Informatics Class 3

Strategic Information Systems for business competitive advantage

Objectives

- Describe strategic information systems (SISs) and explain their advantages.
- Describe Porter's competitive forces model and how information technology helps companies improve their competitive positions.
- Describe 12 strategies companies can use to achieve competitive advantage in their industry.
- Describe Porter's value chain model and its relationship to information technology.
- Describe representative SISs and the advantage they provide to organizations.
- Discuss the challenges associated with sustaining competitive advantage.

Strategic Information System

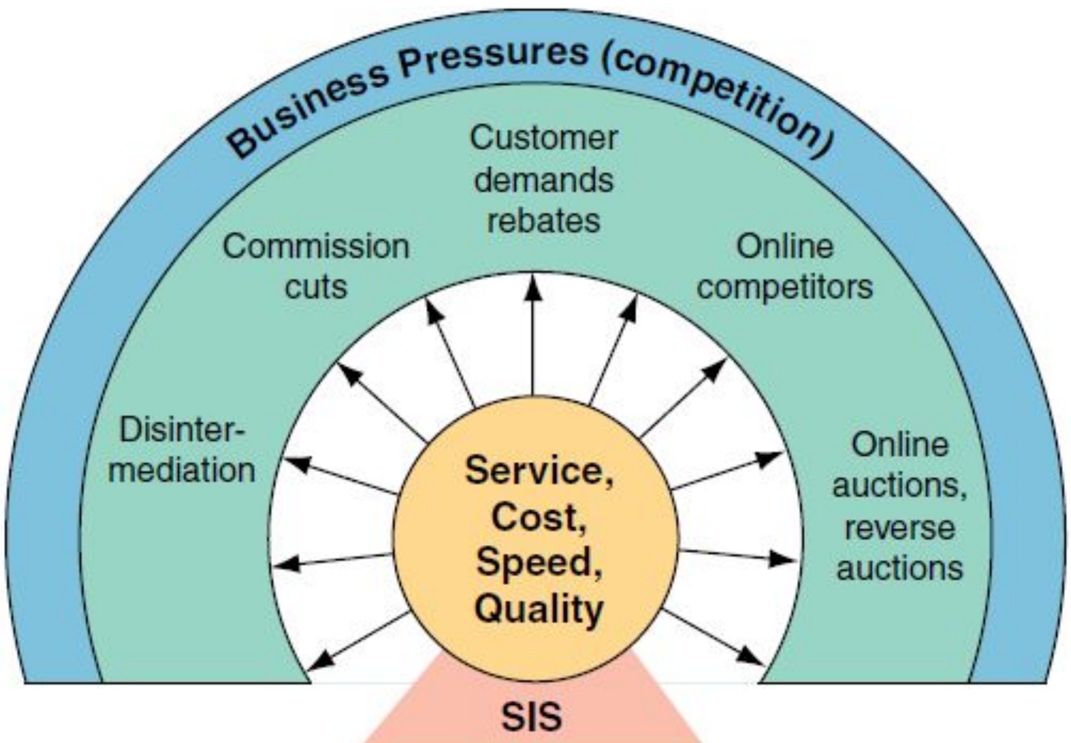
Any information system--**EIS, OIS, TPS, KMS-**- that changes the goals, processes, products, or environmental relationships to help an organization gain a competitive advantage or reduce a competitive disadvantage.

- Gain Competitive Advantage
  - An advantage over competitors in some measure such as cost, quality, or speed
  - A difference in the Value Chain Data
- Improving Core Competency(reduce disadvantage)
- Employee productivity
- Operational efficiency

Strategic Information System

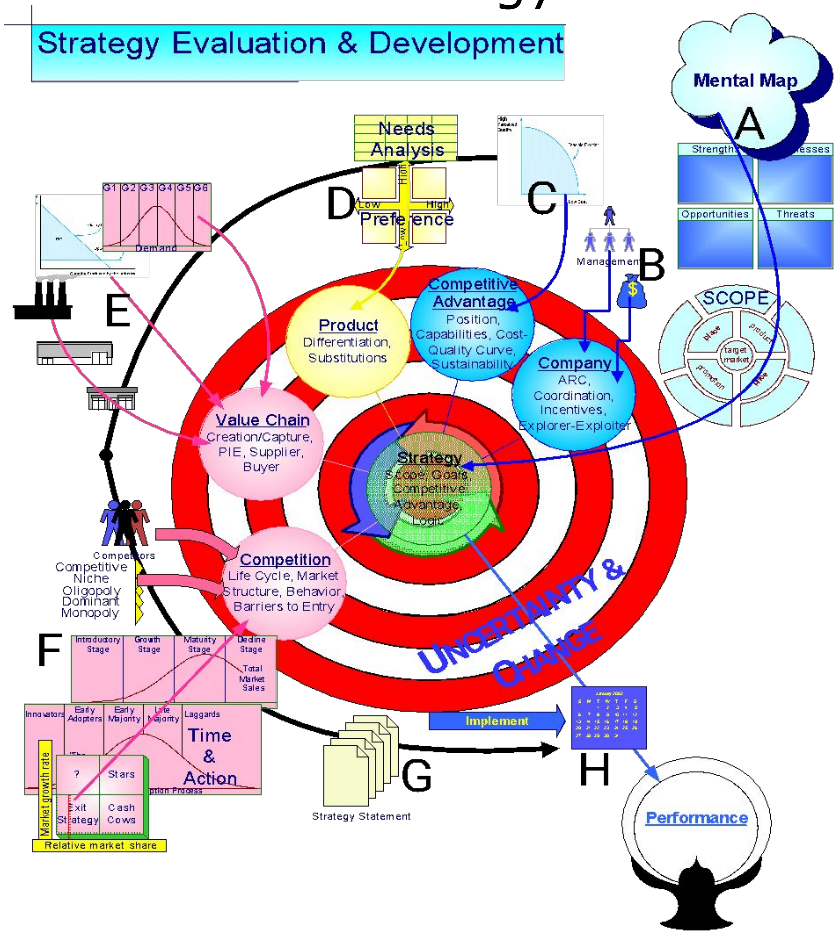
Continued

The goals, processes, products, or environmental relationships that help an organization gain a competitive advantage or reduce a competitive disadvantage.



Strategic Management

Strategic management is the way an organization maps or crafts the strategy of its future operations.



- *SWOT Analysis*
- *Product Life Cycle*
- *Quality Preference*
- *…*

Information Technology – Supports Strategic Management

- **Innovative applications:** Create innovative applications that provide direct strategic advantage to organizations.
- **Competitive weapons:** Information systems themselves are recognized as a competitive weapon
- **Changes in processes:** IT supports changes in business processes that translate to strategic advantage
- **Links with business partners:** IT links a company with its business partners effectively and efficiently.

Information Technology – Supports Strategic Management *(Continued)*

- **Cost reductions:** IT enables companies to reduce costs.
- **Relationships with suppliers and customers:** IT can be used to lock in suppliers and customers, or to build in switching costs.
- **New products:** A firm can leverage its investment in IT to create new products that are in demand in the marketplace.
- **Competitive intelligence:** IT provides competitive (business) intelligence by collecting and analyzing information about products, markets, competitors, and environmental changes .

Competitive Intelligence

One of the most important aspects in developing a competitive advantage is to acquire information on the activities and actions of competitors.

- Information-gathering drives business performance
  - by increasing market knowledge
  - improving knowledge management
  - raising the quality of strategic planning

However once the data has been gathered it must be processed into information and subsequently business intelligence. Porters 5 Forces is a well-known framework that aids in this analysis.

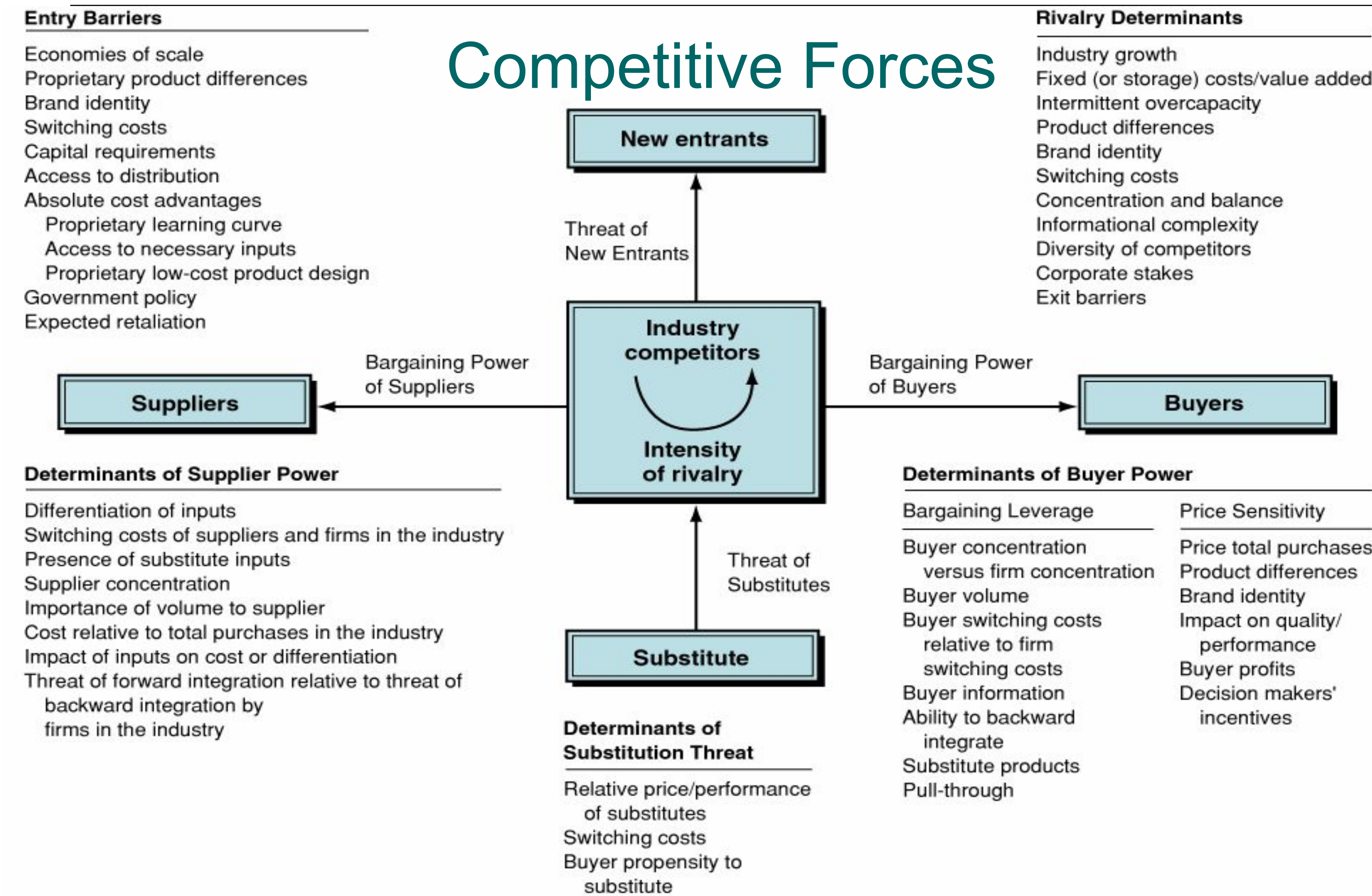
Porter's Competitive Forces Model

The model recognizes **five major forces** that could enlarge a company's position in a given industry.

- **The threat of entry of new competitors**
- **The bargaining power of suppliers**
- **The bargaining power of customers (buyers)**
- **The threat of substitute products or services**
- **The competition among existing firms in the industry**

External Competitive Forces

Porter's Competitive Forces Model



We develop a Competitor Analysis

<u>First Competitive Force</u>

What Drives them?

What are they Doing and can do?

What are their strengths & weaknesses?

Is competition intense?

We Analyze the Entry Barriers

<u>Second Competitive Force</u>

If nothing slows entry of competitors competition will become intense.

Incumbent Reaction?

What Actions are required to build market share?

Production Process?

We Analyze the Substitute Products

Third Competitive Force

Products or services from another industry enter the market

Customers becoming acclimated to using substitutes

Is the substitute market growing?

We Analyze the Supply Chain

Fourth & Fifth Competitive Forces

The Suppliers

The Buyers

Who controls the transaction?

Each element adds value – question who captures it?

Generic Strategies – Developing a Sustained Competitive Advantage

Analyzing the forces that influence a company's competitive position will assist management in crafting a ***strategy*** aimed at establishing a sustained competitive advantage. To establish such a position, a company needs to develop a strategy of performing activities differently than a competitor.

- **Cost leadership strategy:** Produce products and/or services at the lowest cost in the industry.
- **Differentiation strategy:** Offer different products, services, or product features.
- Niche strategy: Select a narrow-scope segment (niche market) and be the best in quality, speed, or cost in that market.

Generic Strategies – Developing a Sustained Competitive Advantage *(Continued)*

- Growth strategy: Increase market share, acquire more customers, or sell more products.
- Alliance strategy: Work with business partners in partnerships, alliances, joint ventures, or virtual companies.
- Innovation strategy: Introduce new products and services, put new features in existing products and services, or develop new ways to produce them.
- Operational effectiveness strategy: Improve the manner in which internal business processes are executed so that a firm performs similar activities better than rivals.

Generic Strategies – Developing a Sustained Competitive Advantage *(Continued)*

- Customer-orientation strategy: Concentrate on making customers happy
- Time strategy: Treat time as a resource, then manage it and use it to the firm's advantage.
- Entry-barriers strategy: Create barriers to entry.
- Lock in customers or suppliers strategy: Encourage customers or suppliers to stay with you rather than going to competitors.
- Increase switching costs strategy: Discourage customers or suppliers from going to competitors for economic reasons.

Our goal is to perform activities differently than a competitor. Those activities can be linked in a Value Chain Model.

The Value Chain

According to the **value chain model** (Porter, 1985), the activities conducted in any organization can be divided into two parts: primary activities and support activities.

- Primary activities are those activities in which materials are purchased, processed into products, and delivered to customers. Each adds value to the product or service hence the value chain.
  - Inbound logistics (inputs)
  - Operations (manufacturing and testing)
  - Outbound logistics (storage and distribution)
  - Marketing and sales
  - Delivery and Service

The Value Chain *(Continued)*

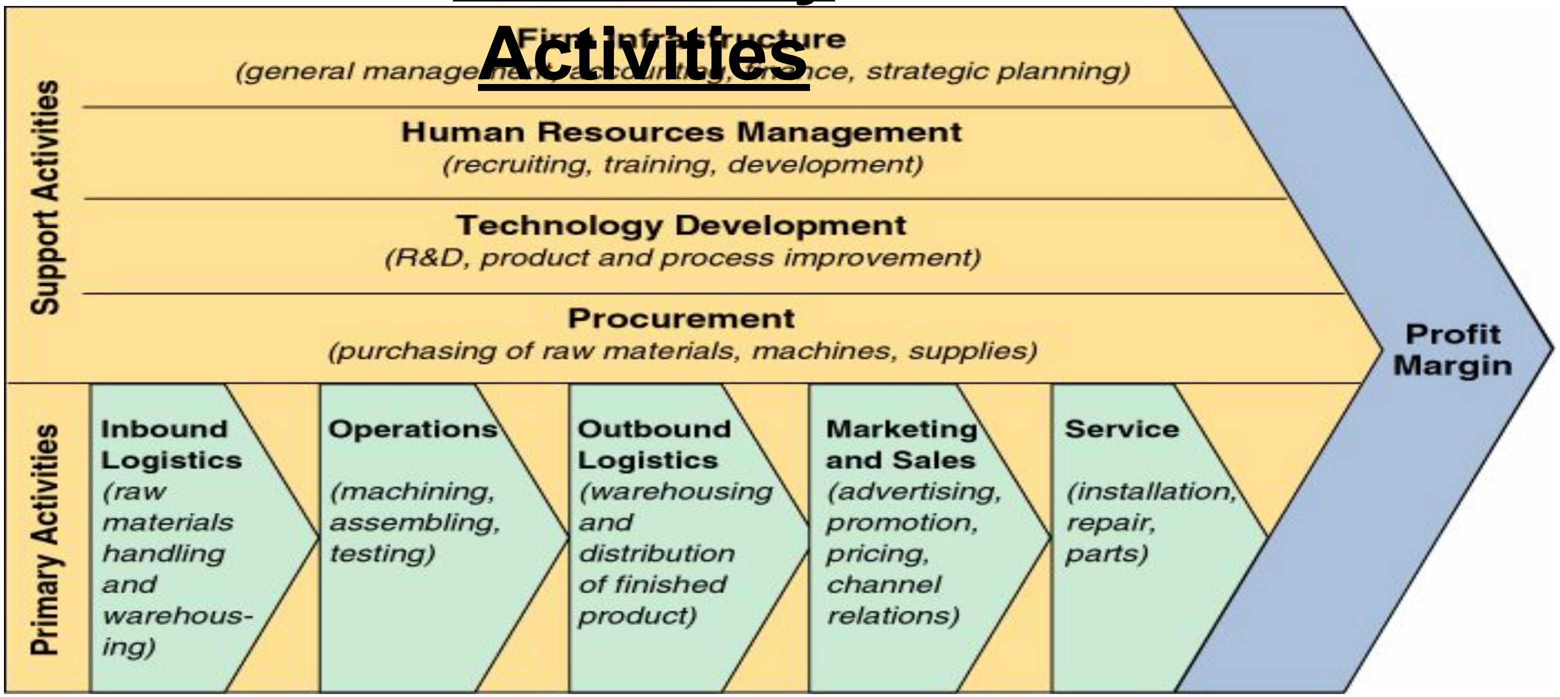
Unlike the primary activities, which directly add value to the product or service, the **support activities** are operations that support the creation of value (primary activities)

- The firm’s infrastructure (accounting, finance, management)
- Human resources management
- Technology development (R&D)
- Procurement

The initial purpose of the value chain model was to analyze the internal operations of a corporation, in order to increase its efficiency, effectiveness, and competitiveness. We can extend that company analysis, by systematically evaluating a company’s key processes and core competencies to eliminate any activities that do not add value to the product.

The Value Chain *(Continued)*

Secondary Activities



Value

Primary Activities

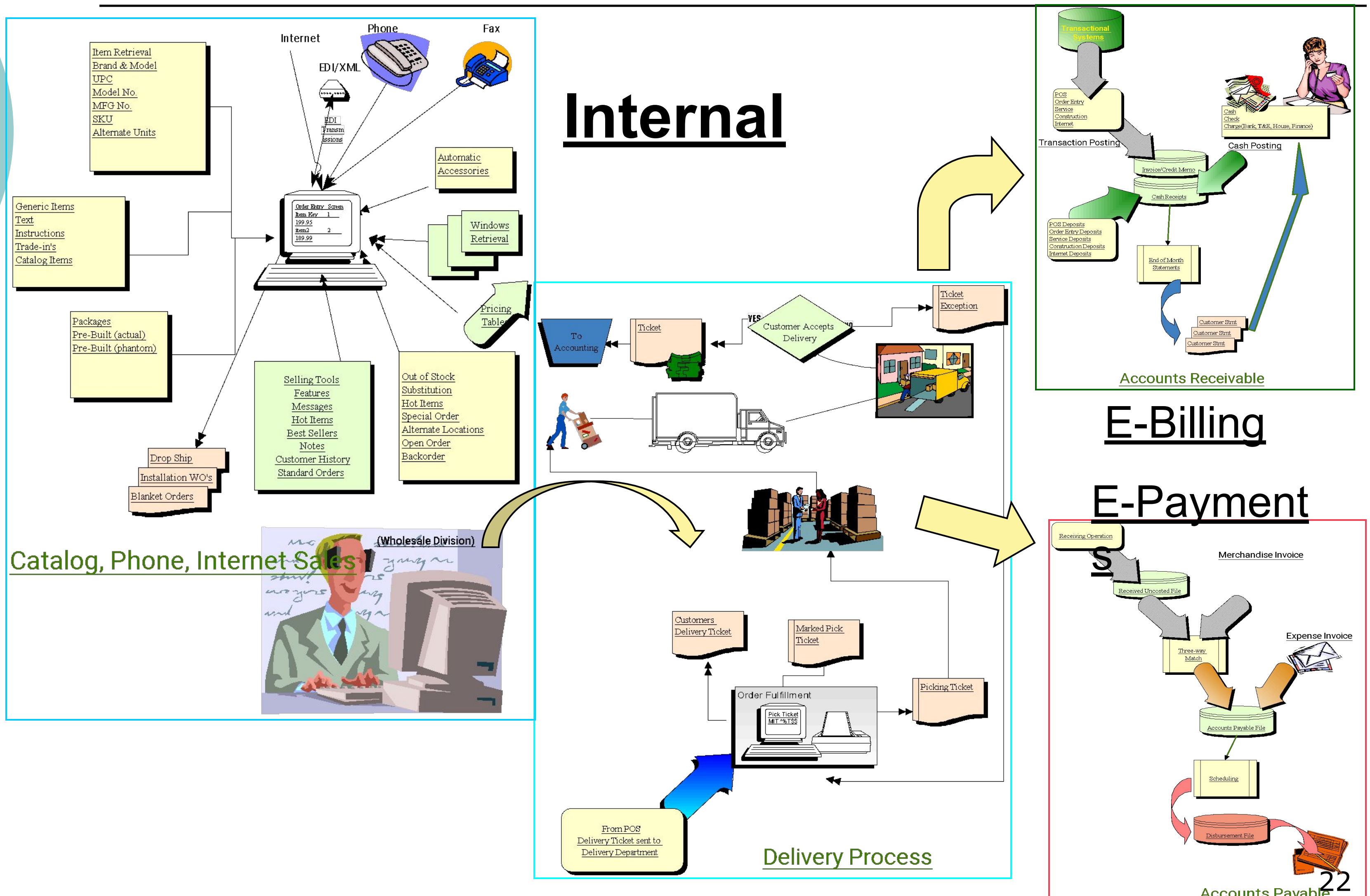
The Value Chain *(Air carrier)*

Secondary Activities

Value

Primary Activities

The Value Chain *(Continued)*



The Value System

A firm's value chain is part of a larger stream of activities, which Porter calls a value system. A ***value system*** includes the suppliers that provide the inputs necessary to the firm and their value chains. This also is the basis for the *supply chain management* concept. Many of these alliances and business partnerships are based on Internet connectivity are called ***interorganizational information systems*** **(IOSs)**

These Internet-based EDI systems offer strategic benefits

- Faster business cycle
- Automation of business procedures
- Reduced operational costs
- Greater advantage in a aggressive competitive environment

Global Competition

Many companies are operating in a *global environment*. Doing business in this environment is becoming more challenging as the political environment improves and as telecommunications and the Internet open the door to a large number of buyers, sellers, and competitors worldwide. This increased competition is forcing companies to look for better ways to compete globally.

- Global dimensions along which management can globalize
  - **Product**
  - **Markets & Placement**
  - **Promotion**
  - **Where value is added to the product**
  - **Competitive strategy**
  - **Use of non-home-country personnel - labor**

Multidomestic Strategy: Zero standardization along the global dimensions. *Global Strategy:* Complete standardization along the global dimensions.

Sustaining a Strategic Information System (SIS)

Strategic information systems are designed to establish a profitable and sustainable position against the competitive forces in an industry. Due to advances in systems development it has become increasingly difficult to sustain an advantage for an extended period. Experience also indicates that information systems, by themselves, can rarely provide a sustainable competitive advantage. Therefore, the major problem that companies now face is how to sustain their competitive advantage.

- One popular approach is to use *inward systems* that are not visible to competitors. These proprietary systems allow the company to perform the activities on their value chain differently than their competitors.

You questions ?