



DEPARTMENT OF INFORMATION TECHNOLOGY

FACULTY OF MANAGEMENT STUDIES AND COMMERCE

UNIVERSITY OF SRI JAYEWARDENEPURA

ITC 1370

Information Technology for Business

Chapter 07

Business Processes



Learning Objectives

Upon successful completion of this chapter, you will be able to:

- Define the term *business process*.
- Understand the tools of documentation of business processes.
- Identify the different systems needed to support business processes in an organization.
- Explain how *business process management* and *business process reengineering* work.
- Understand how information technology combined with business processes can bring an organization competitive advantage.

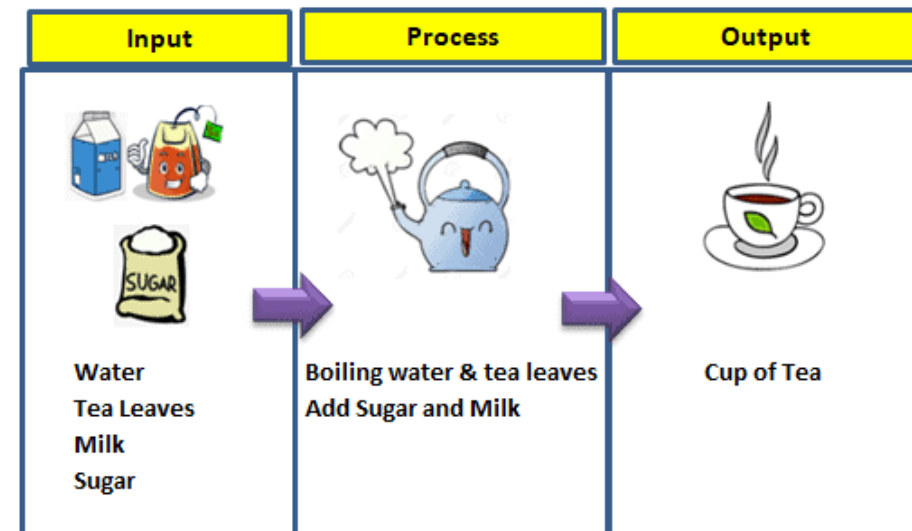
Processes everywhere!

- What is a Process?

- A process is a series of tasks that are completed in order to accomplish a goal.

e.g. –

- Getting ready for work
- Process of making a cup of tea
- Using an ATM
- Texting a friend etc.



Processes everywhere!

- What is a **Business Process**?
 - A set of business activities (tasks) performed by human actors and/or the information system to accomplish a specific outcome.

e.g. –

- Order-to-cash process
- Manufacturing process
- Inventory Management Process
- Application-to-hiring process
- Data Backup and Recovery Process etc.





Processes everywhere!

- Processes are something that businesses go through every day in order to accomplish their mission. The better their processes, the more effective the business.
- Some businesses see their processes as a strategy for achieving competitive advantage.
e.g.- A process that eliminates costs can allow a company to lower its prices (or retain more profit).
- Anything from a simple process for making a sandwich at a restaurant to building a space shuttle utilizes one or more business processes.

Documenting a Process

- As processes grow more complex, documenting becomes necessary.
- It is essential for businesses to do this because it allows them to ensure **control** over how activities are undertaken in their organization.
- It also allows for **standardization**. *For example, McDonald's has the same process for building a 'Big Mac' burger in all of its restaurants.*
- The simplest way to document a process is to just create a list. Each step can be checked off upon completion.

e.g.- Process of creating a Gmail account 

1. Go to gmail.com.
2. Click "Create account."
3. Enter your contact information in the "Create your Google Account" form.
4. Choose your username and password.
5. Agree to User Agreement and Privacy Policy by clicking on "Submit."

Documenting a Process

- But processes that are not so straightforward, documenting all of the steps as a checklist may not be sufficient.

e.g.- Process of adding 'an article' or 'a redirect' to the Wikipedia



1. Search Wikipedia to determine if the term already exists.
 2. If the term is found, then an article is already written, so you must think of another term. Go to step 1.
 3. If the term is not found, then look to see if there is a related term.
 4. If there is a related term, then create a redirect.
 5. If there is not a related term, then create a new article.
- This procedure is relatively simple. In fact, it has the same number of steps as the previous example, but because it has some decision points, it is more difficult to track as a simple list. In these cases, it may make more sense to use a diagram to document the process.

Tools for documentation of business processes

- Natural languages (e.g., English) are incapable to explain complex business processes.
- Diagrams have been used as tools for business process modeling in the information systems field.
- There have been many types of business process diagramming tools, and each of them has its own style and syntax to serve its particular purpose.
- The most commonly used business process diagramming tools are
 - Business Process Modeling Notation (BPMN)
 - Data Flow Diagram (DFD)
 - Unified Modeling Language (UML).

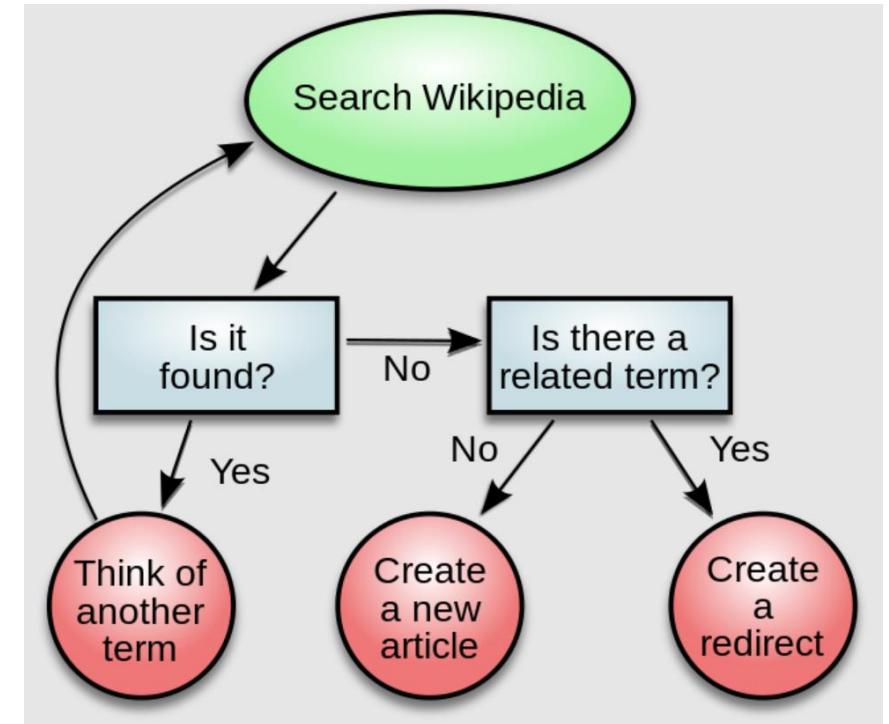
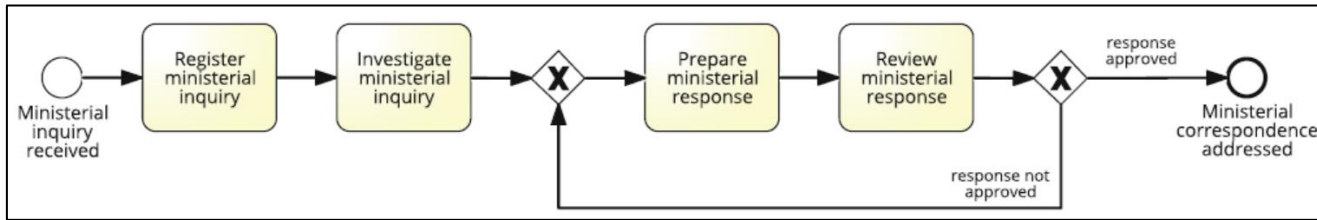
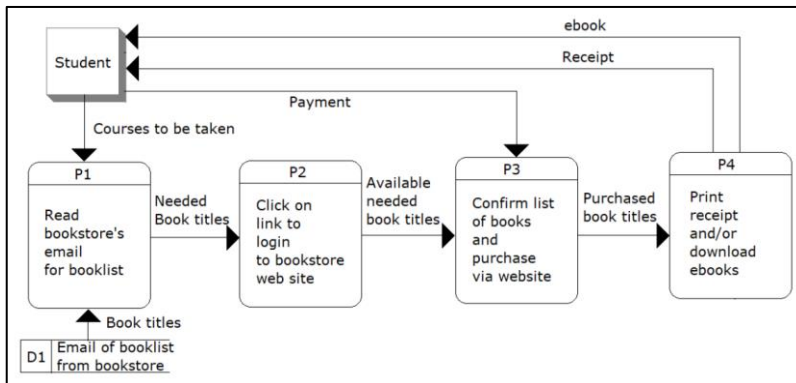


Diagram of the previous example's business process

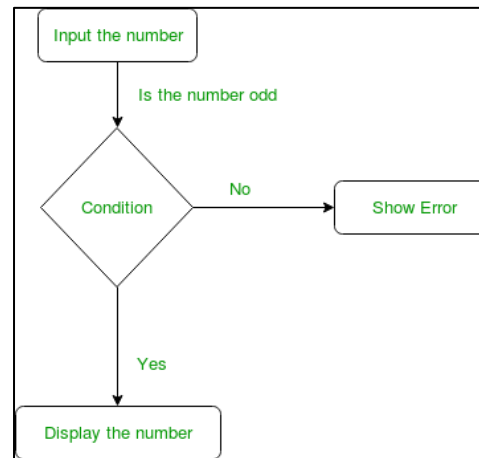
Tools for documentation of business processes



Example for BPMN



Example for DFD



Example for Activity Diagram (UML)

- **Business Process Modeling Notation (BPMN)** - a graphical representation and standard notation used for documenting and modeling business processes
- **Data Flow Diagram (DFD)** - used to depict the flow of data within a system or process.
- **Unified Modeling Language (UML)** - a standardized visual modeling language used in software engineering to model, design, and document software systems.



Different systems needed to support business processes in an organization.

- ❖ **Enterprise Resource Planning (ERP) System:** Integrates and manages core business processes such as finance, accounting, human resources, supply chain, manufacturing etc.
- **Customer Relationship Management (CRM) System:** Manages customer interactions, sales activities, marketing campaigns, and customer support processes.
- **Supply Chain Management (SCM) System:** Facilitates the coordination and optimization of the supply chain processes, including procurement, inventory management, demand forecasting, and logistics.



Different systems needed to support business processes in an organization.

- **Human Resources Information System (HRIS):** Handles employee data, recruitment, onboarding, benefits administration, payroll, performance management, and training and development.
- **Document Management System (DMS):** Organizes, stores, and retrieves electronic documents, ensuring version control, document security, and workflow automation.
- **Learning Management System (LMS):** Delivers and tracks employee training and development programs, including e-learning modules, certifications, and performance assessments.
- **E-commerce and Online Sales Platforms:** Supports online sales, order management, and customer self-service through websites or dedicated e-commerce platforms.



Example – How an HRIS supports business processes in an organization.

- ✓ Recruitment and Onboarding - The HRIS system automates and simplifies the recruitment and onboarding process. It enables the organization to post job openings, receive and track applications, schedule interviews, and generate employment contracts. The system also facilitates new employee onboarding by providing a centralized platform for completing necessary forms, accessing training materials, and familiarizing new hires with company policies and procedures.
- ✓ Time and Attendance Tracking - The HRIS system automates time and attendance tracking, replacing manual timesheets and punch cards. Employees can log their working hours through the system, which accurately captures attendance data. This streamlines payroll processing, reduces errors, and provides real-time visibility into attendance patterns, enabling effective workforce management.
- ✓ Employee Self-Service - The HRIS system offers employee self-service capabilities, allowing employees to access and manage their own information. Employees can view pay stubs, update personal details, request time off, and access relevant HR policies and resources through a self-service portal. This reduces administrative burden, improves data accuracy, and empowers employees to take ownership of their HR-related tasks.

Business Process Management (BPM)



- What is BPM?

A body of methods, techniques, and tools to identify, discover, analyze, redesign, execute, and monitor business processes in order to optimize their performance.

- BPM is more than just automating some simple steps. While automation can make a business more efficient, it cannot be used to provide a competitive advantage. BPM, on the other hand, can be an integral part of creating that advantage.
- An organization should look for processes that are essential to the functioning of the business and those that may be used to bring a competitive advantage.



Importance of BPM for an Organization

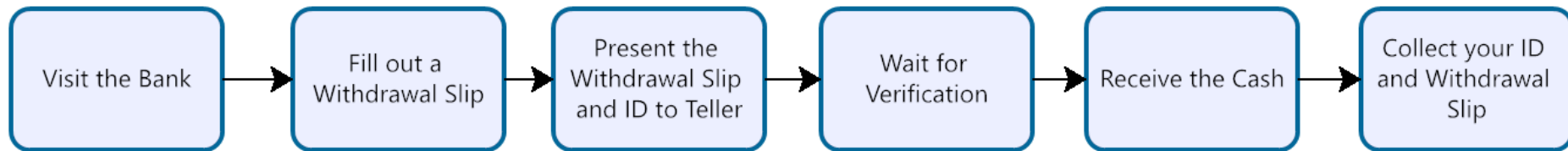
- **Improve Efficiency and Cost Reduction:** BPM aims to streamline and automate processes, resulting in increased operational efficiency and reduced costs. For example, a manufacturing company may implement BPM practices to identify and eliminate bottlenecks in their production line, leading to faster production cycles, reduced waste, and lower costs.
- **Agility and Adaptability:** BPM enables organizations to respond quickly to changing market dynamics and customer needs. By continuously monitoring and analyzing processes, organizations can identify inefficiencies or areas for innovation. For example, a retail company may use BPM to analyze customer buying patterns and adjust their inventory management processes accordingly, ensuring they meet customer demand while minimizing excess inventory.
- **Collaboration and Communication:** BPM promotes collaboration and communication across departments and teams, breaking down silos and fostering a culture of continuous improvement. For example, a project management team may adopt BPM practices to define clear roles, responsibilities, and workflows, ensuring effective communication, coordination, and accountability throughout the project lifecycle.
- **Customer Experience Enhancement:** BPM focuses on aligning processes with customer needs and expectations, leading to improved customer experiences. For example, an e-commerce company may use BPM techniques to optimize their order fulfillment process, resulting in faster shipping times, accurate order tracking, and better customer satisfaction.

Business Process Re-engineering (BPR)

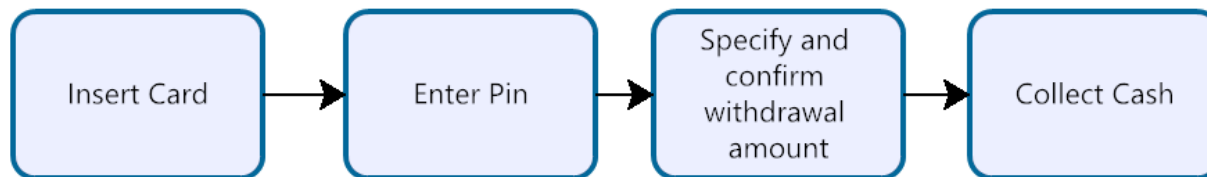
- As organizations look to manage their processes to gain a competitive advantage, it is also important to understand that existing ways of doing things may not be the most effective or efficient.
- Simply automating an inefficient process does not make it better. Instead, companies should “blow up” their existing processes and develop new processes that take advantage of the new technologies and concepts.
- Business Process Re-engineering (BPR) is not just taking an existing process and automating it. BPR is fully understanding the goals of a process and then dramatically redesigning it from the ground up to achieve dramatic improvements in productivity and quality.

Business Process Re-engineering (BPR) - Example

Manual cash withdrawing process



Cash withdrawing process via ATM



Cash withdrawing process in a bank



How information technology combined with business processes can bring an organization competitive advantage.

- **Enhanced Customer Experience:**

By integrating IT systems with business processes, organizations can deliver personalized and seamless customer experiences. For instance, e-commerce companies like Amazon leverage sophisticated recommendation algorithms to provide personalized product suggestions based on customer browsing and purchase history. This integration of IT with their business processes gives them a competitive edge by enhancing customer satisfaction and increasing sales.

- **Streamlined Supply Chain Management:**

IT systems can be integrated into supply chain processes to optimize inventory management, reduce costs, and improve overall efficiency. For example, retail giant Walmart uses a sophisticated supply chain management system that combines real-time sales data with inventory information to automate inventory replenishment. This integration allows them to minimize stockouts, improve product availability, and gain a competitive advantage by providing customers with a smooth shopping experience.



How information technology combined with business processes can bring an organization competitive advantage.

- Agile and Collaborative Work Environment:

IT tools and systems can enable seamless communication, collaboration, and workflow automation within organizations, enhancing productivity and efficiency. For example, project management software like Trello or Asana enables teams to collaborate on tasks, track progress, and manage deadlines effectively. By integrating IT tools with their business processes, organizations can foster an agile work environment, enabling faster decision-making, improved teamwork, and a competitive advantage in delivering projects on time.

Thank You