1. **Appendix 2A: Activity-Based Absorption Costing** **(Slide 1 is the title slide)**

*Learning Objective 5: Use activity-based absorption costing to compute unit product costs.*

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#### Key definitions/concepts

* + 1. Activity-based absorption costing assigns **all manufacturing overhead costs** to products using activity cost pools instead of plantwide or departmental cost pools.

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* + - 1. An **activity** is an event that causes the consumption of overhead resources.
      2. An **activity cost pool** is a “bucket” in which costs are accumulated that relate to a single activity.

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* + - 1. An **activity measure** is an allocation that is used as the denominator for an activity cost pool.
      2. An **activity rate** is used to assign costs from an activity cost pool to products.

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* + 1. Activity-based absorption costing differs from traditional absorption costing in **two ways**:
       1. The activity based approach uses **more cost pools** than a traditional approach.

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* + - 1. The activity-based approach includes some **batch-level** and **product-level** activities and activity measures that **do not relate to the volume of units produced**, whereas the traditional approach relies exclusively on volume-related overhead allocation.

#### Simmons Industries – a traditional approach

* + 1. Assume the following information for the company as a whole and for its only two products—deluxe and standard hedge trimmers.

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* + 1. If we assume that Simmons’ traditional cost system relies on one predetermined **plantwide overhead rate** with **direct labor-hours** as the allocation base, then its plantwide overhead rate (**$4.50 per direct labor-hour**) would be computed as shown.

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* + 1. Simmons’ traditional cost system would report unit product costs as shown. Notice:
       1. The deluxe product line is assigned **$9.00** of overhead cost per unit (= 2.0 DLH × $4.50 per hour).

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* + - 1. The standard product line is assigned **$4.50** of overhead cost per unit (= 1.0 DLH × $4.50 per hour).

#### Simmons Industries – activity-based absorption costing

* + 1. Assume that Simmons assigned its **$1,800,000** of manufacturing overhead costs to three activities with expected activity levels as shown.

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* + 1. The **activity rates** for each of the three activities would be computed as shown.

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* + 1. The **overhead cost assignments** to the deluxe and standard product lines are computed as shown. Notice:

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* + - 1. All manufacturing overhead has been assigned to products (**$1,130,000 + $670,000 = $1,800,000**).
    1. The **activity-based unit product costs** for both product lines are computed as shown. Notice:

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* + - 1. The manufacturing overhead per unit for both products is computed by taking the total overhead assigned to that product and dividing it by the number of units produced.

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#### Simmons Industries – comparing the two approaches

* + 1. The difference in unit product costs between the two methods is as shown. Notice, the activity-based unit product cost for the deluxe (standard) product line is higher (lower) than what was computed using the traditional cost system. This is because:

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* + - 1. The activity-based approach contains **two non-volume-related cost pools**—“setting up machines” which is a batch-level activity and “parts administration” which is a product-level activity.

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* + - 1. The activity-based approach assigned these costs to products in a way that **shifted costs from the high volume product (standard) to the low volume product (deluxe)**.