Course Learning Outcomes for Unit II

Upon completion of this unit, students should be able to:

2. Apply accounting concepts to the creation of accounting information and reports.
   2.1 Prepare reports using both job order and process costing methods.

3. Analyze accounting information used to make strategic business decisions.
   3.1 Define job order and process costing.
   3.2 Compare and contrast the use of job order and process costing.

Course/Unit Learning Outcomes	Learning Activity
2.1	Unit Lesson Chapter 2, pp. 2-1 – 2-31 Chapter 3, pp. 3-1 – 3-16 Unit II Lab Assignment Unit II Project
3.1	Unit Lesson Chapter 2, pp. 2-1 – 2-31 Chapter 3, pp. 3-1 – 3-16 Unit II Lab Assignment
3.2	Unit Lesson Chapter 2, pp. 2-1 – 2-31 Chapter 3, pp. 3-1 – 3-16 Unit II Lab Assignment Unit II Project

Required Unit Resources

Chapter 2: Job-Order Costing for Manufacturing and Service Companies, pp. 2-1 – 2-31

Chapter 3: Process Costing, pp. 3-1 – 3-16

Unit Lesson

Introduction

Welcome to Unit II. In this unit, we will discuss two different costing methods, *job order* and *process costing*. It is important to identify the costs needed to make a product or to provide a service so that the organization ensures that it is pricing the product properly. In other words, if you manufacture computers and they cost you $1,000 to make, then you need to price them for sale at more than $1,000 or the company will lose money. The same is true for pricing services. If the cost to provide a haircut service is $25, you would need to price the haircut for your customers at more than $25 to stay in business.

In this unit, we will also look at how various costs of products or services are accumulated and tracked using costing sheets or reports and how the data is entered into the accounting system of the company.

Types of Costs

Regardless of the type of costing method that is selected, costs will fall into two broad categories; product and period costs. Product costs will be our main focus in this unit.

Product costs are those that directly relate to the product or service. The components of product costs are direct material, direct labor, and overhead. Some examples of direct materials include hardware components needed to make computers, grains and sugar needed to make cereal, and medical supplies needed to treat patients. Examples of direct labor costs include the wages of the factory workers that assemble the computers, the wages of those who mix the ingredients to make the cereal, and the wages of the nurses who treat the patients. Overhead costs consist of the cost of electricity to run the factory or hospital, the cost of property taxes for the factory or hospital, or the salary of the onsite quality control managers. These costs all directly relate to making the product or providing the service.

In contrast, *period costs* are related to the business in general. These costs include selling and administrative costs. An example of selling costs is advertising or the cost of fundraising for a hospital. Administrative costs are the salary of the CEO of the organization or the rent on the corporate headquarters office building. These costs do not directly relate to making the product or providing the service but are necessary expenses of the company.

Types of Costing Methods

There are two main types of costing methods presented in this unit: job order costing and process costing. *Job order costing* shows how product costs are accumulated for a particular job. This method is primarily used when a product's or service's costs can be specifically identified. An example would be the cost of manufacturing a special order computer or building a house. Each cost associated that the product or service (direct material, direct labor and overhead) is logged into a job cost sheet similar to the example below:

THE COMPUTER MFG INC.
Job Order Cost Sheet // Job number: 1111

DIRECT MATERIAL

MATERIALS	TOTAL COST
Fan	125.00
Processor	300.00
Memory	75.00
Wires	40.00
Keyboards	220.00
TOTAL	**760.00**

DIRECT LABOR

DATE	HOURS	RATE	TOTAL COST
1/1/xx	6	15.00	90.00
1/2/xx	8	15.00	120.00
1/3/xx	4	15.00	60.00
1/5/xx	1	20.00	20.00
			290.00

MANUFACTURING OVERHEAD

TOTAL COST
87.00
87.00

COST SUMMARY

Direct Materials	760.00
Direct Labor	290.00
Manufacturing Overhead	87.00
TOTAL	**1,1137.00**

UNITS	1
COST PER UNIT	1,1137.00

Cost sheet that is meant to help the manager determine the proper selling price for a product.

This tracking of costs will help the manager determine the proper selling price for the product or service. In contrast, *process costing* is primarily used by companies that manufacture large amounts of very similar products like cereal manufacturers. Each piece of cereal cannot be specifically identified as in the job order costing example related to special order computers. In processing costing, this involves the product or service going through a series of steps or processes. For example, in cereal manufacturing, the ingredients would need to be mixed, baked, and packaged—to name a few of the processes involved. Each of those processes would come with a cost that needs to be accounted for to determine the total cost of the cereal. For example, ingredients (direct materials) are added in the mixing process, workers (direct labor) run the mixing machines, and electric costs are incurred to run the mixing machines in the cereal factory (overhead). These costs are accumulated on a production cost report for a period of time, typically a month, as shown in the example below:

THE CEREAL MFG INC.
Production Cost Report // Packaging Department

COST	MATERIAL	LABOR	OVERHEAD	TRANS IN	TOTAL
Beginning WIP (work-in-progress)	10,000.00	8,000.00	24,000.00	30,000.00	72,000.00
Cost incurred	150,000.00	40,000.00	190,000.00	900,000.00	1,280,000.00
TOTAL	**160,000.00**	**48,000.00**	**214,000.00**	**930,000.00**	**1,352,000.00**
UNITS					
Units completed	60,000.00	60,000.00	60,000.00	60,000.00	
Equivalent Units (ending WIP)	50,000.00	25,000.00	25,000.00	50,000.00	
TOTAL	**110,000.00**	**85,000.00**	**85,000.00**	**110,000.00**	
Cost per equivalent unit	$ 0.11	$ 0.09	$ 0.02	$ 8.34	$ 8.36

Production cost reports help to see the actual total cost of the product.

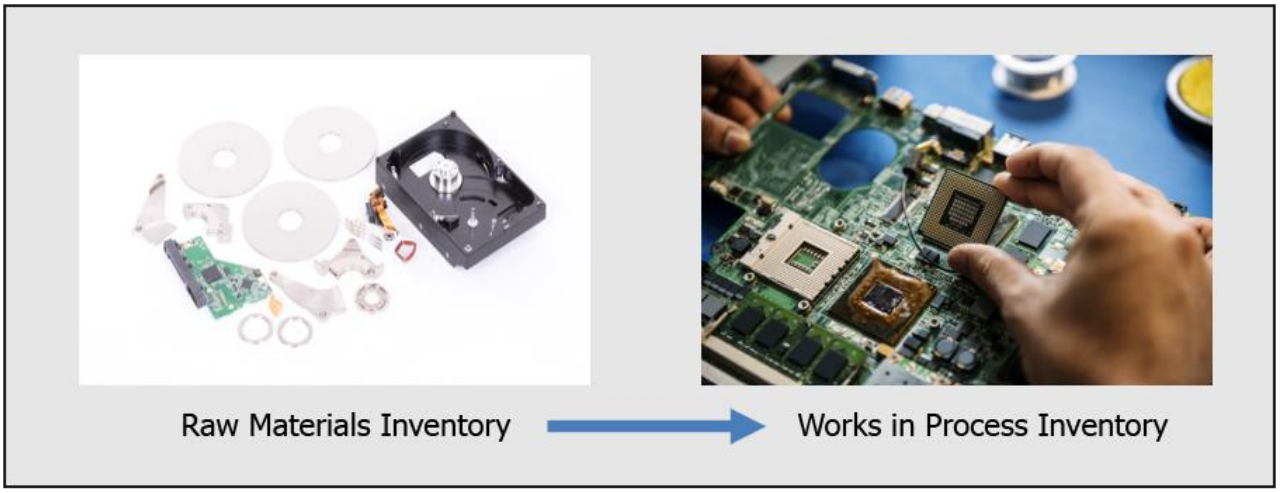
Accounting for Costs

As we look at job order and processing costing in this unit, we also need to discuss cost terminology associated with these two costing methods from an accounting point of view. As products are being made or services are being performed, the costs are being accumulated, as we have seen in a job cost sheet and/or a production cost report. These costs then need to be entered in the company's accounting system so that all costs over time are accounted for within the company. The accounting system will have a series of accounts that accumulate the final cost of the product or service. We are going to start off with the accounts associated with job order costing.

A basic review of product costs for a computer manufacturer is shown below:

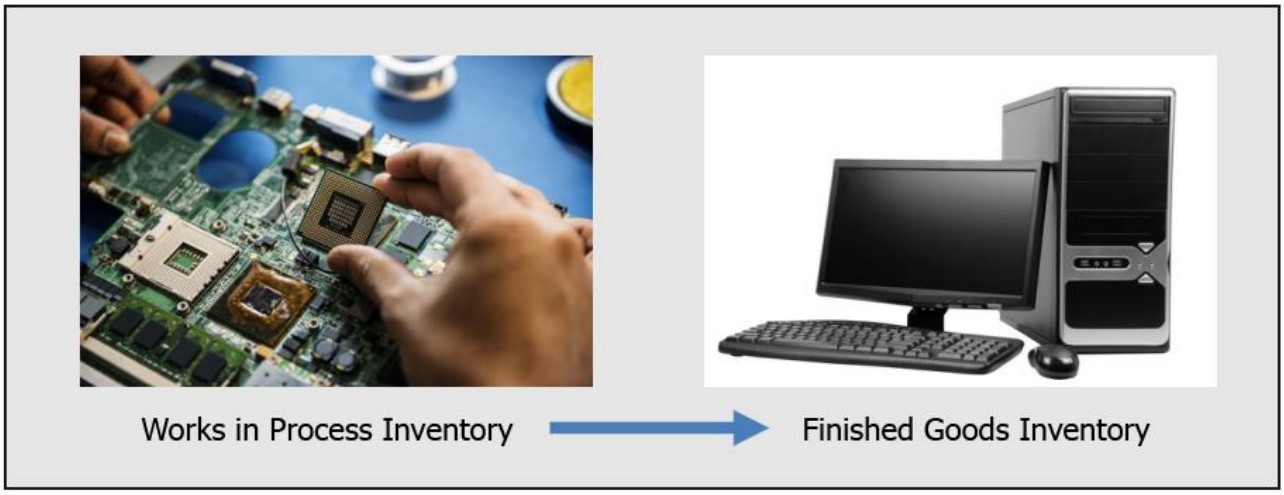
Formula for Product Costs
(Klootwijk, n.d.; Bialasiewicz, n.d.; Photomall, n.d.)

The cost of the direct materials (computer components in this case) are entered into the Raw Materials Inventory account when they are purchased. The cost of the components will remain in that account until they are needed to make the computers. When it is time to start making the computers, a requisition or order form will be generated and sent to the storage area asking that these components to be moved to the factory floor so that workers can assemble the computers. This moves the costs of the components from Raw Materials Inventory to Works in Process Inventory.



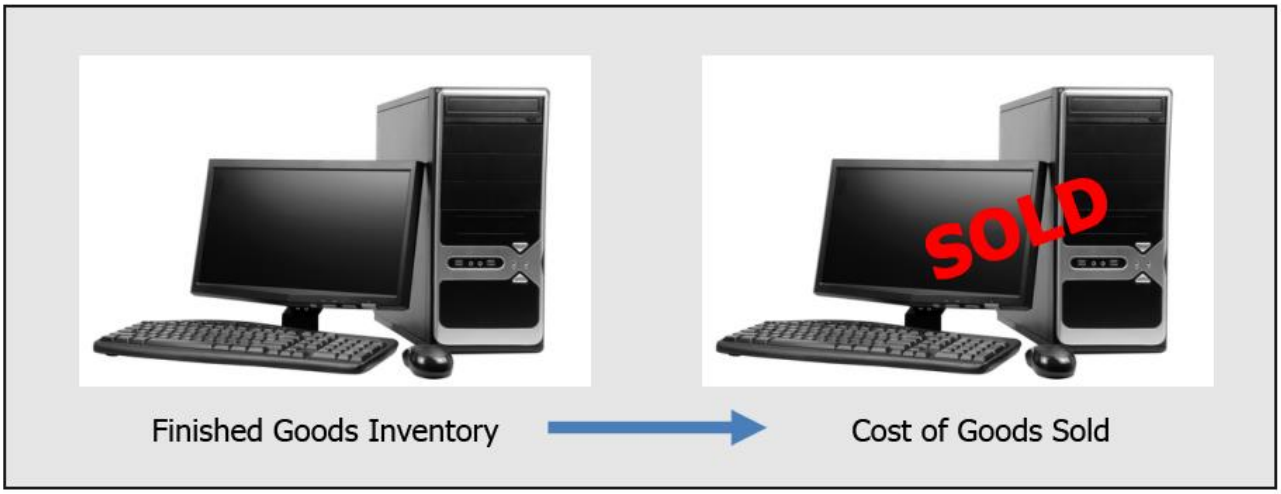
Cost moves from Raw Materials Inventory to Works in Process Inventory
(Klootwijk, 2019; Rawpixelimages, n.d.)

Once the materials are on the factory floor, they need to be "converted" into a finished product (computer). Therefore, the term *conversion costs* includes both direct labor and factory overhead, which are costs needed to convert those raw materials into a computer. As these computers are being assembled, the direct materials, direct labor, and faculty overhead costs continue to accumulate in the Works in Process Inventory. All these costs will remain in the Works in Process Inventory until the product is completely finished. Once the product is finished, all accumulated costs will move to the Finished Goods Inventory account.



Cost moves from Works in Process Inventory to Finished Goods Inventory
(Rawpixelimages, n.d.; Raja Rc, n.d.)

The costs to make the computer will remain in Finished Goods Inventory until the computer is actually sold, then the cost of making the computer will transfer to Cost of Goods Sold.



Cost moves from Finished Goods Inventory to Cost of Goods Sold
(Raja Rc, n.d.)

At this point, you may be wondering, why so many accounts? The answer is that each inventory account needs to be tracked separately. This way, a manager can easily determine how much money the company has, as a whole, in parts (Raw Materials) versus how much money the company has in partially finished products (Works in Process), versus how much money the company has in completed products (Finished Goods) sitting on the shelf waiting to be sold. Once the products are sold and the costs in Finished Goods are transferred to Cost of Goods Sold, the manager will be able to determine if the company is making a gross profit on the sale of the computers it just manufactured. This is a much easier method then to total up the individual job order cost sheets for each computer every time the manager wants to know if the company, as a whole, is making a profit on its computers.

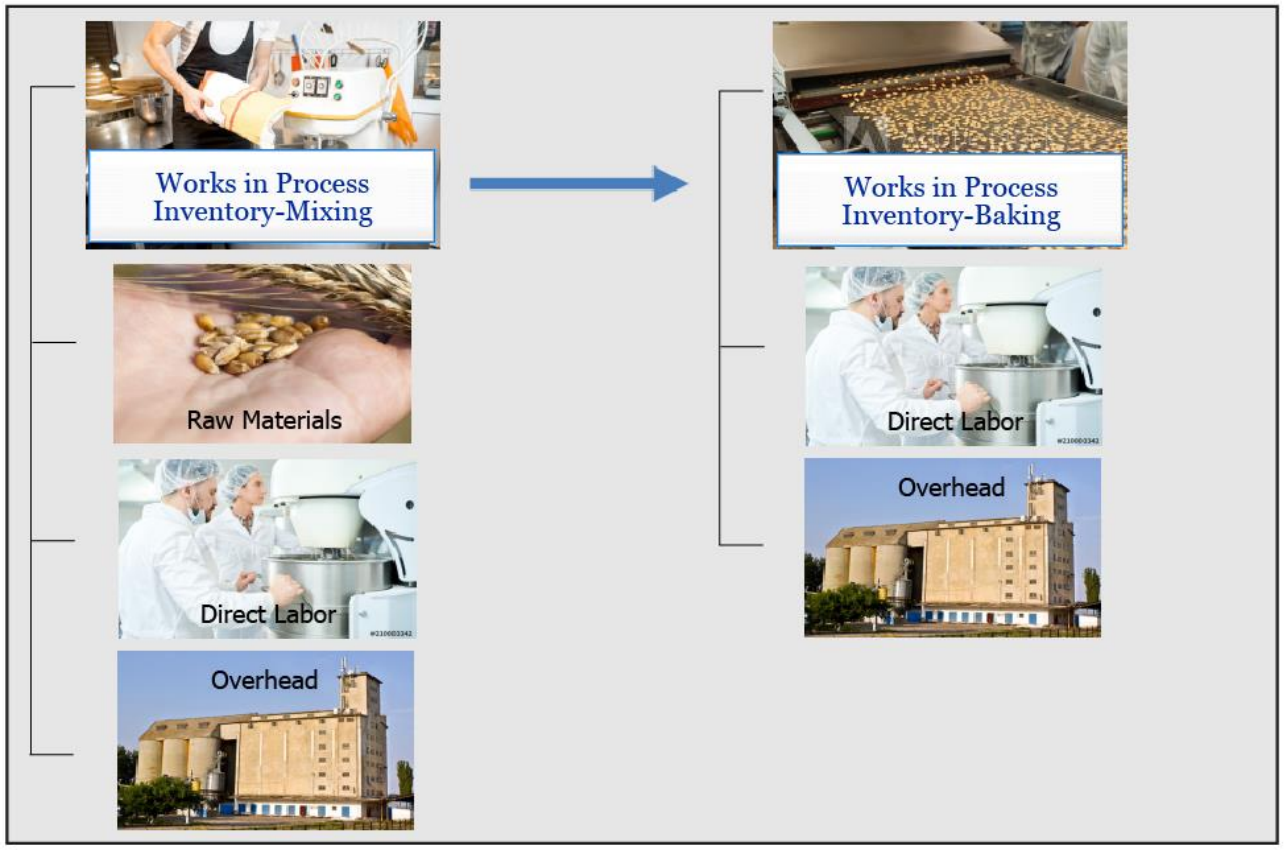
Now we are ready to move to the accounts for *process costing*. As we already know, product costs still involve direct materials, direct labor, and overhead. In this example, we will be looking at a cereal manufacturer. In process costing, since the cost per individual flake of cereal would be impossible to calculate because there are millions of flakes of cereal being made that all look identical, we look at the

process of making cereal as a whole. In our example, we look at three processes or departments: mixing, baking, and packaging.

Process costing for cereal involves mixing, baking, and packaging.
(Rh2010, n.d.; Alipko, n.d.; Dusanpetkovic1, n.d.).

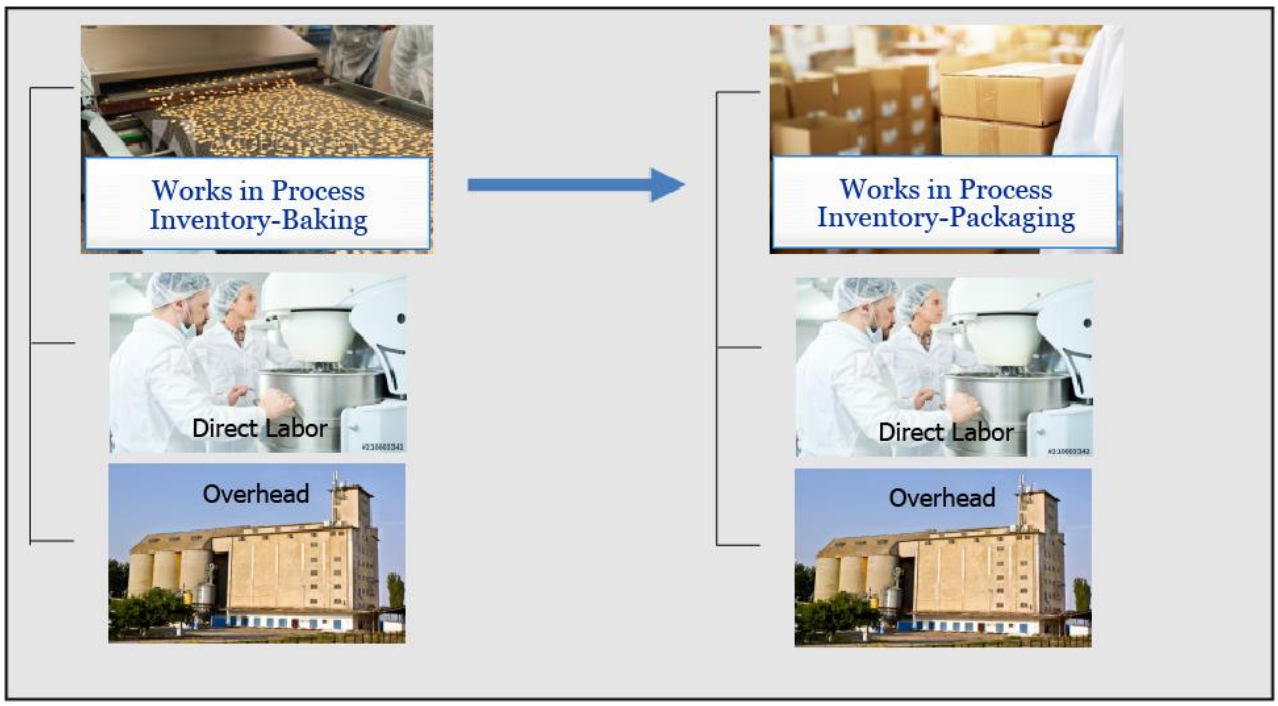
Remember, in process costing, costs are accumulated by process rather than by each individual piece of cereal, so the cost of the materials, labor, and overhead are included within that department or process as a whole. The accounts are the same as job order costing: Works in Process, Finished Goods, and Cost of Goods Sold. Raw Materials inventory is not included as a separate inventory account since those materials are added at the start of the first process (mixing in our example). There is, however, a separate Works in Process account for each department or process, unlike job order costing, to make sure the cereal and all costs (direct material, direct labor, and overhead) are included in the Works in Process account for that department.

In this illustration, the cost of the grain, the wages of the people that mix the ingredients, and the overhead costs for that department are all accumulated into Works in Process-Mixing. When the mixing is complete, the product and all of the associated costs are transferred to the next department in the process (baking in our example). In theory, this resets the Works in Process-Mixing account to 0 since all of the costs are transferred to the next department. In practice, the company is just making another batch of cereal so the cost of that next batch would be in the Works in Process-Mixing account in a continuous cycle.



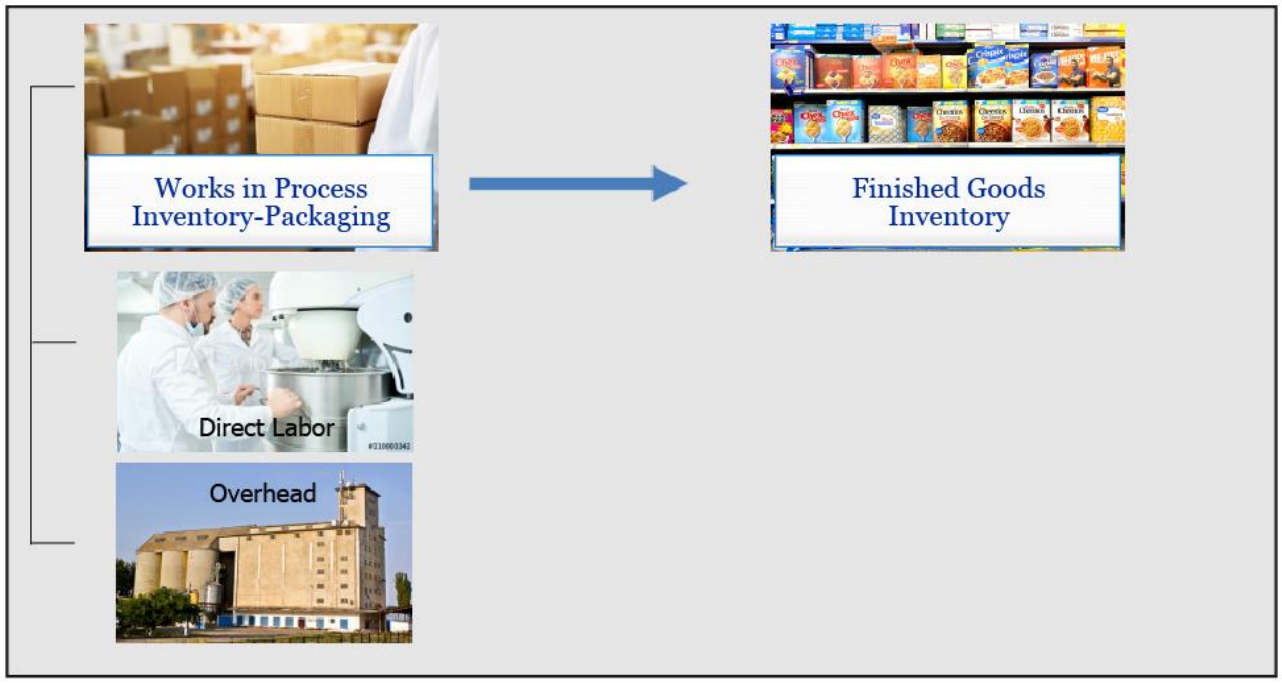
Works in Process Inventory-Mixing costs move to Works in Process Inventory-Baking costs. (Rh2010, n.d.; Rsooll, n.d.; Seventyfour, n.d.; Gicamatescu, n.d.; Alipko, n.d.)

In Works in Process Inventory-Baking, additional costs are added to this account. These would be the wages of the workers who bake the cereal and any additional factory overhead. If additional materials are added during this process, that would be added in as well. In our example, we are going to say all materials (grains) are only added in the beginning of the process. When the baking is complete, the product and all of the associated costs are transferred to the next department in the process (packaging in our example). In theory, this resets the Works in Process-Baking account to zero since all of the costs are transferred to the next department. In practice, the company is just making another batch of cereal so the cost of that next batch would be in the Works in Process-Baking account in a continuous cycle.



Works in Process Inventory-Packaging Costs to Move to Finished Goods
(dusanpetkovic1, n.d.; Rsooll, n.d.; Seventyfour, n.d.; Gicamatescu, n.d.; , Gades, n.d.)

In Works in Process Inventory-Packaging, additional costs are added to this account. These would be the wages of the workers who package the cereal and any additional factory overhead. If additional materials are added during this process, those would be added in as well. In our example, we are not adding any additional materials. When the packaging is complete, the product and all of the associated costs are transferred to the Finished Goods Inventory account, just like in job order costing waiting to be sold. In theory, this resets the Works in Process-Packaging account to 0 as with the other Works in Process accounts in this example. All costs are now in the Finished Goods Inventory account waiting to be sold.



Works in Process Inventory-Packaging costs move to Finished Goods.
(dusanpetkovic1, n.d.; Rsooll, n.d.; Seventyfour, n.d.; Gicamatescu, n.d.; , Gades, n.d.)

The costs to make the cereal will remain in Finished Goods Inventory until the cereal is actually sold, then the cost of making the cereal will transfer to Cost of Goods Sold.

Cost moves from Finished Goods Inventory to Cost of Goods Sold
(Gades, n.d.; Chamaki, n.d.)

At this point, again, you may be wondering why so many accounts? The answer is basically the same, so managers can make informed decisions about their products and control costs at a process level. As you saw in this example, the costs are accumulated as the product moves from one process or department to another. This is where a manager can look at Works in Process for any department and determine if the cost for that process is too high or on target by simply looking at one account.

Conclusion

Now that we have defined the common costing methods used and the cost terminology associated with job order and process costing, let's review some specific examples of how this cost information can help

managers make business decisions. One key example of how cost information is used in business is to determine the cost for a particular product or service so that a proper selling price for the product or service can be set. In addition, by using the costing data sheets, a manager can also determine where most of the costs incur. In other words, does the product have high material costs, labor costs, or overhead costs? This may give the manager a good idea as to where costs can be cut or where operations can be improved to ensure the company is making a profit.

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Suggested Unit Resources

View the following videos by accessing the Unit II Additional Unit Resources folder in the unit.

The video *Making a Hollywood Movie: Job Order Costing* will highlight some of the features of job order and process costing systems. In addition, it will demonstrate the use of a predetermined overhead rate.

You can access a transcript for this video by hovering over the PDF button at the bottom of the video and then clicking on the word “Transcript.” Alternatively, you can click on the “cc” button at the bottom of the video to turn on closed captions.

The video *Jones Soda: Process Costing* will explain how process costing varies from job order costing and how costs are accumulated under a process costing system.

You can access a transcript for this video by hovering over the PDF button at the bottom of the video and then clicking on the word “Transcript.” Alternatively, you can click on the “cc” button at the bottom of the video to turn on closed captions.

Learning Activities (Nongraded)

Nongraded Learning Activities are provided to aid students in their course of study. You do not have to submit them. If you have questions, contact your instructor for further guidance and information.

After watching both videos in the Suggested Unit Resources, you may want to study the Flash Cards for Chapters 2 and 3 found in the Additional Unit Resources folder to reinforce the material presented in this unit.