

# The strategic role of operations categorization

[Business](#)



Subject Segment Topic Operations Management The Strategic Role of Operations Categorisation of Processes and Operations This text version is for your personal study only.

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Introduction Components of a Process Types of Processes Competitive Advantage through Process Excellence Self-Assessment Summary .

Introduction Categorising processes and operations is an important part of operations management. This topic describes a process-based approach to categorising operations. The process approach creates a template that can be applied when characterising any manufacturing or service operation. Process characterisation is the first stage in making deeper decisions regarding the structure and management of an operation. Excellence in a process can be a significant source of competitive advantage.

Objectives: Categorisation of Processes and Operations Upon completion of this topic, you should be able to

- describe a process and its components
- identify some examples of manufacturing and service processes
- explain flow shop, job shop and batch production process architectures
- explain, using examples, how process expertise can lead to competitive advantage 2.

Components of a Process Let us start with an exercise that will help you

identify some basic process components from some day to day activities.

Click the link below to proceed. Identifying the Input and Output

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1 of 19 Subject Segment Topic Operations Management The Strategic Role of Operations Categorisation of Processes and Operations Identifying the Input and Output Let us learn to identify the basic process components from some activities. You will review some day to day activities. Try and identify the input and output in these processes. Activity 1: Writing a research paper. Choose the correct input and output from the following options: 1.

The written paper 2. Looking for information 3. The selected topic 4.

Writing the paper If you identified option 3, The selected topic, as the input; and option 1, The written paper, as the output, then you identified correctly. Activity 2: Making Tea.

Choose the correct input and output from the following options: 1. The prepared cup of tea 2. Water and tea leaves 3. Adding water and tea leaves 4. Straining the tea If you identified option 2, Water and tea leaves, as the input; and option 1, The prepared cup of tea, as the output, then you identified correctly.

Activity 3: Making a vegetable sandwich. Choose the correct input and output from the following options: 1.

Chopping the vegetables 2. The ready-to-serve sandwich 3. Bread slices and vegetables 4. Making the filling If you identified option 3, Bread slices and

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vegetables, as the input; and option 2, The ready-to-serve sandwich, as the output, then you identified correctly.

To summarise, we learned that all processes start with an input and end with an output. You will learn more about processes and their components as you review this topic. Processes produce and deliver products by taking inputs and transforming them into outputs through the use of resources like capital and labour.

Depending upon the goals of a particular organisation, a product or a service is the desired output of a process. Processes that produce goods are typically called manufacturing or production processes and processes that deliver services are referred to as service processes.

Let us look at some examples of both the categories. Copyright © 2007-2008, Universitas 21 Global Pte Ltd. All rights reserved. 2 of 19 Subject Segment Topic Operations Management The Strategic Role of Operations Categorisation of Processes and Operations

Manufacturing Processes • • • Fabrication processes, such as steel Assembly of goods, such as automobiles Design processes, such as new product design • • • Service Processes Professional services, such as medical Technical support services, such as a computer help desk After-sales service for products, such as warranty services An organisation can be viewed as a process that transforms inputs into outputs. A process is characterised by the following: • Inputs and outputs • Unit of flow • A network of activities and queue locations • Work-in-process inventory • Resources • Information

Components of a Process Flow Let us now learn about the different components of a process flow in detail.

**Input** Inputs are the items that flow into the process, including raw materials, component parts and customers requesting a service. **Output** Outputs are items that flow out of the process, including finished products, assembled items and satisfied customers. **Network of activities** An activity is any elemental stage in a process that takes its own inputs and produces outputs. Activities are linked in networks to create the structure of a process.

This network of activities makes up the bulk of the process. In a process that produces multiple outputs, each output may have a unique network of activities that make up its process.

Each output can share resources and queues with other outputs in the process. Activities are treated as black boxes and characterised at an aggregate level by the time to complete the activity and the resources utilised. **Queue** A queue is a waiting line that forms when there is a mismatch between the short time demand and short time service.

Queues form between activities as the units of flow wait for the availability of resources. **Unit of flow** It is important to determine the basic unit of flow within a model of a process. Unit of flow is the fundamental item that is tracked through the network of activities.

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of flow could be defined differently, depending on the focus when we study a process.

In a service process, the unit of flow could be the customer or his or her order. In a production process, the unit of flow could be an input, like a customer order, or an output, like the final product. If the focus in studying the production system is customer service, our model of the process would use a customer order as a unit of flow.

If the focus of the study was production efficiency, the unit of flow would be a unit of product. Work-in-process inventory Queues holding units of flow that are waiting for activities form inventory known as work-in-process inventory.

The level of work-in-process inventory is an important measure of the performance of an operation. Work-in-process inventories must be kept at a minimal level to achieve delivery time goals and to aid in the identification of quality problems. Work-in-process inventory is a major focus of process improvement programs. Resources Resources in a process are assets that are used to support the process.

These are typically either capital (buildings, machines, information systems) or labour (operators, technicians, analysts, sales staff) or both.

The assignment of resources to activities is an important aspect of the design of an operation. In particular, the assignment of resources must be appropriate to achieve the rate of flow required of the process. Information Finally, the information structure for a process provides the information

required to control and manage a process. It can include information on customers, resources, queues and other components of the process. Let us review the rest of the components of a process flow: It is important to determine the basic unit of flow within a model of a process.

Unit of flow is the fundamental item that is tracked through the network of activities. The unit of flow could be defined differently, depending on the focus when we study a process. In a service process, the unit of flow could be the customer or his or her order. In a production process, the unit of flow could be an input, like a customer order, or an output, like the final product. If the focus in studying the production system is customer service, our model of the process would use a customer order as a unit of flow.

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