ORGANIZATIONAL STRATEGY, COMPETITIVE ADVANTAGE, AND INFORMATION SYSTEMS

CHAPTER 2

LEARNING OBJECTIVES

1. **Discuss ways in which information systems enable cross-functional business processes and business processes for a single functional area.**
2. **Differentiate between business process reengineering, business process improvement, and business process management.**
3. **Identify effective IT responses to different kinds of business pressures.**
4. **Describe the strategies that organizations typically adopt to counter Porter's five competitive forces.**

MARKET LEADERS

A sustainable advantage over competitors that enables them to capture the market

INTRODUCTION

- **Can you just discuss the best digital strategy these companies created in the last 10 years?**

- **- Apple**
- **- Facebook**
- **- Microsoft**
- **- Google**

INTRODUCTION

- Information systems (ISs) are critically important in helping organizations respond to business pressures and in supporting organizations' global strategies.

- **Competitive Advantage** refers to any assets that provide an organization with an edge against its competitors in some measure such as cost, quality, or speed. A competitive advantage helps an organization to control a market and to accrue larger-than-average profits.

- **Significantly, both strategy and competitive advantage take many forms.**

CRAFTING STRATEGIES

- Represents a managerial commitment to pursuing an array of choices about how to compete:

- **How to create products that will attract and please**
- **How to position the company in the industry**
- **How to deploy resources to build value**
- **How each function will be operated**
- **How to achieve performance targets**

BUSINESS PROCESSES

- A **Business Process** is an on-going collection of related activities that create a product or a service of value to the organization, its business partners, and/or its customers.

The process involves three fundamental elements:

• ***Inputs****:* Materials, services, and information that flow through and are transformed as a result of process activities

• ***Resources****:* People and equipment that perform process activities

• ***Outputs:*** The product or a service created by the process

SUCCESSFUL ORGANIZATIONS

- Successful organizations **measure their process activities** to evaluate how well they are executing these processes.
- Two fundamental metrics that organizations employ in assessing their processes are **efficiency and effectiveness**.
- ***Efficiency*** focuses on doing things well in the process; for example, progressing from one process activity to another without delay or without wasting money or resources.
- ***Effectiveness*** focuses on doing the things that matter; that is, creating outputs of value to the process customer—for example, high-quality products.

BUSINESS PROCESSES

- How can an organization's business processes can create a **competitive advantage?**

BUSINESS PROCESSES

- How can an organization's business processes can create a **Competitive Advantage?**

- If they enable the company to innovate or to execute more effectively and efficiently than its competitors
- Make the company ~~less~~ responsive and productive.
- Example : **Airline Industry**

  What are the competitive necessities?

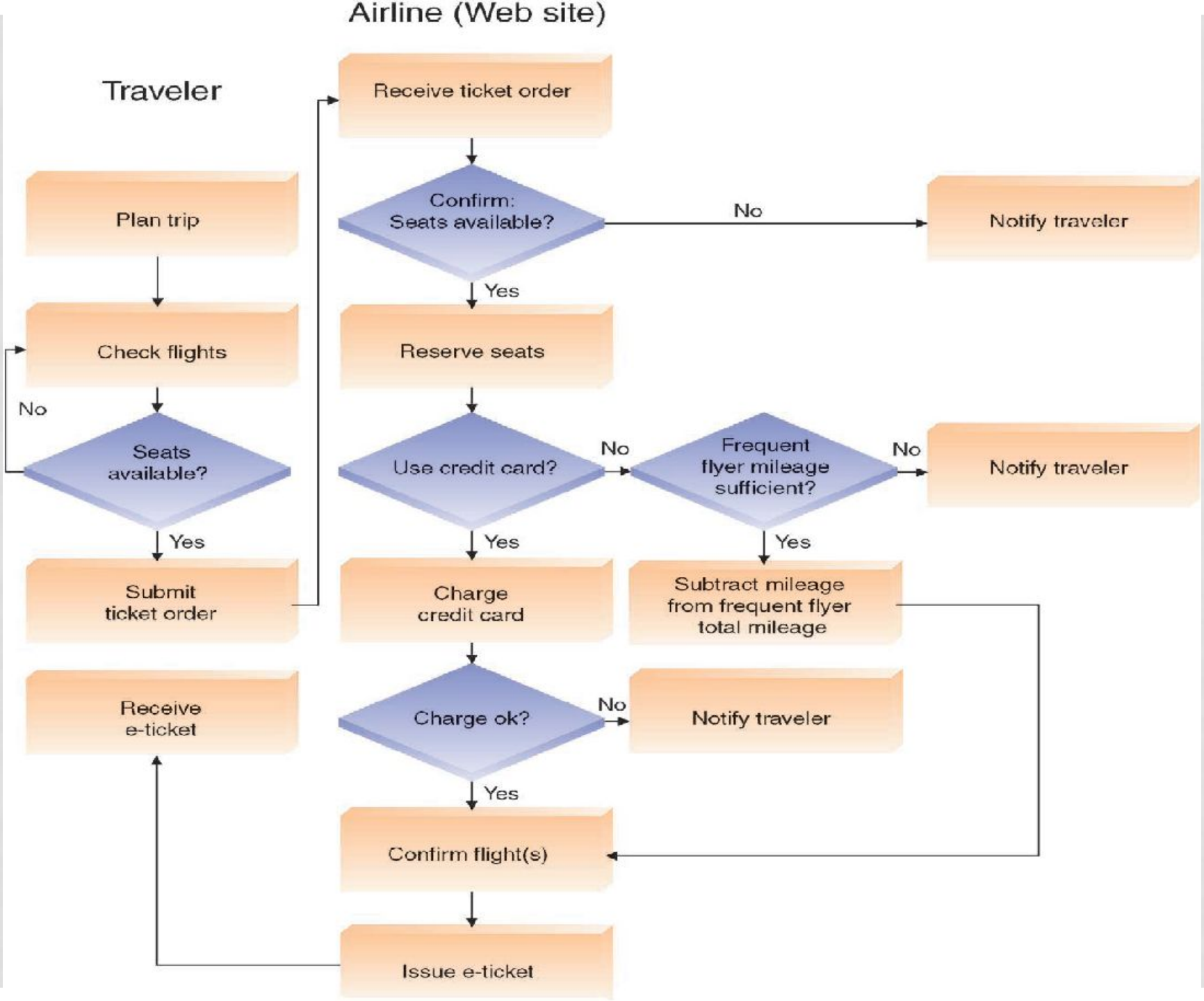
  - To attract customers and increase revenues

Cost Advantage	**Differentiation Advantage**

AIRLINE INDUSTRY

- **An up-to-date, user-friendly site**
- **Should provide fast answers to user queries**
- **Electronic ticket purchases via their Web sites**
- **these sites must be highly responsive**
- **they must provide both current and accurate information on flights and prices.**

- In contrast, a site that provides outdated or inaccurate information, or has a slow response time, will hurt rather than improve business.


Airline (Web site)
Traveler
Receive ticket order
Plan trip
Confirm:
Seats available?
No
Notify traveler
Yes
Check flights
Reserve seats
No
Seats
available?
Use credit card?
No
Frequent
flyer mileage
sufficient?
No
Notify traveler
Yes
Yes
Yes
Submit
ticket order
Charge
credit card
Subtract mileage
from frequent flyer
total mileage
Receive
e-ticket
Charge ok?
No
Notify traveler
Yes
Confirm flight(s)
Issue e-ticket

AIRLINE INDUSTRY

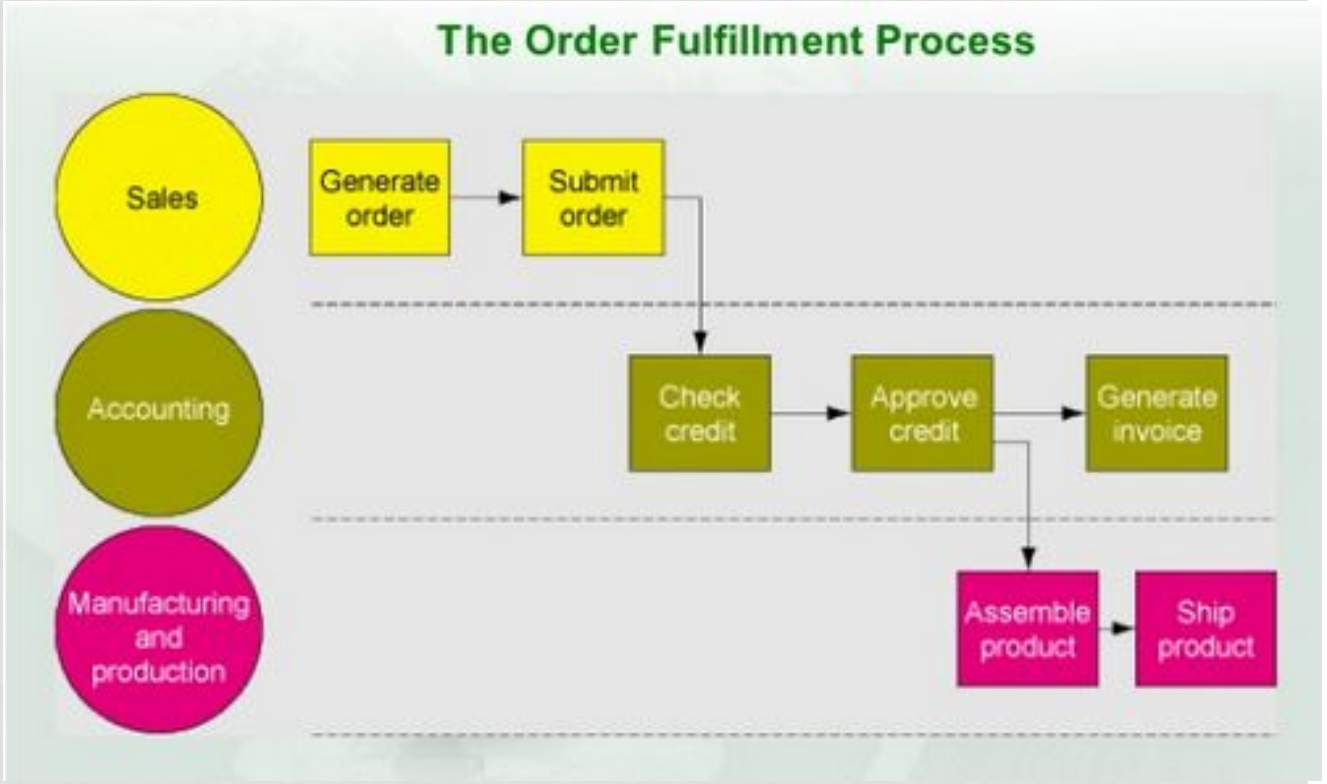
- What are the inputs?
- What are the outputs?
- What are the resources?
- How to measure the performance?
- How the process creates customer value?
- Efficiency metrics ?
- Effectiveness metrics ?

CROSS-FUNCTIONAL PROCESSES

- Many business processes fall within a single functional area of the company
- **Cross-functional Business Processes** cut across multiple functional areas;
- meaning that no single functional area is responsible for their execution.
- multiple functional areas collaborate to perform the process
- **For a cross-functional process to be successfully completed, each functional area must execute its specific process steps in a coordinated, collaborative way.**

• Cross-Functional Processes

- **Cut across multiple functional areas;**
- **Multiple functional areas collaborate to perform the process;**
- **No single functional area is responsible for their execution.**
- **e.g., procurement and fulfillment.**



GOOD BUSINESS PROCESSES

- Good business processes are vital to organizational success
- But how can organizations determine if their business processes are well designed?
  - **Document:** The first step is to document the process by describing its steps, its inputs and outputs, and its resources.
  - **Analyse:** The organization can then analyze the process
  - **Measure**
  - **Modify** if necessary to improve its performance
  - **Innovate**

EXAMPLES OF BUSINESS PROCESSES

Accounting Business Processes

- Managing accounts payable
- Managing accounts receivable
- Reconciling bank accounts
- Managing cash receipts
- Managing invoice billings
- Managing petty cash
- Producing month-end close
- Producing virtual close

Finance Business Processes

- Managing account collection
- Managing bank loan applications
- Producing business forecasts
- Applying customer credit approval and credit terms
- Producing property tax assessments
- Managing stock transactions
- Generating financial cash flow reports

Marketing Business Processes

- Managing post-sale customer follow-up
- Collecting sales taxes
- Applying copyrights and trademarks
- Using customer satisfaction surveys
- Managing customer service
- Handling customer complaints
- Handling returned goods from customers
- Producing sales leads
- Entering sales orders
- Training sales personnel

EXAMPLES OF BUSINESS PROCESSES

Production/Operations Management Business Processes

- Processing bills of materials
- Processing manufacturing change orders
- Managing master parts list and files
- Managing packing, storage, and distribution
- Processing physical inventory
- Managing purchasing
- Managing quality control for finished goods
- Auditing for quality assurance
- Receiving, inspecting, and stocking parts and materials
- Handling shipping and freight claims
- Handling vendor selection, files, and inspectio

Human Resources Business Processes

- Applying disability policies
- Managing employee hiring
- Handling employee orientation
- Managing files and records
- Applying healthcare benefits
- Managing pay and payroll
- Producing performance appraisals and salary adjustments
- Managing resignations and terminations
- Applying training/tuition reimbursement
- Managing travel and entertainment
- Managing workplace rules and guidelines
- Overseeing workplace safety

Management Information Systems Business Processes

- Antivirus control
- Computer security issues incident reporting
- Training computer users
- Computer user/staff training
- Applying disaster recovery procedures
- Applying electronic mail policy
- Generating Internet use policy
- Managing service agreements and emergency services
- Applying user workstation standards
- Managing the use of personal software

IS enabled Business Processes

Information Systems (IS):

- A critical enabler of business processes.
- Facilitate communication and coordination among different functional areas.
- Allow easy exchange of, and access to, data across processes.

IS' vital role in 3 areas: Could be fully automated

- Executing the process
- Capturing and storing process data: e.g., RFID
- Monitoring process performance

For example: e-commerce as a set of the Internet-enabled business processes: https://www.youtube.com/watch?v=AhgtoQIfuQ4

INFORMATION SYSTEMS AND BUSINESS PROCESSES

- Information systems facilitate communication and coordination among different functional areas, and allow easy exchange of, and access to, data across processes. Specifically, ISs play a vital role in three areas:

  - **Executing the process**
  - **Capturing and storing process data**
  - **Monitoring process performance**

EXECUTING THE PROCESS.

- An IS helps organizations execute processes efficiently and effectively.
- ISs are typically embedded into the processes, and they play a critical role in executing the processes.
- **For example, In the procurement process, the IS generates the purchase requisitions and then informs the purchasing department that action on these requisitions is needed.**
- **The accountant will be able to view all shipments received to match an invoice that has been received from a supplier and verify that the invoice is accurate.**

CAPTURING AND STORING PROCESS DATA.

- ISs capture and store data, commonly referred to as ***process data*** or ***transaction data***.
- Some of these data are generated and automatically captured by the IS.
- Other data are generated outside the IS and must be entered into it.
- **For example, when a customer order is received by mail or over the phone, the person taking the order must enter data such as the customer's name, what the customer ordered, and how much he or she ordered. Significantly, when a customer order is received via the firm's Web site, then all customer details are captured by the IS.**

CAPTURING AND STORING PROCESS DATA

- An important advantage of using an IS compared to a manual system or multiple functional area information systems is that the data need to be entered into the system only once.
- Further, once they are entered, other people in the process can easily access them, and there is no need to re-enter them in subsequent steps.
- The data captured by the IS can provide immediate feedback.
- For example, the IS can use the data to create a receipt or to make recommendations for additional or alternative products.

MONITORING PROCESS PERFORMANCE

- A third contribution of IS is to help monitor the state of the various business processes. That is, the IS indicates how well a process is executing. The IS performs this role by evaluating information about a process.
- This information can be created either at the ***instance level*** (i.e., a specific task or activity) or at **the *process level*** (i.e., the process as a whole).

- **Examples?**

MONITORING PROCESS PERFORMANCE

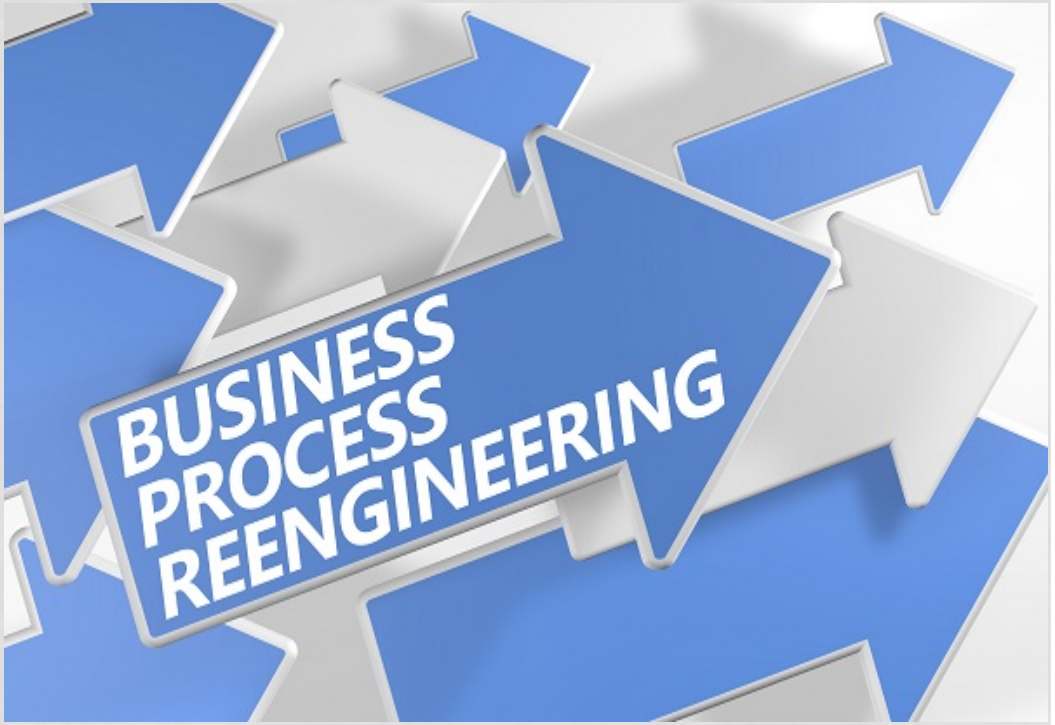
- **For example, a company might be interested in the status of a particular customer order.**
  - Where is the order within the fulfilment process?
  - Was the complete order shipped? If so, when? If not, then when can we expect it to be shipped?
- **For the procurement process,**
  - when was the purchase order sent to the supplier?
  - What will be the cost of acquiring the material?

QUESTIONS

1. ***What is a business process?***
2. ***Describe several business processes carried out at your university.***
3. ***Define a cross-functional business process, and provide several examples of such processes.***
4. ***Pick one of the processes described in question 2 or 3 above, and identify its inputs, outputs, customer(s), and resources. How does the process create value for its customer(s)?***

• BP Reengineering (BPR)

- A strategy for making an organization's business processes more productive and profitable.
- Examining business processes;
- Determining how they can best reconstruct those processes to improve their business functions.
- Difficult, radical, and comprehensive to do.



BUSINESS PROCESS REENGINEERING

- **Excellence in executing business processes is widely recognized as the underlying basis for all significant measures of competitive performance in an organization**

Consider the following measures, for example:

• ***Customer satisfaction****:* The result of optimizing and aligning business processes to fulfil customers' needs, wants, and desires.

• ***Cost reduction:*** The result of optimizing operations and supplier processes.

• ***Cycle and fulfilment time reduction:*** The result of optimizing the manufacturing and logistics processes.

• ***Quality:*** The result of optimizing the design, development, and production processes.

• ***Differentiation:*** The result of optimizing the marketing and innovation processes.

• ***Productivity:*** The result of optimizing each individual's work processes.

HOW DOES AN ORGANIZATION ENSURE BUSINESS PROCESS EXCELLENCE?

- In their book *Reengineering the Corporation*,(1993), Michael Hammer and James Champy argued that to become more competitive, American businesses needed to radically redesign their business processes to reduce costs and increase quality.
- The authors further asserted that **information technology** is the key enabler of such change. This radical redesign, called **business process reengineering (BPR)**, is a strategy for making an organization's business processes more productive and profitable.
- The key to BPR is for enterprises to examine their business processes from a "clean sheet" perspective and then determine how they can best reconstruct those processes to improve their business functions.

- BPR's popularity was propelled by the unique capabilities of information technology, such as
  - automation and standardization of many process steps and
  - error reduction due to improved communication among organizational information silos.

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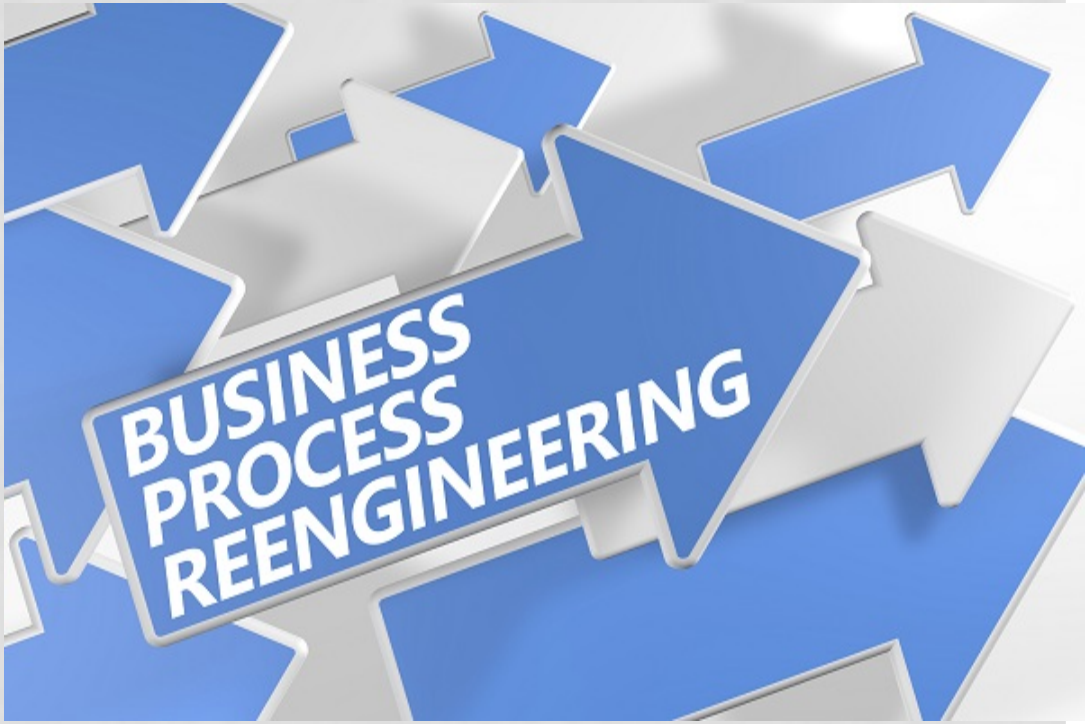

BPI - BUSINESS PROCESS IMPROVEMENT

- The businesses increasingly began to organize work around business processes rather than individual tasks. The result was a less radical, less disruptive, and more incremental approach, called **business process improvement (BPI)**.
- BPI focuses on reducing variation in the process outputs by searching for root causes of the variation in the process itself

5 BASIC PHASES OF BPI

1. **Define problems**
2. **Measure data and metrics**
3. **Analyze "as-is" process, id problems, and root causes**
4. **Improve by mapping "to-be" process and implementing solution**
5. **Control & ensure process remains stable**

- BPI is usually performed by teams of employees that include **a process expert**—usually the **process owner** (the individual manager who oversees the process)—as well as other individuals who are involved in the process.

- **BP Improvement (BPI)**

- BP Improvement (BPI)

- Focuses on reducing variation in the process outputs: Streamline your business
- Searching for root causes of the variation in the process (such as a broken machine on an assembly line) or among the process inputs (such as a decline in the quality of raw materials purchased from a certain supplier).
- Less radical; less disruptive; more incremental.

BPI

- **Six Sigma** is a popular methodology for BPI initiatives. Its goal is to ensure that **the process has no more than 3.4 defects per million** outputs by using statistical methods to analyze the process.
- **Many organizations prefer BPI because**

- They are less risky and less costly
- BPI projects take less time overall, and even if they are unsuccessful, they consume fewer organizational resources than BPR projects.
- BPI projects tend to be performed more from the bottom-up, in contrast to BPR projects that involve top-down change mandates.
- BPI focuses on delivering quantifiable results

BUSINESS PROCESS MANAGEMENT

- Organizations can adopt **business process management (BPM)**, a management system that includes methods and tools to support the design, analysis, implementation, management, and continuous optimization of core business processes throughout the organization.
- BPM integrates disparate BPI initiatives to ensure consistent strategy execution

- Important components of BPM are
  - Process modeling,
  - Web-enabled technologies, and
  - Business activity monitoring

• BP Management (BPM)

- A management system designed to sustain BPI efforts over time;
- Includes methods and tools to support the design, analysis, implementation, management, and continuous optimization of core BP throughout the organization;
- Integrates disparate BPI initiatives to ensure consistent strategy execution.