



# University of Pittsburgh *Pittsburgh, PA*

## Introduction to Activity Based Costing (ABC) Internet ABC Online Presentation

This page and this presentation are created by [Narcyz Roztocki](#).

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If you want to improve the operation or quality of your business, or just learn more about ABC, Economic Value Added and Decision-Making, then participate in our Internet-Based Surveys:

[Decision-Making and Decision Support Systems \(DSS\): Internet Based Survey](#)

[ABC and Economic Value Added: Internet-Based Survey](#)

An analysis will be posted after completion.

We anticipate valuable results.

Thanks for your time.

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Please fill out our questionnaire. Thanks!

[Questionnaire](#)

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Additions, ideas, questions, comments, and criticisms are **WELCOME!**

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**On the Development of a Combined Activity-Based Costing (ABC) and Economic Value Added (EVA)**

**System for Small Businesses:**

[ABC-and-EVA-Based System](#)

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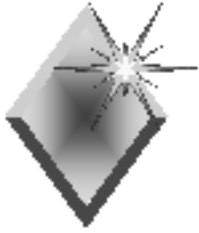
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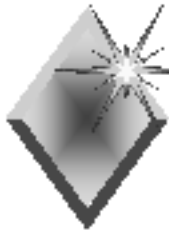
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# *Activity Based Costing (ABC)*



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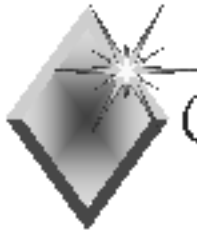
## *A typical situation in a small manufacturing firm*

- ◆ Technically good products/ service
- ◆ Products/ services delivered on time
- ◆ Satisfied customers
- ◆ Productivity around or above branch average
- ◆ Very successful growth in the first years after being founded
- ◆ Unacceptable level of profitability for a period of time

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## *Common beliefs*

- ◆ Not enough sales to be profitable
- ◆ Times are harder now
- ◆ End-products are sold for too low a price



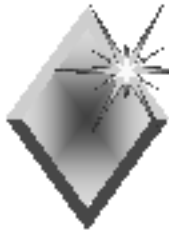


- ◆ An increase in sales does not necessarily increase profit
- ◆ Some products are money makers and some are money losers
- ◆ There are too many money losers
- ◆ Nobody is sure where money is being made and lost

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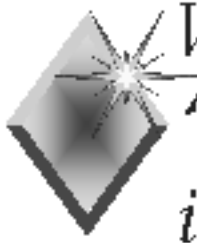
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## *Why is a new cost management system needed?*

- ◆ To determine the “true” cost for a cost object ( product, job, service, or customer)





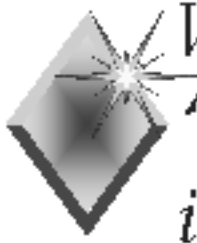
# *Why is the knowledge of the "true" cost of a product so important ?*

- ◆ To identify money makers / money losers
- ◆ To finding an economic break-even point
- ◆ To compare different options

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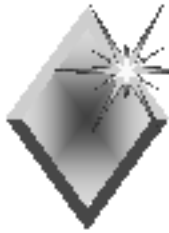
## *Why is the knowledge of the "true" cost of a product so important ? (cont)*

- ◆ To discover opportunities for cost improvement
- ◆ To prepare and actualize a business plan
- ◆ To improve strategic decision making

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## *Major factors for determination of market price*

- ◆ Competitors
- ◆ Customer Value

**Note:** “true” product costs (e.g. total manufacturing costs) have only a minor importance in final market price determination

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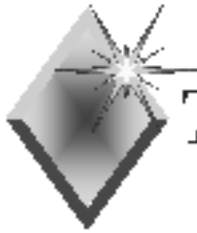
## *Ways to determine object cost*

- ◆ Intuition
- ◆ Educated guessing
- ◆ Traditional Cost Accounting (TCA)
- ◆ Activity Based Costing (ABC)

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## *Total cost for a cost object*

+ Direct Cost (Labor, Material)

+ Overhead Cost

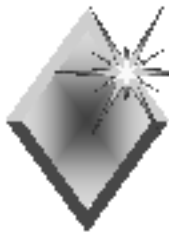


= Total Object Cost

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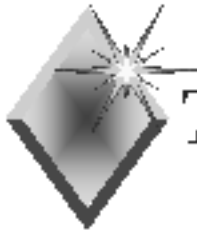
# *Traditional Cost Accounting (TCA)*

- ◆ Arbitrarily allocates overhead to the cost objects
- ◆ Total company's overhead is allocated to the products based on volume based measure e.g. labor hours, machine hours
- ◆ Assumption: Relation between overhead and the volume based measure

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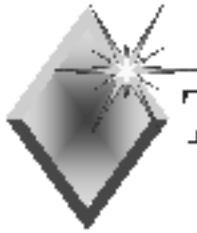
## *TCA in a company*

- ◆ Two products: product A and product B
- ◆ Product A:
  - ◆ 1 hour of direct labor  
direct labor cost: 1 hour \* \$ 20 / hour = \$20.00
  - ◆ demand: 100
- ◆ Product B:
  - ◆ 2 hours of direct labor  
direct labor cost: 2 hours \* \$ 20 / hour = \$40.00
  - ◆ demand: 950

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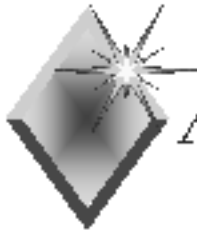
## *TCA in a company (cont)*

- ◆ Total overhead: \$ 100,000.00
- ◆ Total direct labor: 2,000 hours  
 $\$ 100,000 / 2000 \text{ hours} = \$ 50 / \text{hour}$
- ◆ Product A: 1 hour of direct labor
- ◆ Product B: 2 hours of direct labor
- ◆ TCA overhead allocation: A: 50 \$ / unit  
B: 100 \$ / unit

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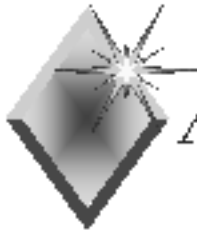
## *Activity Based Costing (ABC)*

- ◆ More accurate cost management methodology
- ◆ Focuses on indirect costs (overhead)
- ◆ Traces rather than allocates each expense category to the particular cost object
- ◆ Makes “indirect” expenses “direct”

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## *ABC Basic Premise*

- ◆ Cost objects consume activities
- ◆ Activities consume resources
- ◆ This consumption of resources is what drives costs
- ◆ Understanding this relationship is critical to successfully managing overhead

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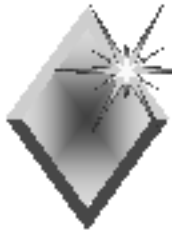
## *When to use ABC*

- ◆ Overhead is high
- ◆ Products are diverse: complexity, volume, amount of direct labor
- ◆ Cost of errors are high
- ◆ Competition is stiff

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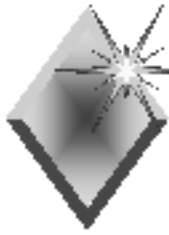
# ABC Steps

- 1. Identify activities*
- 2. Determine cost for each activity*
- 3. Determine cost drivers*
- 4. Collect activity data*
- 5. Calculate product cost*

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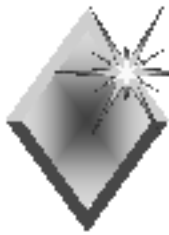


# *ABC Illustration*

## *1. Identify activities*

- ◆ Set-up
- ◆ Machining
- ◆ Receiving
- ◆ Packing
- ◆ Engineering



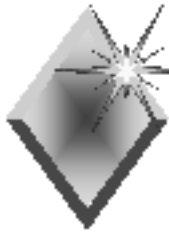


# ABC Illustration

## 2. Determine activity cost

◆ Set-up	\$10,000
◆ Machining	\$40,000
◆ Receiving	\$10,000
◆ Packing	\$10,000
◆ Engineering	\$30,000





# ABC Illustration

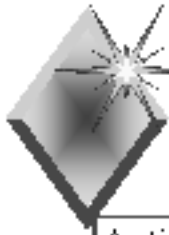
## 3. Determine cost drivers

- |               |                      |
|---------------|----------------------|
| ◆ Set-up:     | Number of Setups     |
| ◆ Machining   | Machining Hours      |
| ◆ Receiving   | Number of Receipts   |
| ◆ Packing     | Number of Deliveries |
| ◆ Engineering | Engineering Hours    |

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# ABC Illustration

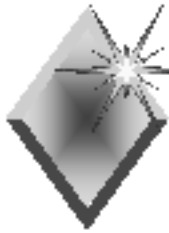
## 4. Activity data

Activity	Cost (\$)	Product A	\$	Product B	\$
Set-up	10,000	1	2,500	3	7,500
Machining	40,000	100	2,000	1900	38,000
Receiving	10,000	1	2,500	3	7,500
Packing	10,000	1	2,500	3	7,500
Engineering	30,000	500	15,000	500	15,000
			24,500		75,500

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## *ABC Illustration*

### *5. Product cost calculation*

- ◆ Overhead for Product A:

$$\text{\$ } 24,500 : 100 = \text{\$ } 245$$

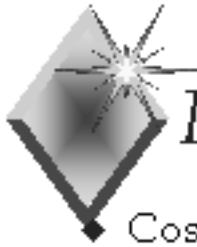
- ◆ Overhead for Product B:

$$\text{\$ } 75,500 : 950 = \text{\$ } 79.47$$

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## *Product cost TCA vs. ABC*

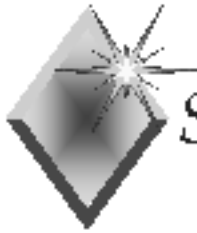
◆ Cost for **Product A:**

Overhead:	TCA: \$ 50.00	ABC: \$ 245.00
Direct cost:	\$ 20.00	\$ 20.00
Total:	<b>\$ 70.00</b>	<b>\$ 265.00</b>

◆ Cost for **Product B:**

Overhead:	TCA: \$ 100.00	ABC: \$ 79.47
Direct cost:	\$ 40.00	\$ 40.00
Total:	<b>\$ 140.00</b>	<b>\$ 119.47</b>





## *Summary of ABC approach*

- ◆ ABC is more accurate cost management system than Traditional Cost Accounting (TCA)
- ◆ Traditional Cost Accounting (TCA) is unable to calculate the “true” cost of a product

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