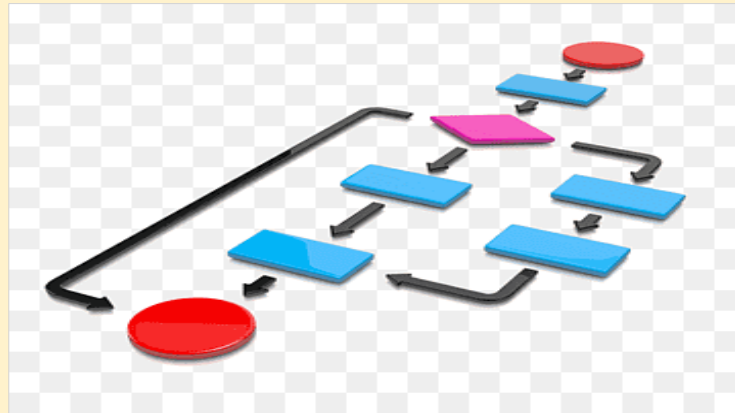
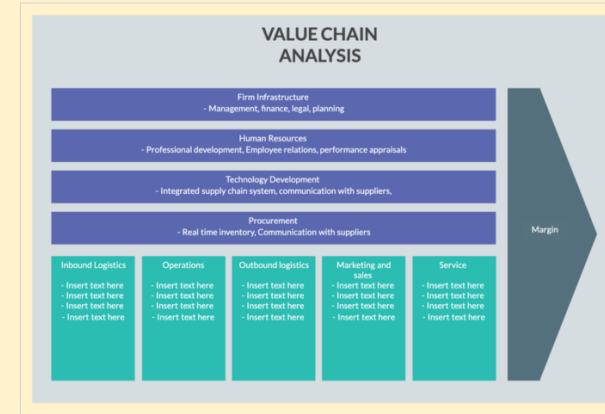


# Lecture 7- Analysing Micro Operations



# Operations Management

# What is Operations Management?

- “Operations management is the **activity of managing the resources which are devoted to the production and delivery of products and services.**” (Slack et al, 2013)



# Key Operations Management Activities 1

- Understanding the needs of customers
- Using information about customers to make better decisions
- Exploiting technology to improve productivity
- Building quality into goods, services and processes to improve business performance

# Key Operations Management Activities 2

- Ensuring material flows are coordinated from supplier to customer
- Creating a high-performance workplace through developing and motivating staff
- Continually learning from co-workers, competitors, customers, etc.

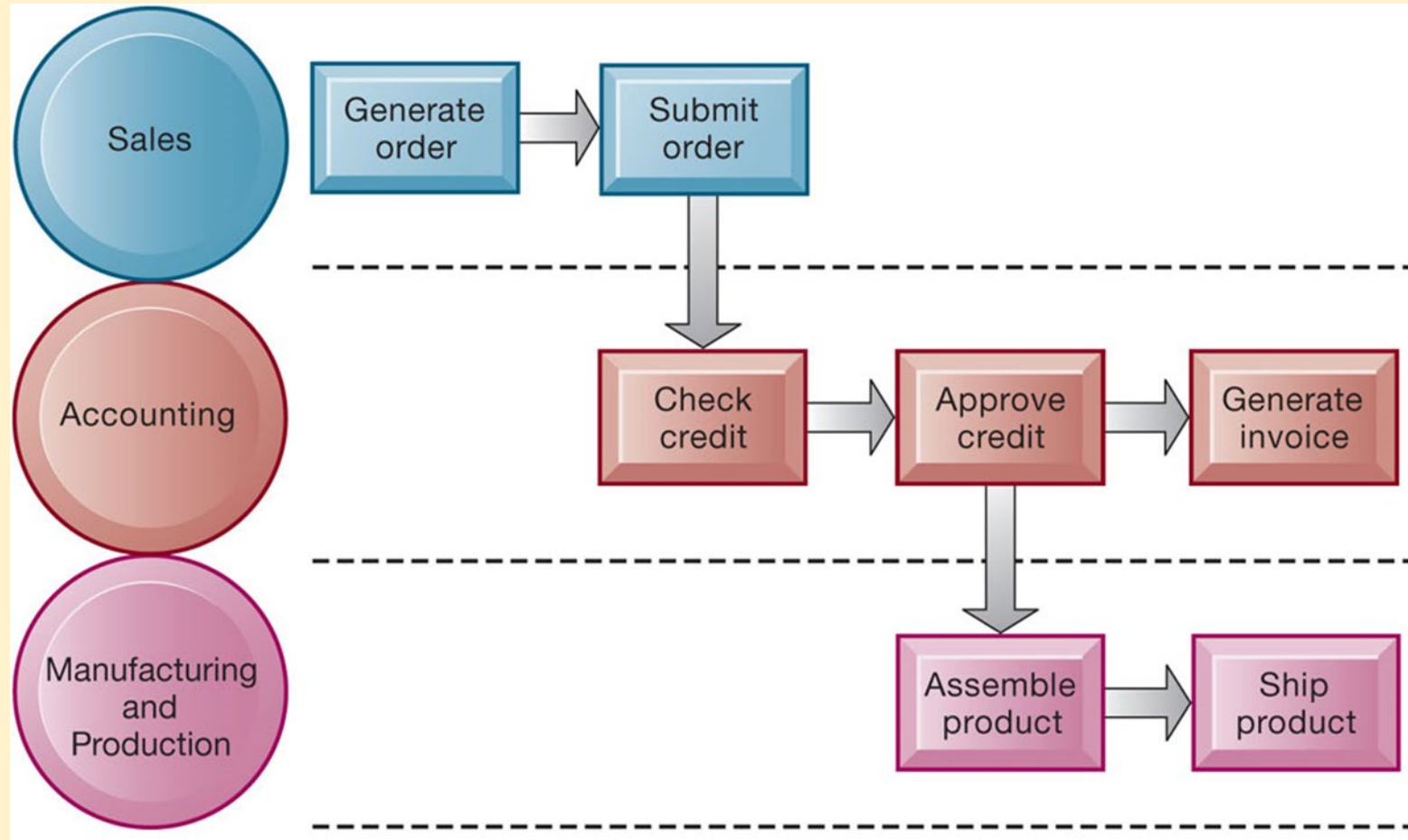
- The operations function is one of the three core functions of any organization.
- There are the **support functions** which enable the core functions to operate effectively:
  - the accounting and finance function,
  - the technical function,
  - the human resources function,
  - the information systems function



Laudon and Laudon (2013)

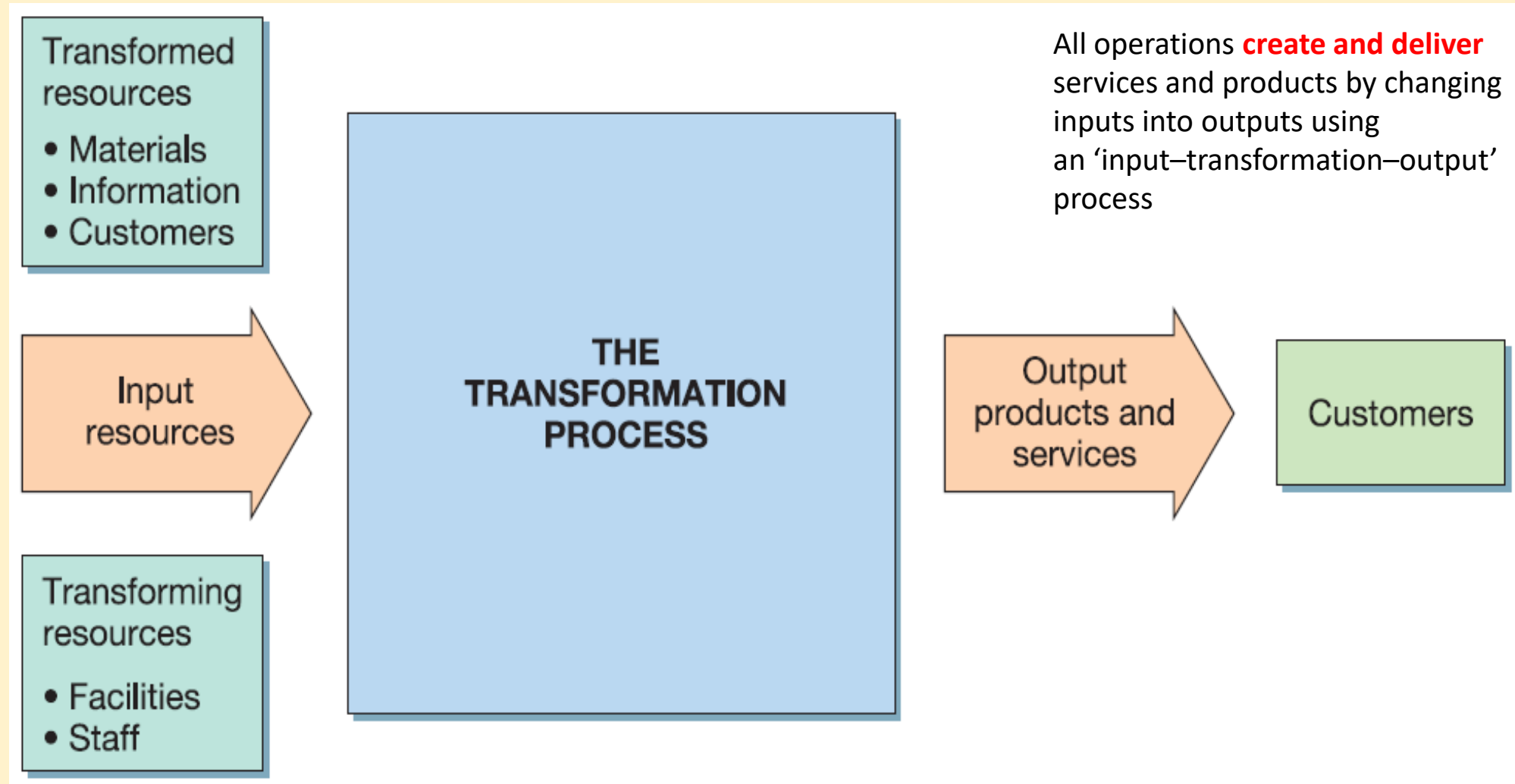
- Operations function as comprising **all the activities necessary** for the day-to-day fulfilment of customer requests.

### Example: Order Fulfilment Process



Laudon and Laudon (2013)

# Input-Transformation-Output Model



All operations **create and deliver** services and products by changing inputs into outputs using an 'input-transformation-output' process

Source: Slack et al (2011)



# Operations described in terms of their processes

<i>Operation</i>	<i>Some of the operation's inputs</i>	<i>Some of the operation's processes</i>	<i>Some of the operation's outputs</i>
<b>Airline</b>	Aircraft Pilots and air crew Ground crew Passengers and freight	Check passengers in Board passengers Fly passengers and freight around the world Care for passengers	Transported passengers and freight
<b>Department store</b>	Products for sale Sales staff Information systems Customers	Source and store products Display products Give sales advice Sell products	Customers and products 'assembled' together.
<b>Police</b>	Police officers Computer systems Information systems Public (law-abiding and criminals)	Crime prevention Crime detection Information gathering Detaining suspects	Lawful society, public with a feeling of security

Source: Slack et al (2011)

# Input-Transformation-Output Model- IKEA

Input	Process	Output
<p>Transformed resources</p> <ul style="list-style-type: none"> <li>• All items of furniture/ home ware: small basket items; flat pack items in the self-service warehouse; special items</li> <li>• Customers</li> </ul>	<p>Staff</p> <p>Restock warehouse and visual displays</p> <p>Display of furniture and development of good visual displays</p> <p>Answer queries</p> <p>Process financial transactions</p>	<p>Happy customers?!?</p> <p>Flat packs/assembled furniture taken to customer home</p>
<p>Transforming Resources</p> <ul style="list-style-type: none"> <li>• Visual displays</li> <li>• Warehouses</li> <li>• Trolleys and equipment</li> <li>• Checkout equipment</li> <li>• Customers</li> <li>• Check out staff</li> <li>• Staff on information points</li> </ul>	<p>Customers</p> <p>Selection of furniture</p> <p>Design of configuration (e.g. a shelving system)</p> <p>Picking of items from the warehouse</p> <p>Transportation of items through the store</p> <p>Loading of items into car</p> <p>Delivery of items</p>	

# Group Activity: Using Breakout Rooms

1. Summarize the Input-Process-Output model for **Atokowa**:
  - What are the inputs?
  - What processes take place in the store?
  - What are the outputs?
2. What is the role of the customer in the process whilst in the store?

# Input-Transformation-Output Model- Atokowa

INPUTS	PROCESSES	OUTPUTS
Transformed Resources:		
Transforming Resources:		

# Porter's Value Chain Analysis

# Value Chain Model Basics

- It highlights specific activities in the business where competitive strategies can best be applied
- Therefore, it can be used to identify where information systems are most likely to have a strategic impact.
- The value chain model views the firm as a series or chain of basic activities that:
  - **add a margin of value to a firm's products or services for its customers**

# So What is Value?

- Today's customers demand:
  - High quality products
  - Quick response times
  - Excellent service
  - Low prices
- Combined – these result in VALUE being created

# Value Defined

- **Value is a perception by customers** – for a good, service or combination of both (customer benefit package) in relation to what buyers are willing to pay for them
- Customers make decisions to buy based on perceived benefit against price
- **Customer Value = perceived benefit / price**



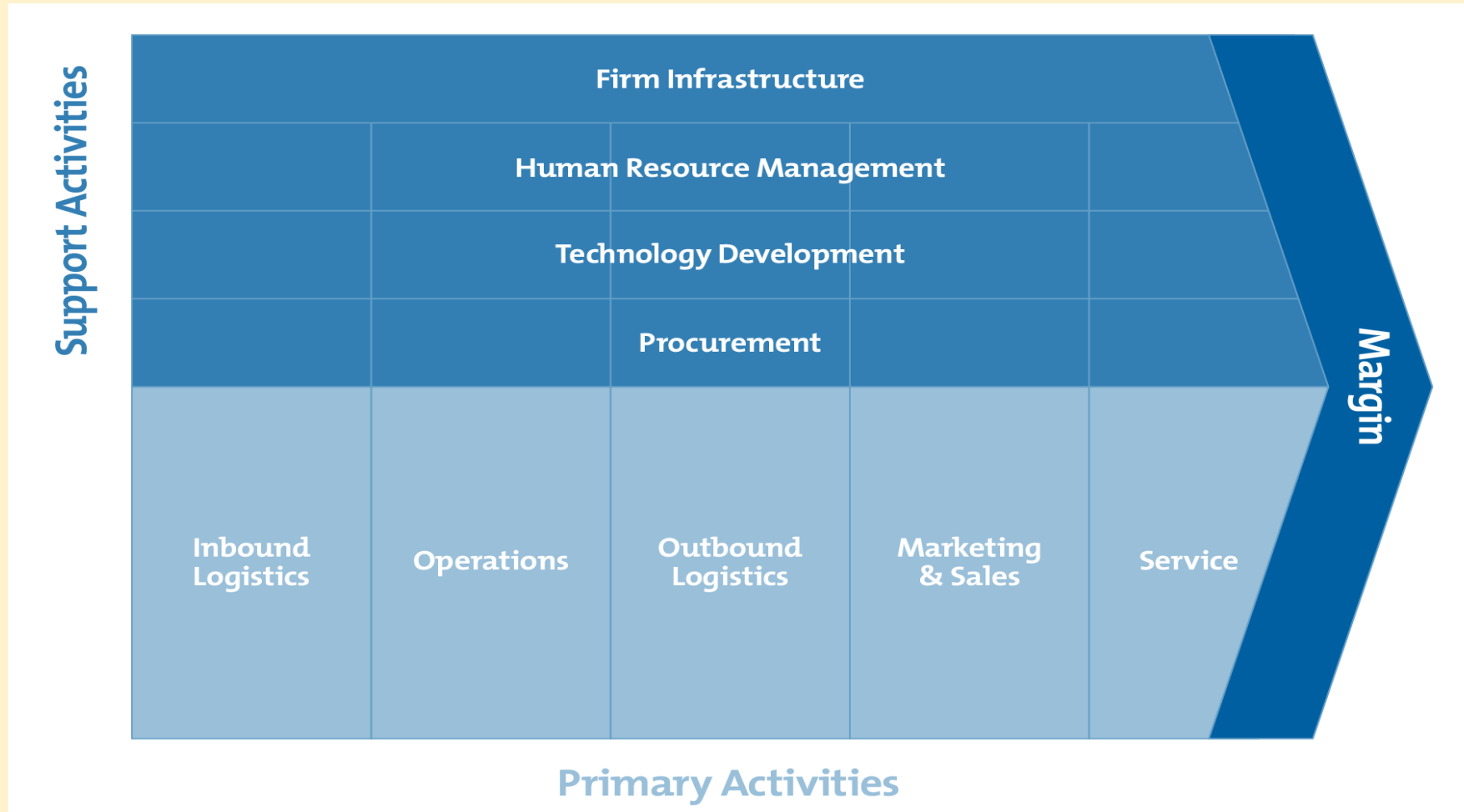
# How to add a margin of Value?

- To increase value, an organisation must do one or more of the following:
  - Increase benefits without increasing price
  - Increase perceived benefits whilst reducing price
  - Decrease price without decreasing perceived benefits
- **Margin= Value Created– Cost of Creating that Value**

# Implication of IS

- For each element in the value chain it may be possible to use IS to increase the efficiency of resource usage in that area.
- In addition, IS may be used between value chain activities to increase organizational efficiency.

# Value Chain Model



# Primary Activities

- **Inbound logistics**

- Receiving raw materials and/or partly finished goods; storing them; and transferring them to the manufacturing section

- **Operations**

- Producing finished goods from raw materials and/or partly finished goods

- **Outbound logistics**

- Storing finished goods and then distributing them to customers

- **Marketing and sales**

- Promoting the firm's products; soliciting orders from prospective customers

- **After-sales service**

- Maintaining the value of the product to the customer after it has been delivered

# Support Activities

- **Firm infrastructure**

- General management; accounting and finance; legal department; health and safety; etc.

- **Human Resource Management**

- Recruiting; training and developing; appraising; career planning; etc.

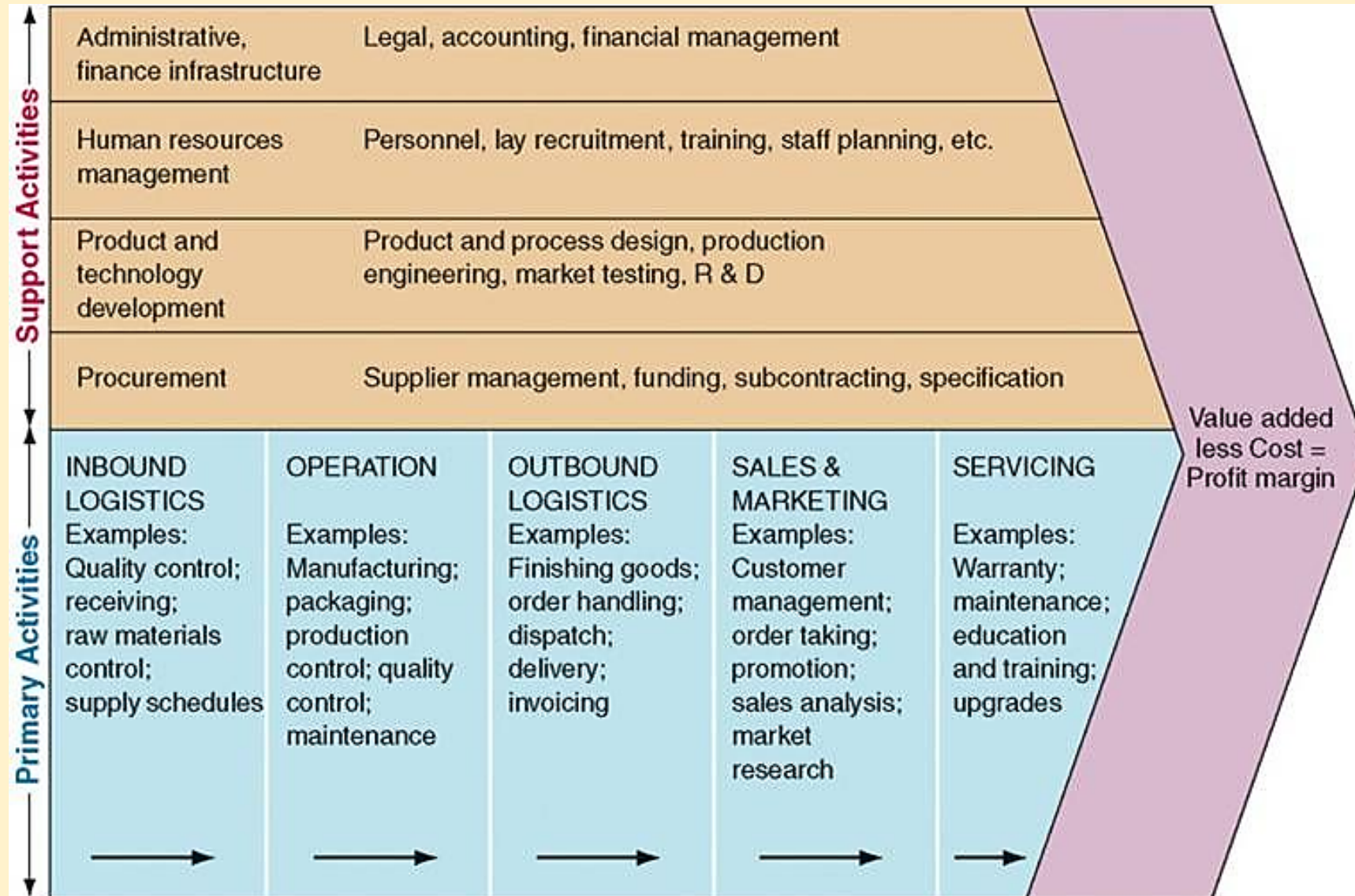
- **Technology development**

- Research and development, relating to both products and processes

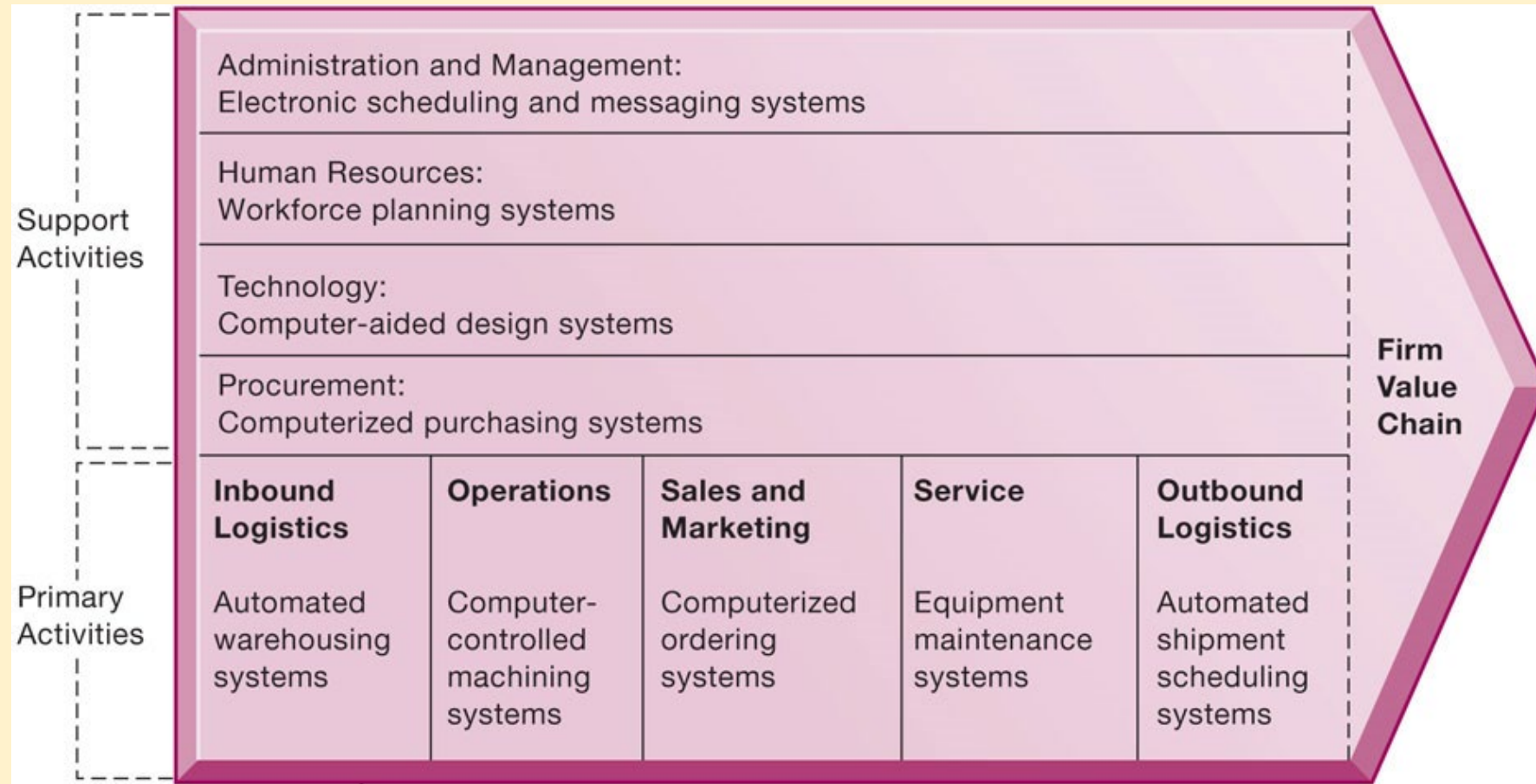
- **Procurement**

- Acquiring the goods and services that the firm needs in order to operate effectively; applicable to both primary and support activities

# Value Chain Model



# Example-Information Systems in Value Chain Activities



Laudon and Laudon (2013)

# Steps to Value Chain Analysis for a Firm

- Step 1 – Identify sub-activities for each primary activity
- Step 2 – Identify sub-activities for each support activity
- Step 3 – Identify links between all value activities identified
- Step 4 – Look for problems to resolve and opportunities to increase value
- Step 5 – Identify Information Systems that can be used to increase value



- Task- Apply the Value Chain to Hotel Plaza Nouveau
  - Analyze Hotel Plaza Nouveau using the value chain, show any problems and how they can improve processes and use of information systems
  - Download the Value Chain Template and identify:
    - What processes take place at Plaza Nouveau?
    - Indicate any problems/issues within their value chain
    - Indicate how they might improve their value chain?
    - Consider processes and information systems
    - You need to consider the different parts of the Hotel – reception; restaurant; etc.
  - It is best to start with the primary activities first
  - Follow the steps to Value Chain Analysis

# Example of Complete VCA for Hotel Plaza

- When completing, use colours to differentiate your points:
  - Black- list activities
  - Red- identify Issues
  - Green- make recommendations

Inbound Logistics	Operations	Outbound Logistics	Marketing and Sales	After Sales Service
<p><b>Hotel:</b> Receiving and storing office items and other sundries.</p> <p><b>Restaurant:</b> Receives food and drinks for the restaurant.</p> <p><b>Housekeeping:</b> Receiving and storing of bed linens and cleaning items.</p> <p>Could use purchasing software here.</p>	<p><b>Hotel:</b> Taking reservations; assigning rooms (currently problematic) Serving customers at the reception Need to redesign their processes to manage reservations between Need a supporting hotel reservations information system and small-scale CRM system.</p> <p><b>Restaurant:</b> Taking table reservations; taking orders for room service and in restaurant; preparing food; etc. (cause for concern – balancing room service and restaurant) Develop a streamlined process for room service Collect data to manage busy and quiet times more effectively.</p> <p><b>Housekeeping:</b> maintaining cleanliness standards; currently inefficient as often performing a full service clean on a room that does not need it Schedule housekeeping using the hotel reservations system.</p>	<p><b>Hotel:</b> Check-out process</p> <p><b>Restaurant:</b> Serving food and drinks to customers; delivering room service</p>	<p>Mainly word-of-mouth advertising and repeat business</p> <p>Small-scale CRM system with loyalty rewards for the customers. Use hotel booking websites for advertising.</p>	<p>Responding to customer complaints</p> <p>Manage these within the CRM system</p>

# Business Process Mapping

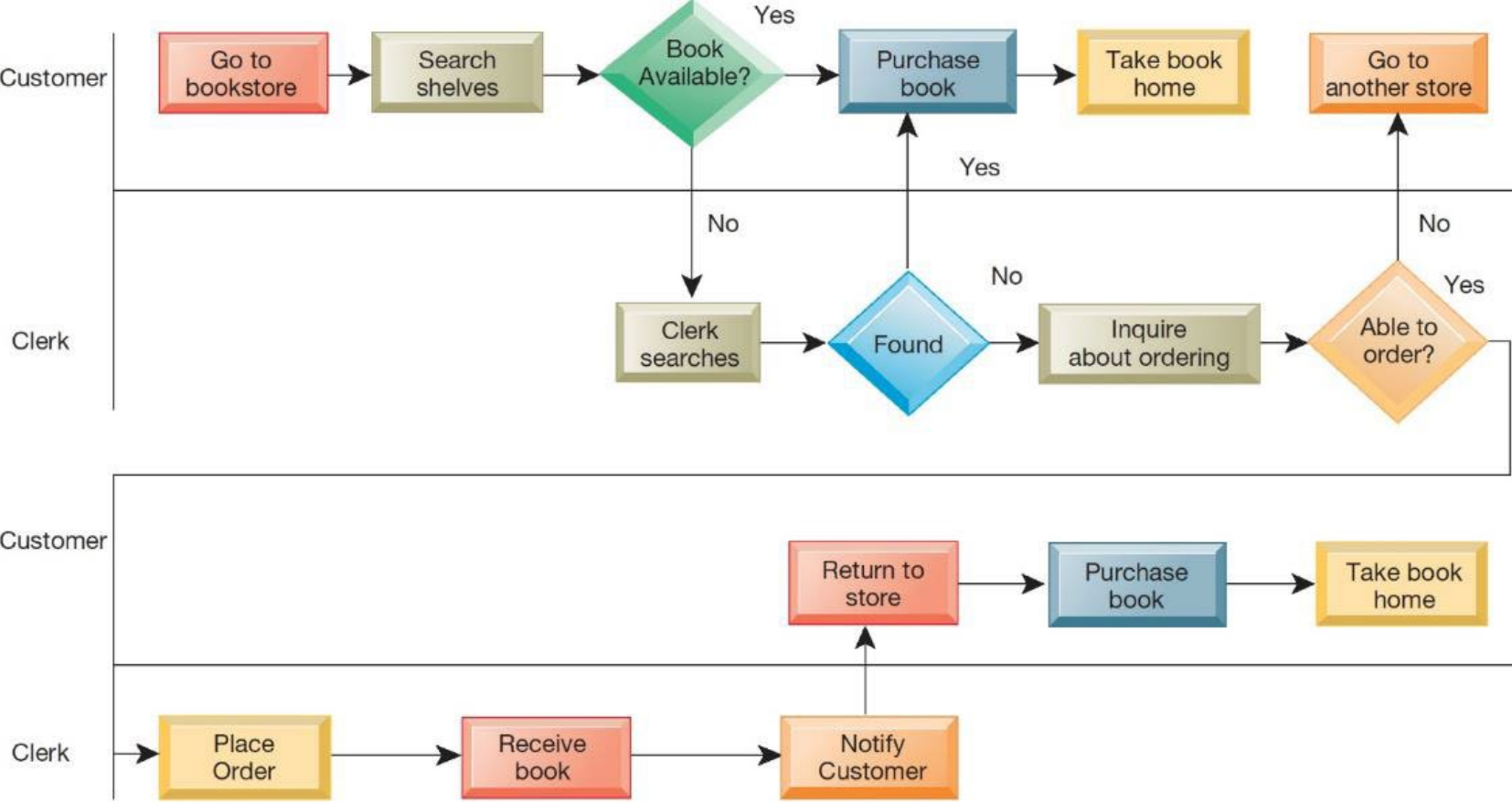
# What is Business Process Management (BPM)?

- Technology alone is often not enough to improve business
- Organizational changes often necessary
  - Minor changes in work habits
  - Redesigning entire business processes
- Aims to continuously improve processes
- Uses variety of tools and methodologies to
  - Understand existing processes
  - Design and optimize new processes

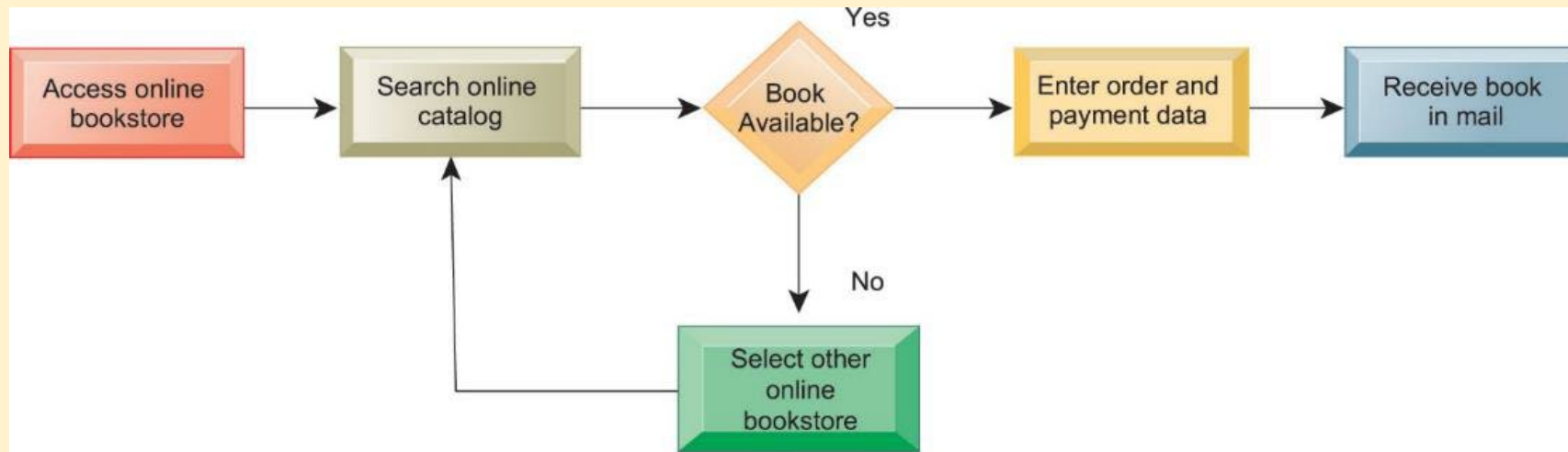
# Steps in BPM

1. Identify processes for change
2. Analyze existing processes
3. Design new process
4. Implement new process
5. Continuous measurement

# Current Business Process for Purchasing a Book from a Physical Bookstore




# Redesigned Process for Purchasing a Book Online




Laudon and Laudon (2013)


# Process mapping symbols


## Process mapping symbols derived from 'Scientific Management'

 Operation (an activity that directly adds value)

 Inspection (a check of some sort)


 Transport (a movement of something)


 Delay (a wait, e.g. for materials)

 Storage (deliberate storage, as opposed to a delay)


## Process mapping symbols derived from Systems Analysis

 Beginning or end of process

 Activity

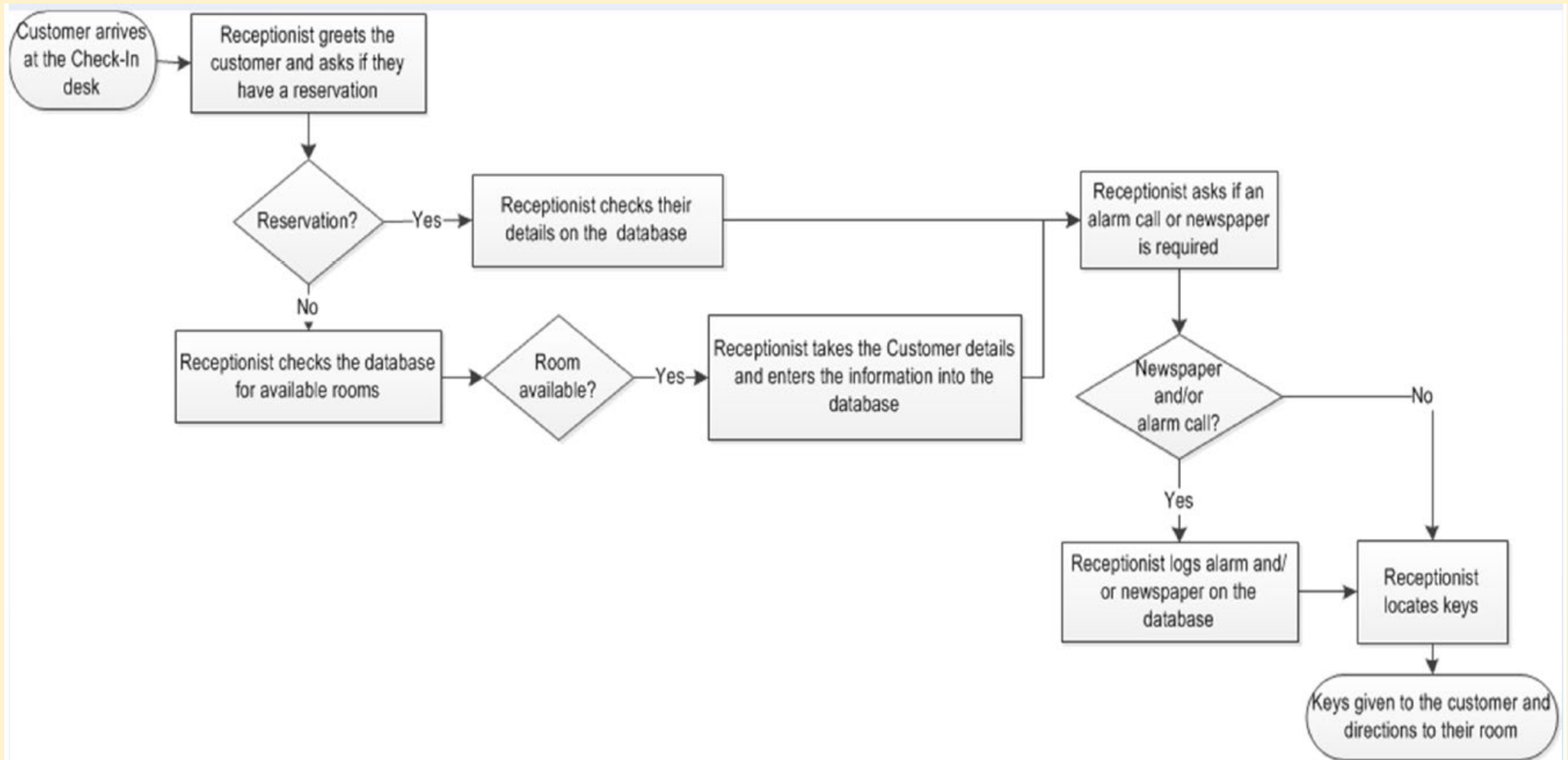
 Input or Output from the process

 Direction of flow

 Decision (exercising discretion)



# Example of Check-In Process at Hotel Plaza



# Consider Atokowa Transaction Business Process

- What are the activities/processes?
- What are the decision?
- Make a list before you start drawing

largely on simplicity. Each Atokowa retail outlet was equipped with a standard Windows PC connected over a simple local area network (LAN) to the checkout EPOS systems. **Every transaction taken at the till is processed:**

1. Product scanned into EPOS system
2. Products are totalled
3. Payment is taken
4. Once payment is taken, every individual item sold was written to the *Transactions* table in the ASIS MS Access database (without impacting the operation of the checkout process in any way)
5. When any retail transaction occurred via the *Transactions* table, the quantity of that product held locally in the store was decremented in the separate Table (*Stocks*). The *Stocks* table holds a record for each product line offered by the company. The Store Manager monitors this information to maintain an efficient level of stock control.
6. At the end of the day the store manager runs and reviews the Daily Reorder report – which shows all stock lines which have reached their designated reorder level. (Each stock record in the *Stocks* table has a re-order level field).
7. The store manager may adjust the re-order quantity (e.g. six boxes) if they predict an increased or reduced demand for a particular product line.
8. Every week (excluding Brisbane area and Perth area), the store manger raises a delivery request to the Melbourne warehouse for the replenishment of stocks via EDI (electronic data interchange).
9. At the warehouse, the delivery request is processed and checked thoroughly for any unusual requests (to avoid errors).
10. If the warehouse has the available stock then the warehouse operatives pick and pack the delivery and palletise it. In the event that the stock is not available, it will be ordered and the retail outlet notified that the delivery will be incomplete.
11. The pallets for each outlet are then forwarded to the store using a third party logistics (3PL) within 7 working days of receiving the request (excluding the unavailable items). Bear in mind, the distance between Melbourne and some of the other retail outlets is vast.

# References

- Laudon, J. & Laudon, K. 2013. Essentials of management information systems. 10<sup>th</sup> ed. Boston: Pearson
- Laudon, K. C. & Laudon, J. P. 2014. Management information systems managing the digital firm. 13<sup>th</sup> ed. Boston: Pearson.