Chapter 8
Improving Supply Chains and Strengthening Customer Relationships Using Enterprise Information Systems

When disruptions in the supply chain occur because of weather, labor issues, or natural disasters, the operations of the business can be devastated and have ripple effects throughout the world.

Learning Objectives
1. Describe supply chain management systems and how they help to improve interorganizational business processes.
2. Describe customer relationship management systems and how they help to improve the activities involved in promoting and selling products to the customers as well as providing customer service and sustaining long-term relationships.

Your Warehouse?
Instead of picturing pallets of finished goods…
Think you could put that cash to better use?

Supply Network

Benefits and Problems with Supply Chains
- Potential benefits
  - Process innovations
  - Just-In-time Production (JIT)
  - Vendor-Managed Inventory (VMI)
- Potential problems
  - Distorted information
  - Excessive inventories
  - Inaccurate capacity plans
  - Missed product schedules

Supply Chain for Apple’s iPhone

The iPhone is made in China from globally sourced components.
**Just-in-Time Production (JIT)**

- Keeping inventory is costly (storage, capital, missed production schedules).
- JIT optimizes ordering quantities.
  - Parts and raw materials arrive when needed for production.
  - As orders arrive in smaller quantities, but at higher frequency, investment in storage space and inventory is minimized.
- The approach was pioneered by Toyota.
- It is used extensively by computer manufacturers to avoid component obsolescence (Moore’s law).
- Example: Dell keeps only two hours of inventory in stock.
- JIT requires tight cooperation between all partners in the supply network.

**Vendor-Managed Inventory (VMI)**

- VMI is a business model in which suppliers manage the manufacturer’s (or retailer’s) inventory levels based on pre-established service levels.
- Supplier monitor’s stock levels and sales data.
- VMI requires manufacturer (retailer) to share real-time data.
- Benefits
  - Cost savings
  - Minimized stock-out situations
  - Accurate forecasts
  - Reduced errors
  - Prioritized goods shipments

**Functions That Optimize the Supply Network**

- Supply Chain Management (SCM) improves the coordination of suppliers, product or service production, and distribution.

<table>
<thead>
<tr>
<th>Module</th>
<th>Key Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand planning and forecasting</td>
<td>Forecast and plan integrated demand for products</td>
</tr>
<tr>
<td>Sales and planning</td>
<td>Promote Mar's sales and demand, levels in all areas of the supply network</td>
</tr>
<tr>
<td>Distribution planning</td>
<td>Optimize the allocation of available supply to meet demand</td>
</tr>
<tr>
<td>Supply network collaboration</td>
<td>Work with partners across the supply network to improve accuracy of demand forecasts, reduce inventory buffers, increase the efficiency of materials, and ensure a common service</td>
</tr>
<tr>
<td>Materials management</td>
<td>Ensure that the materials required for production are available when needed when needed</td>
</tr>
<tr>
<td>Manufacturing execution</td>
<td>Support production processes taking into account capacity and material constraints</td>
</tr>
<tr>
<td>Order to cash</td>
<td>Provide access to customer relationship management systems that support product availability, costs, and payments</td>
</tr>
<tr>
<td>Transportation execution</td>
<td>Manage logistics between a company’s locations or from company to customers, taking into account transportation modes and networks</td>
</tr>
<tr>
<td>Warehouse management</td>
<td>Support inventory, ordering, and picking of goods in the warehouse</td>
</tr>
<tr>
<td>Supply chain analytics</td>
<td>Monitor key performance indicators to ensure performance across the supply chain</td>
</tr>
</tbody>
</table>

**Integrating SCM with ERP and CRM**

- ERP systems are primarily used to optimize business processes within the organization.
- SCM is used to improve business processes that span organizational boundaries.
- Tight ERP/CRM/SCM integration reaps great benefits.
- SCM uses data about customer orders (from CRM) and payments (from ERP).

**SCM Architecture**

- SCM modules support two functions.
  - Supply chain planning—development of resource plans to support production.
  - Supply chain execution—efficient flow of products, information, and financing.
Example: Distribution Portal

- What is a "distribution portal" and what types of businesses use them?

Supply Chain Visibility and Analytics

- **Supply chain visibility**—the ability to track products as they move through the supply chain but also to foresee external events.
- **Supply chain analytics**—the use of key performance indicators to monitor performance of the entire supply chain, including sourcing, planning, production, and distribution.

Radio Frequency Identification (RFID)

- RFID tags will soon replace standard bar codes.
  - RFID is the use of electromagnetic energy to transmit energy between a reader (transceiver) and the tag (antenna).
  - Line-of-sight reading is not necessary.
  - RFID tags can contain more information than bar codes.
- Tags are programmable, so there is a vast array of potential uses.
- Scanning can be done from greater distance.
  - Passive tags—inexpensive, range of few feet.
  - Active tags—more expensive, range of hundreds of feet.

Source: METRO AG.

The Big Picture

Learning Objectives

1. Describe supply chain management systems and how they help to improve interorganizational business processes.
2. Describe customer relationship management systems and how they help to improve the activities involved in prospecting and selling products to the customers as well as staying in touch with them and maintaining long-term relationships.
Question?

Forget about MIS and technology and computer systems...as a business professional, what do you think about when it comes to attracting and retaining the most profitable customers?

What information do you need to do these things?

Customer Relationship Management (CRM)

Companies search for ways to widen, lengthen, and deepen customer relationships.

Developing a CRM Strategy

- More than just software purchase and installation
- Enterprise-wide changes

Policy and Business Process Changes

- Policies and procedures need to reflect customer-focused culture.
Customer Service Changes

- Key metrics need to reflect customer-focused measures of quality.
- Companies that implement successful CRM strategy, experience greater customer satisfaction.

Employee Training Changes

- Employees from all business areas must value customer service and satisfaction.

Data Collection, Analysis, and Sharing Changes

- All aspects of customer experience must be tracked, analyzed, and shared.
- Consider ethical concerns.

Architecture of a CRM Environment

Operational CRM

- Systems for customer interaction and service
  - Enables direct interaction with customers
  - Personalized and efficient customer service
  - Access to complete information about customer

Customer Service and Support (CSS)
Third component of an operational CRM is Enterprise Marketing Management (EMM)

- Improve management of promotional campaigns
  - Make sure right messages are sent to the right people through the right channels
  - Customer lists need to be managed carefully
  - Individualized attention to each potential customer
  - Extensive analytical capabilities that can help to analyze effectiveness of campaigns

Analytical CRM

- Analysis of customer behavior and perceptions
- Customized marketing
  - Up-selling, cross-selling
  - Retaining customers
- Key technologies used to create predictive models
  - Data mining
  - Decision support systems
- Continuous data collection and analysis is necessary.

Digital Dashboards for CRM

- Digital dashboards help to visualize key CRM performance metrics.

Dealing with Multiple Identities

- Many people have various different online identities
  - Different social networks
  - Multiple e-mail addresses
- Analytical CRM helps merge different identities for the same person
  - Uses fuzzy logic-based algorithms

Collaborative CRM

- CRM refers to systems providing effective and efficient communication with the customer from the entire organization.
  - CIC is the key.
- Collaborative CRM enhances communication.
  - Greater customer focus
    - Understanding of historical and current needs
  - Lower communication barriers
    - Communication preferences of the customer considered
  - Increased information integration
    - Customer information shared across the organization