2 Process Strategy
Process Strategy

- **Process strategy** is the pattern of decisions made in managing processes so that they will achieve their competitive priorities.
- A process involves the use of an organization’s resources to provide something of value.
- Major process decisions include:
  - Process Structure
  - Customer Involvement
  - Resource Flexibility
  - Capital Intensity
**Major Process Decisions**

- **Process Structure** determines how processes are designed relative to the kinds of resources needed, how resources are partitioned between them, and their key characteristics.

- **Customer Involvement** refers to the ways in which customers become part of the process and the extent of their participation.

- **Resource flexibility** is the ease with which employees and equipment can handle a wide variety of products, output levels, duties, and functions.

- **Capital intensity** is the mix of equipment and human skills in a process.
Process Strategy Decisions

Figure 3.1 – Major Decisions for Effective Processes

- **Process Structure**
  - Customer-contract position (services)
  - Product-process position (manufacturing)
  - Layout

- **Customer Involvement**
  - Low involvement
  - High involvement

- **Resource Flexibility**
  - Specialized
  - Enlarged

- **Capital Intensity**
  - Low automation
  - High automation

- **Strategy for Change**
  - Process reengineering
  - Process improvement

- **Effective Process Design**
A good process strategy for a service process depends first and foremost on the type and amount of customer contact.

- **Customer contact** is the extent to which the customer is present, is actively involved, and receives personal attention during the process.

### Process Structures in Services

<table>
<thead>
<tr>
<th>High Contact</th>
<th>Dimension</th>
<th>Low Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>Physical presence</td>
<td>Absent</td>
</tr>
<tr>
<td>People</td>
<td>What is processed</td>
<td>Possessions</td>
</tr>
<tr>
<td>Active, visible</td>
<td>Contact intensity</td>
<td>Passive, out of sight</td>
</tr>
<tr>
<td>Personal</td>
<td>Personal attention</td>
<td>Impersonal</td>
</tr>
<tr>
<td>Face-to-face</td>
<td>Method of delivery</td>
<td>Regular mail</td>
</tr>
</tbody>
</table>
Customer Contact and Process Elements

- **Active Contact**: The customer is very much part of the creation of the service and affects the service process itself.

- **Passive Contact**: The customer is not involved in tailoring the process to meet special needs or in how the process is performed.

- **Process Complexity**: The number and complexity of the steps required to perform the process.

- **Process Divergence**: The extent to which the process is highly customized with considerable latitude as to how it is performed.
Process Flows

- **Flexible flow**: The customers, materials, or information move in diverse ways, with the path of one customer or job often crisscrossing the path that the next one will take.

- **Line Flow**: The customers, materials or information move linearly from one operation to the next, according to a fixed sequence.

*Flow (how customers, objects, or information are processed)*. More line flows; Less customer involvement; Less resource flexibility.
Service Process Structuring

- **Front office:** A process with high customer contact where the service provider interacts directly with the internal or external customer.

- **Hybrid office:** A process with moderate levels of customer contact and standard services with some options available.

- **Back office:** A process with low customer contact and little service customization.
Customer-Contact Matrix for Service Processes

<table>
<thead>
<tr>
<th>Less Customer Contact and Customization</th>
<th>Service Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Characteristics</td>
<td>(1)</td>
</tr>
<tr>
<td>(1) Flexible flows, complex work with many exceptions</td>
<td>High interaction with customers, highly customized service</td>
</tr>
<tr>
<td>(2) Flexible flows with some dominant paths, moderate job complexity with some exceptions</td>
<td>Front office</td>
</tr>
<tr>
<td>(3) Line flows, routine work easily understood by employees</td>
<td>Back office</td>
</tr>
</tbody>
</table>
Service Process Structures in the Financial Services Industry

Front Office
Sale of financial services
- Research customer finances
- Work with customer to understand customer needs
- Make customized presentation to customer addressing specific customer needs
- Involve specialized staff offering variety of services
- Continuing relationship with customer, reaction to changing customer needs

Hybrid Office
Creation of quarterly performance report
- Data obtained electronically
- Report calculated using standardized process
- Report reviewed using standardized diagnostic systems
- Manager provides written analysis and recommendations in response to individual employee performance
- Manager meets with employee to discuss performance

Back Office
Production of monthly client fund balance reports
- Data obtained electronically
- Report run using standardized process
- Results checked for “reasonableness” using well-established policies
- Hard copies and electronic files forwarded to analysts
- Process repeated monthly with little variation
Each process does have at least one customer
A financial consultant discusses options with customers at their home. This process scores high on customer contact, because the customers are present, take an active part in creating the service, receive personal attention, and have face-to-face contact.
Process choice: A way of structuring the process by organizing resources around the process or organizing them around the products. The manager has 4 process choices:

1. **Job Process**: A process with the flexibility needed to produce a wide variety of products in significant quantities, with considerable complexity and divergence in the steps performed.
   - Customization is high and Volume for any one product is low
   - Typically, they make products to order (the needs of the next customer are unknown)
   - Each new order is handled as a single unit → as a **job**
2. **Batch process:** A process that differs from the job process with respect to volume, variety and quantity.

- most common process choice found in practice
- Volumes are higher, larger quantities or batches
- Example: Making standard components that feed an assembly line or some processes that manufacture capital equipment
- The process flow is flexible
3. **Line process:** A process that lies between the batch and continuous processes on the continuum; volumes are high and products are standardized, which allows resources to be organized around particular products.

- Ex.: the assembly of PCs, automobile and toys
- Divergence is minimal
- Standard products are produced in advance of their need and held in inventory (ready wenn customer places an oder)
4. **Continuous flow**: The extreme end of high-volume, standardized production and rigid line flows, with production not starting and stopping for long time intervals.

- Example: petroleum refining, making steel, soft drinks and food (spaghetti)
- Capital-intensive
- Operate around the clock
### Product-Process Matrix for Processes

**Less Customization and Higher Volume**

<table>
<thead>
<tr>
<th>Process Characteristics</th>
<th>(1) Low-volume products, made to customer order</th>
<th>(2) Multiple products with low to moderate volume</th>
<th>(3) Few major products higher volume</th>
<th>(4) High volume, high standardization, Continuous Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Complex and highly customized process, unique sequence of tasks</td>
<td>Job process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Disconnected line flows, moderately complex work</td>
<td>Small batch process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Connected line, highly repetitive work</td>
<td>Large batch process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Continuous flows</td>
<td>Line process</td>
<td>Continuous process</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Production and Inventory Strategies**

- **Make-to-order strategy**: A strategy used by manufacturers that make products to customer specifications in low volume.

- **Assemble-to-order strategy**: A strategy for producing a wide variety of products from relatively few assemblies and components after the customer orders are received.

- **Make-to-stock strategy**: A strategy that involves holding items in stock for immediate delivery, thereby minimizing customer delivery times.

- **Mass production**: A term sometimes used in the popular press for a line process that uses the make-to-stock strategy.
Links of Competitive Priorities with Manufacturing Strategy

(a) Links with Process Choice

Competitive Priorities
- Top quality, on-time delivery, and flexibility
- Low-cost operations, consistent quality, and delivery speed

Process Choice
- Job process or small batch process
- Large batch, line, or continuous flow process

(b) Links with Production and Inventory Strategy

Competitive Priorities
- Top quality, on-time delivery, and flexibility
- Delivery speed and variety
- Low-cost operation and delivery speed

Production and Inventory Strategy
- Make-to-order
- Assemble-to-order
- Make-to-stock
Customer Involvement
Good or Bad?

- **Improved Competitive Capabilities**: More customer involvement can mean better quality, faster delivery, greater flexibility, and even lower cost.
  - Customers can come face-to-face with the service providers, where they can ask questions, make special requests on the spot and provide additional information.
  - Self-service is the choice of many retailers.

- However customer involvement can be disruptive and make the process less efficient.
  - Greater interpersonal skills are required.
  - Quality measurement becomes more difficult.

- **Emerging Technologies**: Companies can now engage in an active dialogue with customers and make them partners in creating value.
Resource Flexibility

- **Flexible workforce**: A workforce whose members are capable of doing many tasks, either at their own workstations or as they move from one workstation to another.
  - Worker flexibility can be one of the best ways to achieve reliable customer service and alleviate capacity bottlenecks.
  - This comes at a cost, requiring greater skills and thus more training and education.

- **Flexible equipment**: Low volumes mean that process designers should select flexible, general-purpose equipment.
Capital Intensity is the mix of equipment and human skills in the process; the greater the relative cost of equipment, the greater is the capital intensity.

- **Automation** is a system, process, or piece of equipment that is self-acting and self-regulating.

- **Fixed automation** is a manufacturing process that produces one type of part or product in a fixed sequence of simple operations.

- **Flexible (or programmable) automation** is a manufacturing process that can be changed easily to handle various products.
Economies of Scope

- In certain types of manufacturing, such as machining and assembly, programmable automation breaks the inverse relationship between resource flexibility and capital intensity.

- **Economies of scope** are economies that reflect the ability to produce multiple products more cheaply in combination than separately.

- With economies of scope, the often conflicting competitive priorities of customization and low price become more compatible.

- Taking advantage of economies of scope requires that a family of parts or products have enough collective volume to fully utilize equipment.
**Decision Patterns for Service Processes**

Major process decisions

**High customer-contact process**
- More complexity, more divergence, more flexible flows
- More customer involvement
- More resource flexibility
- Capital intensity varies with volume.

**Low customer-contact process**
- Less complexity, less divergence, more line flows
- Less customer involvement
- Less resource flexibility
- Capital intensity varies with volume.

[Diagram showing front office, hybrid office, and back office with axes for low and high customer-contact processes]
Decision Patterns for Manufacturing Processes

Major process decisions

**Low-Volume, make-to-order process**
- More complexity, more divergence, more flexible flows
- More customer involvement
- More resource flexibility
- Less capital intensity

**High-Volume, make-to-stock process**
- Less complexity, less divergence, more line flows
- Less customer involvement
- Less resource flexibility
- More capital intensity
Focus by Process Segment

- A facility’s process often can neither be characterized nor actually designed for one set of competitive priorities and one process choice.
  - At a services facility, some parts of the process might seem like a front office and other parts like a back office.

- Plants within plants (PWPs) are different operations within a facility with individualized competitive priorities, processes, and workforces under the same roof.

- Focused factories are the result of a firm’s splitting large plants that produce all the company’s products into several specialized smaller plants.
Strategies for Change

- **Process Reengineering** is a fundamental rethinking and radical redesign of processes to improve performance dramatically in terms of cost, quality, service, and speed.

- **Process improvement** is the systematic study of the activities and flows of each process to improve it.