

Applying Overhead Cost; Computing Unit Product Cost [LO2-2, LO2-3]

Newhard Company Assigns Overhead Cost

Applying Overhead Cost; Computing Unit Product Cost [LO2-2, LO2-3] Newhard Company Assigns Overhead Cost is a fundamental aspect of managerial accounting that helps businesses determine the total cost of producing a product or service. Properly allocating overhead costs ensures accurate product costing, which is essential for setting competitive prices, evaluating profitability, and making strategic decisions. In this article, we will explore the concepts of overhead cost application and unit product cost calculation, focusing on how Newhard Company assigns overhead costs to its products.

Understanding Overhead Costs

Overhead costs, also known as indirect costs, are expenses that cannot be directly traced to a specific product or service. These include items like rent, utilities, depreciation, salaries of supervisors, and maintenance expenses. Since overhead costs are not directly attributable to a single product, businesses must allocate them systematically across all products or services produced.

Types of Overhead Costs

Overhead costs can be categorized into:

- **Manufacturing Overhead:** Costs related to the manufacturing process but not directly tied to specific units, such as factory rent and equipment depreciation.
- **Administrative Overhead:** Costs associated with general administration, such as office salaries and supplies.
- **Selling Overhead:** Expenses related to marketing and distribution, including advertising and shipping.

For the scope of product costing, manufacturing overhead is most relevant.

Applying Overhead Cost: Methods and Techniques

Allocating overhead costs involves choosing an appropriate base or activity that relates overhead expenditures to products. The two most common methods are the traditional

costing system and activity-based costing (ABC).

Traditional Costing Method

This method applies overhead using a single overhead rate based on a chosen cost driver, such as direct labor hours or machine hours. The steps include:

1. Calculating the total estimated overhead costs for the period.
2. Estimating the total units of the cost driver (e.g., total direct labor hours).
3. Calculating the predetermined overhead rate: **Overhead Rate = Estimated Overhead / Estimated Cost Driver.**
4. Applying overhead to individual products: **Applied Overhead = Actual Cost Driver × Overhead Rate.**

This method is simple but may lead to cost distortion if products consume overhead at different rates.

Activity-Based Costing (ABC)

ABC allocates overhead based on multiple activities that drive costs, providing more accurate product costs. It involves:

- Identifying activities that incur overhead.
- Assigning costs to these activities.
- Determining cost drivers for each activity.
- Calculating activity rates.
- Applying overhead based on actual activity consumption by each product.

While more precise, ABC can be complex and resource-intensive to implement.

Calculating Unit Product Cost

To determine the cost per unit, businesses need to sum direct materials, direct labor, and allocated overhead. The general formula is:

Unit Product Cost = Direct Materials + Direct Labor + Applied Manufacturing Overhead

Let's break down the components:

Direct Materials

Costs of raw materials that are traceable to the product.

Direct Labor

Wages of workers directly involved in manufacturing the product.

Applied Manufacturing Overhead

Overhead costs allocated to the product using the chosen method.

Example Calculation:

Suppose Newhard Company produces widgets, and the following data is available:

- Direct materials cost per unit: \$5
- Direct labor cost per unit: \$4
- Estimated overhead: \$50,000
- Estimated machine hours: 10,000 hours
- Actual machine hours used: 2,000 hours
- Total units produced: 5,000

Step 1: Calculate the predetermined overhead rate:

$$\text{Overhead Rate} = \$50,000 / 10,000 \text{ hours} = \$5 \text{ per machine hour}$$

Step 2: Apply overhead to actual production:

$$\text{Applied Overhead} = 2,000 \text{ hours} \times \$5 = \$10,000$$

Step 3: Calculate the overhead cost per unit:

$$\text{Overhead per unit} = \$10,000 / 5,000 \text{ units} = \$2$$

Step 4: Compute total unit product cost:

$$\text{Unit Cost} = \$5 \text{ (materials)} + \$4 \text{ (labor)} + \$2 \text{ (overhead)} = \$11$$

This comprehensive approach ensures each unit's cost reflects all relevant expenses, facilitating accurate pricing and profitability analysis.

Case Study: Newhard Company's Overhead Allocation

Let's consider how Newhard Company applies overhead costs in practice.

Company Background

Newhard Company manufactures custom furniture. The company estimates its manufacturing overhead for the upcoming year at \$600,000. It uses direct labor hours as the cost driver, estimating total labor hours at 30,000 hours.

Overhead Rate Calculation

Overhead Rate = $\$600,000 / 30,000 \text{ hours} = \$20 \text{ per labor hour}$

This rate is predetermined and used throughout the year to apply overhead costs to products based on actual labor hours incurred.

Applying Overhead to Products

Suppose a batch of tables requires 50 labor hours per unit, and the company produces 200 units in that batch.

Overhead applied per unit:

$50 \text{ hours} \times \$20 = \$1,000 \text{ per unit in overhead}$

Total overhead for the batch:

$200 \text{ units} \times \$1,000 = \$200,000$

By applying overhead systematically, Newhard ensures that each product bears a fair share of indirect costs, aiding in setting appropriate selling prices and analyzing profitability.

Challenges and Best Practices in Overhead Cost Allocation

While assigning overhead costs is essential, it presents several challenges:

- Choosing appropriate cost drivers that accurately reflect resource consumption.
- Dealing with fluctuating overhead costs and activity levels.
- Ensuring consistency in application methods over time.
- Balancing accuracy with simplicity, especially for small or less complex operations.

Best practices to address these challenges include:

- Regularly reviewing and updating overhead rates and cost drivers.

- Using multiple cost drivers when necessary to improve accuracy (ABC approach).
- Implementing robust costing systems with clear documentation.
- Training staff involved in costing procedures to ensure understanding and consistency.

Conclusion

Applying overhead cost and computing unit product cost are vital processes in managerial accounting that influence pricing strategies, cost control, and profitability analysis. By understanding the different methods of overhead application—traditional versus activity-based costing—and accurately calculating unit costs, companies like Newhard can make informed decisions that enhance operational efficiency and competitiveness. While challenges exist, adopting best practices ensures that overhead allocation accurately reflects resource consumption, ultimately leading to better financial management and strategic planning.

Frequently Asked Questions

What is the primary purpose of applying overhead cost in manufacturing?

Applying overhead cost helps allocate indirect manufacturing expenses to individual products or jobs, ensuring accurate cost measurement and profitability analysis.

How does Newhard Company assign overhead costs to products?

Newhard Company assigns overhead costs based on a predetermined overhead rate, typically calculated using estimated overhead divided by estimated activity base, such as direct labor hours or machine hours.

What is the formula for computing the unit product cost including overhead?

Unit product cost = Direct materials cost + Direct labor cost + Applied overhead cost per unit.

How is the overhead rate determined in LO2-2 and LO2-3?

The overhead rate is determined by dividing estimated total overhead costs by estimated

total activity base (e.g., total direct labor hours or machine hours).

What are the implications of under- or over-applied overhead in cost computation?

Under-applied overhead means actual overhead exceeds applied overhead, leading to understated product costs; over-applied means the opposite. Adjustments are needed to reflect accurate costs and financial statements.

Why is it important for Newhard Company to accurately compute unit product costs?

Accurate unit product costs are essential for setting competitive prices, controlling costs, evaluating profitability, and making informed managerial decisions.

Additional Resources

Applying Overhead Cost; Computing Unit Product Cost [LO2-2, LO2-3] Newhard Company Assigns Overhead Cost

In the competitive landscape of manufacturing, accurately allocating overhead costs to products is essential for effective pricing, profit analysis, and strategic decision-making. One company that exemplifies this meticulous process is Newhard Company, a manufacturer striving to refine its costing methods to ensure financial precision. At the core of this effort lies the concept of applying overhead costs and computing unit product costs—a fundamental aspect of managerial accounting that helps businesses understand the true cost of production. This article explores the principles and procedures involved in assigning overhead costs, detailing how Newhard Company approaches these tasks to achieve accurate product costing.

Understanding Overhead Costs in Manufacturing

What Are Overhead Costs?

Overhead costs, also known as indirect manufacturing costs, encompass expenses that are not directly traceable to a specific product but are necessary for the manufacturing process. These include costs such as:

- Factory rent and utilities
- Depreciation of machinery and equipment
- Maintenance and repairs
- Factory supplies
- Salaries of supervisory and support staff
- Insurance related to manufacturing facilities

Unlike direct materials or direct labor, overhead costs cannot be directly assigned to individual units at the time of production. Instead, they are accumulated and then allocated to products based on a predetermined method.

The Importance of Proper Overhead Allocation

Accurate overhead allocation ensures that each product's cost reflects all expenses incurred during production. Misallocation can lead to several issues:

- Incorrect pricing strategies: Underestimating costs may result in losses, while overestimating can price products out of the market.
- Poor profitability analysis: Managers may make misguided decisions regarding product lines.
- Ineffective cost control: Without proper insight into overhead distribution, controlling expenses becomes challenging.

Therefore, establishing a systematic approach to applying overhead is critical for maintaining financial health and competitiveness.

Applying Overhead Cost: The Process at Newhard Company

Step 1: Selecting an Allocation Base

Newhard Company begins by choosing a suitable allocation base, which serves as the foundation for distributing overhead costs. Common bases include:

- Direct labor hours
- Direct labor costs
- Machine hours
- Units produced

The choice depends on the nature of production and which base most accurately correlates with overhead incurrence. For example, if machine operation drives overhead costs, machine hours are appropriate.

Step 2: Estimating Total Overhead and the Allocation Base

Before applying overhead, Newhard estimates the total manufacturing overhead for the period and the total amount of the chosen base. For instance:

- Estimated total manufacturing overhead: \$500,000
- Estimated total machine hours: 25,000 hours

This estimation provides the basis for calculating the predetermined overhead rate.

Step 3: Computing the Predetermined Overhead Rate

The predetermined overhead rate (POHR) is a key metric that simplifies overhead application throughout the period. It is calculated as:

$$\text{POHR} = \text{Estimated Total Overhead} / \text{Estimated Total of the Allocation Base}$$

Using the previous figures:

$$\text{POHR} = \$500,000 / 25,000 \text{ hours} = \$20 \text{ per machine hour}$$

This rate means that for every machine hour used, \$20 of overhead will be allocated.

Step 4: Applying Overhead to Production

During production, the actual machine hours used for each product are recorded. Overhead applied is then calculated:

$$\text{Applied Overhead} = \text{Actual Machine Hours} \times \text{POHR}$$

Suppose a batch of Product A consumes 1,200 machine hours:

$$\text{Applied Overhead} = 1,200 \text{ hours} \times \$20/\text{hour} = \$24,000$$

This amount gets assigned to Product A, reflecting its share of overhead costs.

Computing Unit Product Cost

Once overhead is applied, the next step involves calculating the total cost per unit, which includes direct materials, direct labor, and allocated overhead.

Step 1: Summing Direct Costs

Add direct material costs and direct labor costs per unit. For example:

- Direct materials per unit: \$10
- Direct labor per unit: \$8

Step 2: Allocating Overhead per Unit

Calculate overhead per unit by dividing the total applied overhead for a batch by the number of units produced.

For instance, if 1,000 units are produced with a total applied overhead of \$24,000:

Overhead per unit = $\$24,000 / 1,000 \text{ units} = \24

Step 3: Calculating Total Unit Product Cost

Add all costs:

Unit Product Cost = Direct Materials + Direct Labor + Allocated Overhead

For Product A:

Unit Product Cost = $\$10 + \$8 + \$24 = \42

This comprehensive figure informs managers about the true cost of each unit, enabling more informed decision-making.

Challenges and Considerations in Overhead Application

While the process appears straightforward, several challenges can complicate overhead application:

- Estimations versus actuals: The use of estimated overhead and activity levels can cause variances, leading to over- or under-applied overhead.
- Choosing the right base: An inappropriate allocation base may distort product costs.
- Overhead volume fluctuations: Changes in production volume can impact the accuracy of predetermined rates.
- Activity-based costing (ABC): For complex environments, ABC may offer more precise allocations by identifying multiple cost drivers rather than relying on a single base.

Newhard Company continuously reviews its overhead application methods to address these challenges, ensuring costs are allocated as accurately as possible.

Implications for Business Strategy

Accurate application of overhead costs directly influences pricing strategies. If overhead is underapplied, products may be underpriced, eroding margins. Conversely, overapplied overhead can result in inflated prices, reducing competitiveness.

Additionally, precise costing informs:

- Product line decisions: Identifying profitable versus unprofitable products.
- Cost control efforts: Pinpointing areas where overhead expenses can be reduced.
- Budgeting and forecasting: Enhancing the accuracy of financial plans.

For Newhard Company, mastering overhead application is not merely an accounting exercise but a strategic tool that supports sustainable growth.

Conclusion

Applying overhead costs and computing unit product costs are vital components of effective managerial accounting. Newhard Company's systematic approach—selecting appropriate bases, estimating costs, calculating predetermined rates, and applying overhead accurately—serves as a model for manufacturing firms aiming for cost transparency and strategic insight. By understanding and refining these processes, businesses can ensure their product costing reflects true expenses, support informed decision-making, and maintain a competitive edge in the marketplace. As manufacturing environments evolve, so too must the methods for overhead allocation, embracing innovations like activity-based costing to meet the demands of modern cost management.

[Applying Overhead Cost Computing Unit Product Cost Lo2 2 Lo2 3 Newhard Company Assigns Overhead Cost](#)

Applying Overhead Cost Computing Unit Product Cost Lo2 2 Lo2 3 Newhard Company Assigns Overhead Cost

Related Articles

- [An Inflammatory Response Is Triggered When Group Of Answer Choices Blood Flow To An Area Increases. Mast](#)
- [How Can Scientists Use The Periodic Table To Predict The Behavior Of New Elements? In One Paragraph \[6-8](#)
- [Aromatic Compounds Are Often Identified Based On Common Names. What Is The Common Name Of A Benzene Ring](#)

[Back to Home](#)