**Performance Indicator:** Explain the concept of production (OP:017)

**OBJECTIVES**

A – Describe the importance of production to an organization.

B – Describe types of production activities.

**DISCUSSION GUIDE**

**OBJECTIVE A** (Slides 1–3)

****(Slide 4)

• So What? (Why learn about production?)

A. Production—you’ve heard the term before, and it brings pictures to your mind of:

1. Cars rolling down assembly lines

2. White steam billowing out of factory smokestacks

**DISCUSSION #1:** Ask students what comes to mind when they hear the word production.

B. While production is certainly a common word in industrial settings, it has a broader meaning as well.

C. Every time you take something and use it to create something else, that’s production!

1. Let’s say you have a term paper due for your English class.

2. You create the term paper using your brain, research, a pen, paper, and a computer.

3. It is the *product* you created by combining those resources.

D. A working knowledge of production will serve you well, no matter what career you decide to pursue.

**DISCUSSION GUIDE** (Obj. A, cont’d)

• Production is everywhere.

A. Have you ever been to a Broadway musical or play?

1. So much time, effort, and money goes into the final product that you see.

2. It’s a combination of:

a. Talented writers, actors, and choreographers

b. Finely tuned musical instruments

c. A theater with just the right lighting and acoustics

d. The money it takes to pay for it all

3. No wonder that when it all comes together, it’s called a production!

B. Examples of production are all around you, every day.

**DISCUSSION #2:** Ask students to give examples of production they’ve seen today.

C. If it weren’t for production, our economy would fail, jobs would disappear, and we’d be without most of the goods and services we depend on to live!

D. Production is extremely important.

(Slide 5)

• Production is the creation of goods and services from economic resources.

A. It combines human, natural, and capital resources to produce such varied products as:

1. Clothing

2. Restaurant meals

3. Agricultural products

4. Home appliances

5. College graduates

6. Farm equipment

7. Haircuts

**DISCUSSION GUIDE** (Obj. A, cont’d)

B. The resources used are called the **factors of production**.

**DISCUSSION #3:** Ask students what these businesses produce—hospitals, record labels, schools, dairy farms, cell phone companies.

C. Goods and services don’t just create themselves.

D. For production to occur, all businesses need certain components.

E. These components are:

1. **Inputs**, or resources

2. A process for converting the inputs into products

3. **Outputs**, or products

(Slide 6)

• The specific economic resources used in producing goods and services are called inputs.

A. The basic categories of inputs are:

1. Human resources

2. Natural resources

3. Capital or capital goods

B. In other words, the business must have workers, materials from which to make products, the necessary production equipment, and the money to pay for it all.

C. A restaurant, for instance, must have skilled chefs and servers, quality ingredients, and equipment such as ovens, freezers, and dishwashers to produce meals for consumers.

D. It’s important to note that businesses don’t receive resources for free.

1. They cost money.

2. Take the restaurant, for example.

a. Its human resources, or employees, must be paid wages and benefits.

b. It must buy fresh produce and other ingredients (natural resources) from food
suppliers.

c. It must purchase its capital goods—appliances, dishes, tables, the building, etc.

3. The money a business needs to purchase resources can come from various sources—investors, bank loans, profits from previous sales, **crowdfunding**, etc.

4. This money is often referred to as **financial capital**.

**DISCUSSION GUIDE** (Obj. A, cont’d)

(Slide 7)

• Inputs turn into products during the conversion process.

A. Conversion processes could include manufacturing, cooking, teaching, constructing,
printing—any activity that takes resources and turns them into something usable.

B. Some conversion processes rely heavily on the special skills of workers.

1. Because of this, these conversion processes are known as **labor-intensive**.

2. Examples of labor-intensive conversion processes are:

a. Dentists performing tooth repair

b. Contractors constructing homes

3. These professionals use their skills and knowledge to convert inputs into outputs.

**DISCUSSION #4:**Ask students to give more examples of labor-intensive conversion processes.

(Slide 8)

C. Other conversion processes depend more on the use of equipment than human resources.

1. These are known as **capital-intensive** conversion processes.

2. Examples of capital-intensive conversion processes are:

a. The production of electricity in a power plant

b. The mass production of automobiles

**DISCUSSION #5:**Ask students to give more examples of capital-intensive conversion processes.

**DISCUSSION GUIDE** (Obj. A, cont’d)

(Slide 9)

• The goods and services produced as the result of combining inputs are called outputs.

A. Outputs may be **tangible** products such as computers or jewelry.

**DISCUSSION #6:** Ask students to give more examples of tangible products.

B. Or, they may be **intangible** products such as education or health care.

**DISCUSSION #7:** Ask students to give more examples of intangible products.

C. Outputs are categorized as **industrial goods** if they are sold to producers who will use them to make other products.

1. When a manufacturer sells sewing machines to a clothing producer, the sewing
machines are industrial goods.

2. They are being used to make other products for resale.

**DISCUSSION #8:** Ask students to give more examples of industrial goods.

D. Outputs are categorized as **consumer goods** if they are sold to ultimate consumers.

E. You use consumer goods—a carton of orange juice, a desk lamp, a bottle of shampoo, etc.—every day.

**DISCUSSION #9:** Ask students to give more examples of consumer goods.

**ON THE WEB:** Play the music video for “This Too Shall Pass” from OK Go: [https://
www.youtube.com/watch?v=qybUFnY7Y8w&list=RDqybUFnY7Y8w#t=25](https://www.youtube.com/watch?v=qybUFnY7Y8w&list=RDqybUFnY7Y8w#t=25). Ask your students what inputs are used in this production. Ask them if this is an example of an efficient conversion process for the final output.

**DISCUSSION GUIDE** (Obj. A, cont’d)

(Slide 10)

• Production is very important for businesses.

A. A key benefit of production is that it gives resources **form utility**—usefulness created by altering or changing the form, shape, or look of a good to make it more useful or attractive to the end user.

1. Production gives crude oil form utility by refining it into gasoline and oil that consumers can use in their vehicles.

2. Without production, the crude oil would be of little use to most consumers.

**DISCUSSION #10:** Ask students to think of more examples of natural resources that receive form utility through the production process.

B. Production is also important to businesses because, without production, they would not have anything to sell.

1. Production creates the products that all businesses must sell to stay in business.

2. Examples:

a. A clothing boutique could not succeed without clothes and jewelry to sell.

b. A movie theater would have to close if it had no films to show.

3. Even nonprofit organizations rely on production to keep going.

4. The March of Dimes, for instance, wouldn’t receive many grants or donations if it didn’t use its resources to produce results or outputs such as research studies, community services and education, and advocacy for parents and babies.

C. When production is most efficient, businesses turn out the maximum number of products at the lowest cost.

1. This enables businesses to be competitive.

2. If the business’s costs of production are higher than its competitors’ costs, it will have to set its prices higher than competitors’ prices.

3. This is likely to reduce sales.

**DISCUSSION GUIDE** (Obj. A, cont’d)

4. Example:

a. If it costs a sporting-goods company more to make golf balls than it costs its competitor, the company will have to charge more for its golf balls than the competitor charges.

b. The company may not be able to sell as many golf balls as its competitor.

**ON THE WEB:** Watch this video on economic production by Lee A. Arnold for a better understanding of the balance between costs, inputs, outputs, and competition: <https://www.youtube.com/watch?v=LBOLmMtvZ1g>.

**OBJECTIVE B** (Slide 11)

• It takes more than one production activity to produce most of the products we use.

A. Most production is the result of combining several different production activities.

B. The specific activities used depend on the product.

C. The production activities involved in making cereal, for instance, are much different from the production activities involved in educating and training attorneys.

(Slide 12)

• Production activity—Planning

A. Planning is an important ingredient of success.

B. If a business starts production without taking the time to plan first, it greatly lowers its chances of maintaining effective, efficient production.

C. Before production planning begins, companies spend a lot of time, effort, and money finding out what customers want and need, designing new products, and updating existing products.

D. **Production planning**, then, determines *how* those products will be produced and in *what amounts*.

E. Determining how products will be produced:

1. This activity involves determining the specific needs for equipment, time, and human resources.

2. For example, a business that prepares income tax returns must decide how many computers it needs, the time needed to prepare an average return, and how many workers to hire.

**DISCUSSION GUIDE** (Obj. B, cont’d)

F. Determining what amount of the product to produce:

1. This activity is important because a business should try to produce only as much as it can sell.

2. If a business does not produce enough products to meet customer demand, it will lose sales to competitors.

3. But, if it produces too much, it will lose money on unsold products.

4. Some businesses try to obtain advance orders from customers to help with planning production quantities.

5. Other businesses try to estimate the amounts they can sell.

6. An aircraft manufacturer, for instance, might try to get advance orders for planes to determine demand, while a fast-food restaurant must estimate the number of food items it will need to produce.

**DISCUSSION #11:** Ask students if they can think of other types of businesses that would try to get advance orders for products before actually producing them.

**ON THE WEB:** Take your students through an example of an in-depth production plan at [http://www.agf.gov.bc.ca/busmgmt/bus\_guides/directmkt/
direct\_production.pdf](http://www.agf.gov.bc.ca/busmgmt/bus_guides/directmkt/direct_production.pdf).

• Production activity—Purchasing

A. Buying the resources needed for production is called **purchasing**.

B. This is the production activity that assembles all the inputs needed for production to take place.

C. These resources may include:

1. Raw materials

2. Parts

3. Equipment

4. Supplies

5. Machinery

6. Labor

D. Example—To produce its goods, a clothing manufacturer needs to purchase patterns, fabrics, thread, buttons, zippers, cutting equipment, and sewing machines, and to hire workers trained in cutting and sewing tasks.

**DISCUSSION GUIDE** (Obj. B, cont’d)

(Slide 13)

• Production activity—Production Process

A. The **production process** is the way in which production will be carried out.

B. A business must choose the production process that is most appropriate for its product(s).

C. The two kinds of production processes that are generally used are intermittent and
continuous.

1. An **intermittent production process** is one in which production periodically stops and restarts.

a. It can be used in the production of standard products such as tools, or custom products such as individual insurance policies.

b. A producer of garden tools or snow shovels, for instance, might use an intermittent production process to make these products since the products are not in demand all year long.

c. An insurance agent would customize a policy only when a specific customer requests it, which would not be on a continuous basis.

**DISCUSSION #12:** Ask students to give more examples of products that would use an intermittent production process.

2. A **continuous production process**, on the other hand, turns out products without
stopping.

a. It is used in the production of standard products with steady demand, such as toothpaste or cell phone service.

b. In some instances of continuous production of products, production is carried out by machines monitored by a limited number of workers.

c. Other examples of continuous production, such as hairdressing and delivering mail, though, are **labor-intensive—**relying on workers’ skills to get the job done.

**DISCUSSION #13:** Ask students to give more examples of products that would use a continuous production process.

**DISCUSSION GUIDE** (Obj. B, cont’d)

D. The amount that is produced using either method depends upon the business’s choice of unit, batch, or mass production.

1. **Unit production** means producing one item at a time or items in small quantities.

2. It would be used to produce a custom-tailored suit, to write a song for a recording artist, or to clean one customer’s carpet.

3. **Batch production** means producing items in specific amounts, or batches.

a. It is often used to meet specific or short-term market needs.

b. For example, Starbucks usually produces batches of pumpkin lattes in the fall and batches of peppermint mochas in the winter.

4. **Mass production** means producing products in large quantities.

a. It is used in the production of such outputs as jeans, cars, and appliances.

b. Many products that are mass produced have standardized, interchangeable parts.

c. The parts for one mass-produced Whirlpool dishwasher will fit all Whirlpool dishwashers of the same model, for instance.

d. To produce large quantities efficiently, mass production uses production techniques such as:

1) **Assembly lines**, in which the product moves past workers, each one of whom performs an assigned production task

2) **Robotics**, in which robots carry out the repetitive tasks that workers would find monotonous and tiring

3) **Automation**, in which tasks are completed by automatic means, such as technology, reducing human effort and labor

**ON THE WEB:**
See how assembly lines and robotics have shaped production in “The Assembly Line: Then and Now” from the History Channel: [http://www.history.com/topics/
henry-ford/videos/history-of-the-holidays-the-story-of-labor-day](http://www.history.com/topics/henry-ford/videos/history-of-the-holidays-the-story-of-labor-day).

• Production activity—Routing

A. The production activity that determines the sequence for the steps in the production
process is called **routing**.

B. Most production must follow a certain order.

C. Producing canned peas, for example, would begin with shelling and washing the peas, cooking them, putting them in cans, sealing the cans, labeling the cans, and packing the cans in boxes for shipment.

**DISCUSSION GUIDE** (Obj. B, cont’d)

D. Or, consider a Hollywood film.

1. It begins with a concept or a script.

2. After that, the movie receives financing, and its producers hire directors, actors, and crew members.

3. Filming locations must be secured; then, filming begins with each scene being shot in a specific order.

E. As you can see from these examples, routing establishes the paths that inputs take from
the time they are received by the business, through the conversion process, and until they become outputs.

(Slide 14)

• Production activity—Scheduling

A. **Scheduling** establishes the timetable to be followed in production.

B. Employees responsible for scheduling look at the number of steps in the production process and estimate how long each step will take.

C. They set the times for each step to begin and end and schedule delivery of the resources that will be needed in the production process.

D. Scheduling helps a business to meet customers’ needs without wasting time or resources.

E. A toy company, for instance, would schedule greater production of toys before Christmas than it would after Christmas because demand is greater before the holidays.

F. Scheduling can be a complicated process for some products, so many businesses use special software programs to help with it.

• Production activity—Dispatching

A. Issuing orders for production to start is known as **dispatching**.

B. Dispatches are usually written orders that tell employees what their job assignments are, when to move materials from storage to the work area, or which tools and equipment to assemble.

C. For example, a work order might list the parts to be brought to the work area to produce a certain number of circular saws.

**DISCUSSION GUIDE** (Obj. B, cont’d)

• Production activity—Follow-Up

A. The last production activity is following up to make sure production was carried out according to plan and that products meet company standards.

B. To be competitive in a global market, many companies must also meet the standards set by outside groups or agencies, such as the **International Organization for Standardization** **(ISO)**, which sets international quality control standards.

C. During the follow-up, managers review production schedules to make sure that deadlines were met and products were ready when customers wanted them.

D. The quality of most products is inspected during their production.

E. Managers review the results of product inspections to see whether there are problems in the production process.

F. For example, inspection reports that indicate product flaws would tell the manager that there was a production problem that needed to be corrected.

(Slide 15)

• Make It Pay

A. Think about a business near you.

1. What output(s) does it produce?

2. What inputs does it need in order to do so?

3. What production processes does it use?

4. What might the routing process look like for the finished products it produces?

(Slide 16)

• The Gray Zone

A. The goal of production is to be efficient—that is, to create the maximum number of products for the lowest cost.

B. Consider the manufacturing of soft drinks.

1. Years ago, soft drinks such as Coke and Pepsi were made with real sugar.

2. Today, many are made with high-fructose corn syrup, an ingredient that many people say is much worse for the human body than sugar.

3. However, high-fructose corn syrup is cheaper and more stable to use in manufacturing than sugar is, so it makes production more efficient.

C. What do you think?

1. Is it unethical for companies to use potentially unhealthy ingredients and materials in manufacturing, even if those resources are allowed by law?

2. Or, should businesses be concerned with efficiency above all?