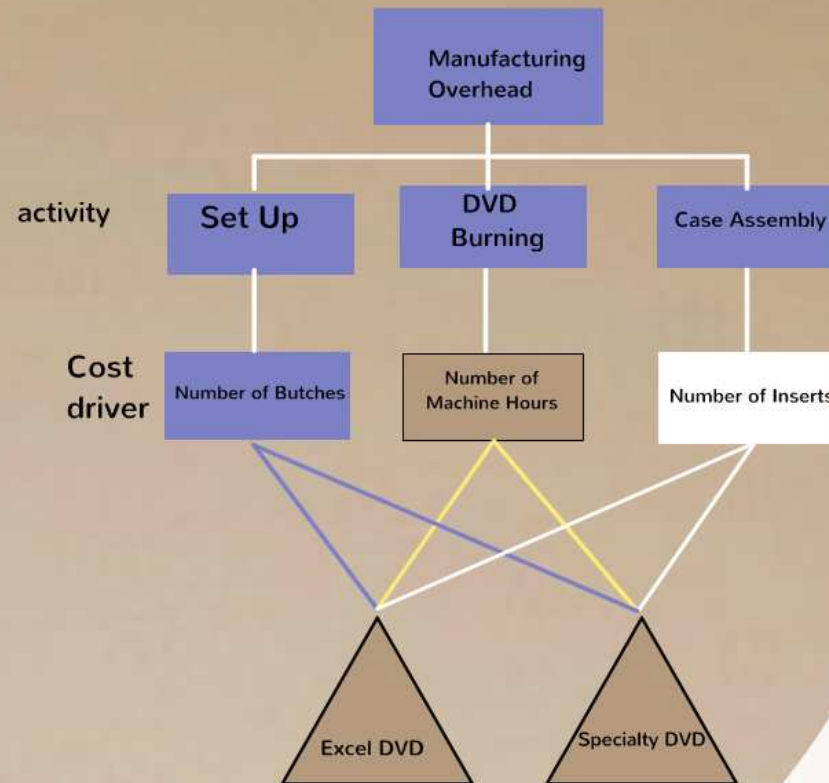
ABC: allocates cost based on the activity that causes the cost; goal is to allocate cost more accurately to jobs to get a clearer picture of what each product costs to manufacture; helps managers make better decisions

the other example
DVD Manufacturer

Panel A- Traditional System



Panel B- ABC system



Ngong & Chan are college friends planning a skiing trip to Aspen before the New Year. They estimated the following costs for the trip:

| Estimated Costs | | | Activity allocation | | |
|-----------------|----------------|----------------------|---------------------|-------|----------|
| | | | Chan | Ngong | |
| Food | \$ 600 | Pounds of Food eaten | 20 | 30 | = 50 lbs |
| Skiing | 210 | # of lift tickets | 3 | 0 | |
| Lodging | 400 | # of nights | 2 | 2 | |
| | <u>\$1.210</u> | | | | |

Chan suggests that the costs be shared equally. Calculate the amount each person would pay. $\$1.210 / 2 \text{ people} = \605 each

Ngong does not like the idea because she plans to stay in the room rather than ski. Ngong suggests that each type of cost be allocated to each person based on the cost driver listed above. Using the allocation for each person, calculate the amount that each person would pay based on his own consumption of the activity

1) Calculate rates

Food: $\$600 / 50 \text{ lbs} = \$12 / \text{lb}$

Ski: $\$210 / 3 = \$70 / \text{ticket}$

Lodging: $\$400 / 4 \text{ nights} = \$100 / \text{night}$

2) Allocate costs:

Chan

Food: $\$12 \times 20 = \240

Ski : $\$70 \times 3 = \210

Lodging: $\$100 \times 2 = \200

Ngong

$\$12 \times 30 = \360

$\$70 \times 0 = \0

$\$100 \times 2 = \200

the Advantages of ABC System

- to repair the quality of decision making
- to provide information based on activities
- to decrease overhead costs
- to decrease activity which are not giving added value
- the relevant cost estimation

Disadvantages

- Time consuming
- Costly
- Control to unallocated costs is not clear
- Some allocation costs are arbitrary

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References:

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