Order to Cash Part I ⇒ Marketing & Sales
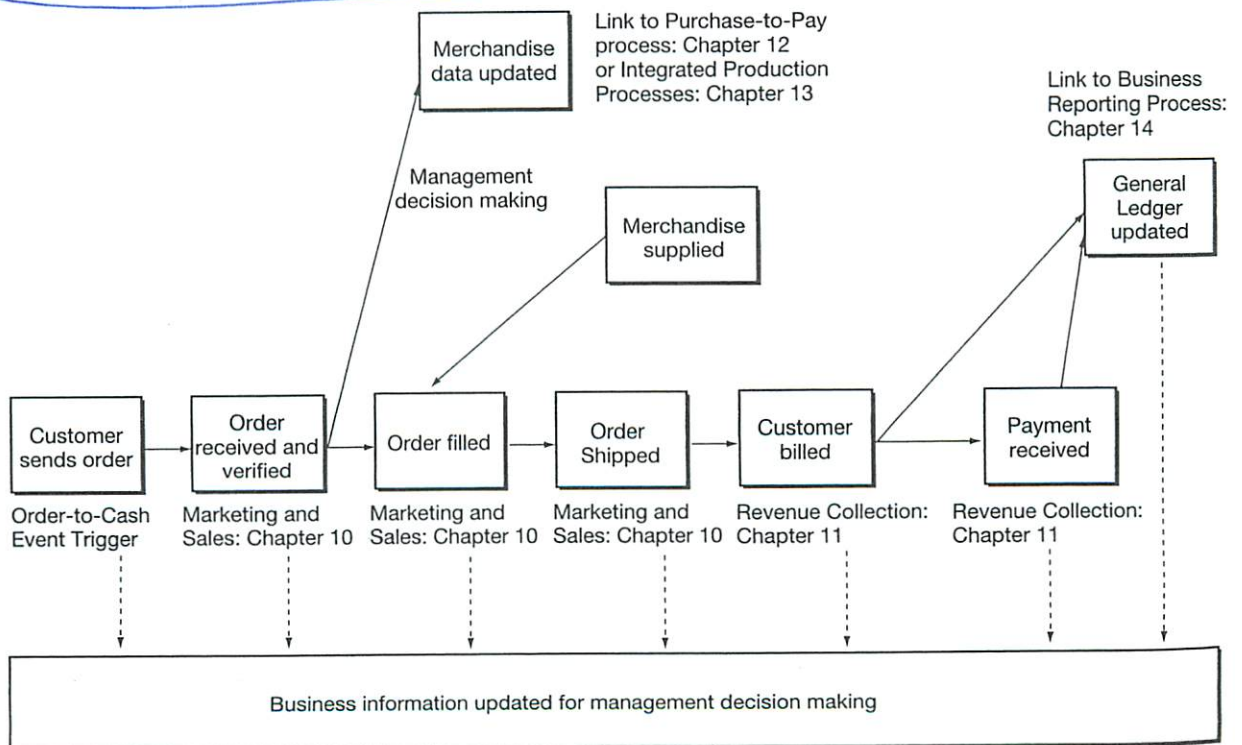
LEARNING OBJECTIVES

- To describe the business environment for the M/S process
- To analyze the effect of enterprise systems and other technologies commonly used in traditional implementations for the M/S process
- To analyze how the integration provided by enterprise systems and e-business add-ons can improve

effectiveness and efficiency of the M/S process
- To describe the logical and physical characteristics of the M/S process and its support of management decision-making
- To describe and analyze controls typically associated with the M/S process

Introduction

Picking Ticket
Packing Slip
bill of lader

Before we look at the details of the M/S process and how it functions, let's set the stage for our study by picturing again how this process relates to other processes in a company. Figure 10.1 depicts the business events that combine to form the Order-to-Cash process.

Figure 10.1   The Order-to-Sales Process

Customer sends order	Order received and verified	Order filled	Order Shipped	Customer billed	Payment received
Order-to-Cash Event Trigger	Marketing and Sales: Chapter 10	Marketing and Sales: Chapter 10	Marketing and Sales: Chapter 10	Revenue Collection: Chapter 11	Revenue Collection: Chapter 11

Merchandise data updated

Link to Purchase-to-Pay process: Chapter 12 or Integrated Production Processes: Chapter 13

Management decision making

Merchandise supplied

Link to Business Reporting Process: Chapter 14

General Ledger updated

Business information updated for management decision making

You can see from Figure 10.1 that the M/S process triggers the revenue collection portion of the Order-to-Cash process and shares data with the purchasing and manufacturing processes (Chapters 12 and 13) but does not interact *directly* with the general ledger in the business reporting process (Chapter 14). When M/S prepares a sales order, it works with the inventory process so that the products can be sent to the customer. Later, when the goods are shipped, M/S informs the revenue collection process of the shipment so a bill can be sent. These interfaces are examined in detail later in this chapter.

The operational aspects of the M/S process are critical to the success—in fact, the very survival—of businesses today and in the future. Indeed, many organizations focus the bulk of their strategic Information Systems investment on supporting M/S process effectiveness. That is why later sections of the chapter discuss the vital topics of decision making, satisfying customer needs, and employing technology to gain competitive advantage.

Process Definition and Functions

The marketing and sales (M/S) process is an interacting structure of people, equipment, methods, and controls designed to achieve certain goals. The primary function of the M/S process is to support:

1. Repetitive work routines of the sales order department, the credit department, the warehouse, and the shipping department.[2]
2. Decision needs of those who manage various sales and marketing functions.
3. Information flows and recorded data in support of the operations and management processes.

Let's examine each of these functions. First, the M/S process supports the repetitive work routines of the sales order, credit, and shipping departments by capturing and recording sales-related data. As but one example, a sales order form or screen often supports the repetitive work routines of the sales order department by capturing vital customer and order data, by facilitating the process of granting credit to customers, and by helping to ensure the timely shipment of goods to customers. To further illustrate this point, we can consider that a copy of the sales order (whether paper or electronic in physical existence) may serve as a communications medium to inform workers in the warehouse that certain goods need to be picked and transported to the shipping department.

Second, the M/S process supports the decision needs of various sales and marketing managers. Third, in addition to these managers, any number of people within a given organization may benefit from information flows generated by the M/S process. This information is critical to succeeding in a highly competitive economy.

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[2] To focus our discussion, we have assumed that these departments are the primary ones related to the M/S process. For a given organization, however, the departments associated with the M/S process may differ.
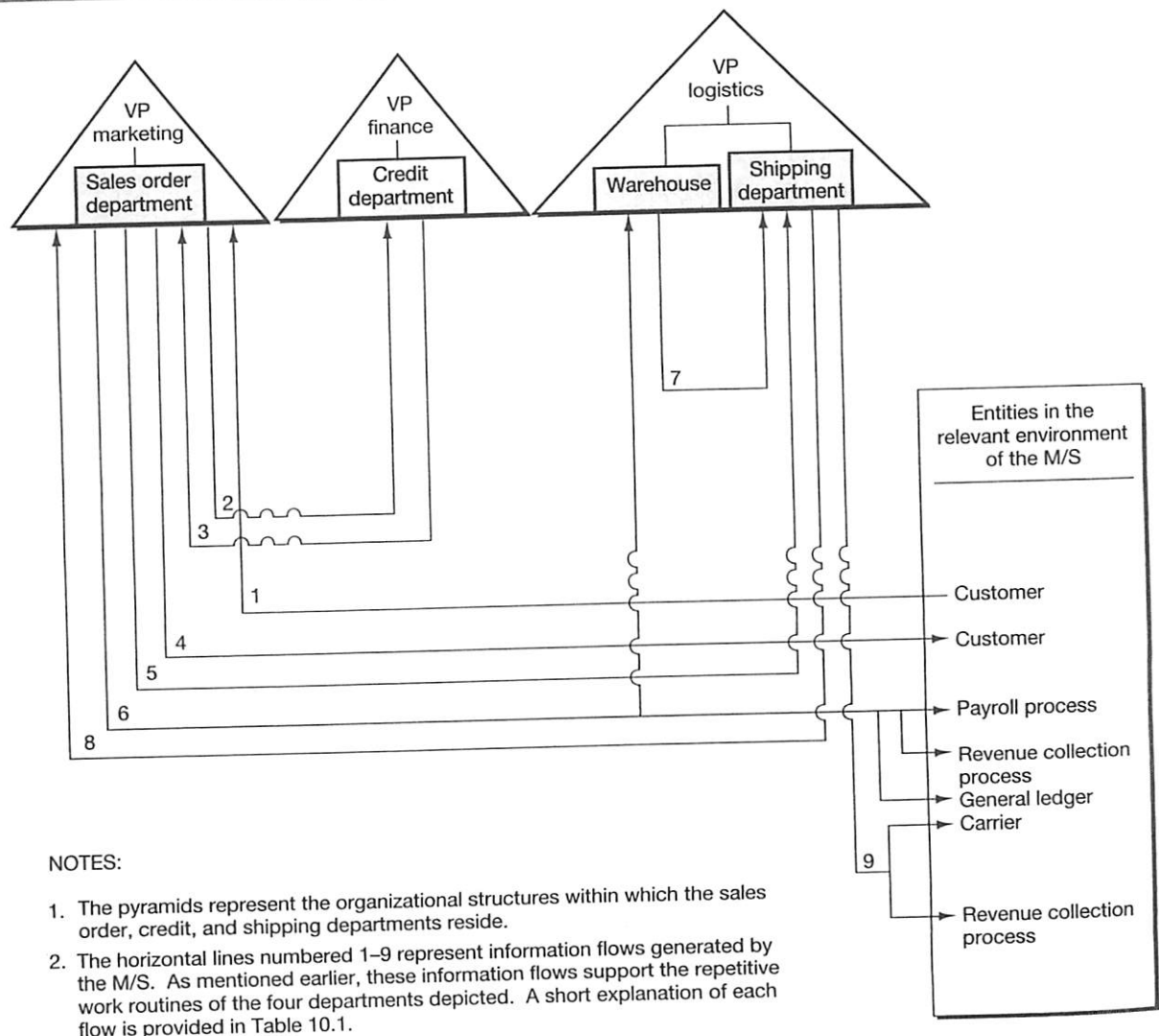
Organizational Setting

In this section, we take both a horizontal and vertical view of how the M/S process fits into the organizational setting of a company. The horizontal perspective will enhance your appreciation of how the M/S process relates to the repetitive work routines of the sales order, credit, warehouse, and shipping departments. The vertical perspective will sharpen your understanding of how the M/S process relates to managerial decision making within the marketing function.

A Horizontal Perspective

Figure 10.2 and Table 10.1 present a horizontal view of the relationship between the M/S process and its organizational environment. The figure shows the various infor-

Figure 10.2　A Horizontal Perspective of the M/S System

NOTES:

1. The pyramids represent the organizational structures within which the sales order, credit, and shipping departments reside.

2. The horizontal lines numbered 1–9 represent information flows generated by the M/S. As mentioned earlier, these information flows support the repetitive work routines of the four departments depicted. A short explanation of each flow is provided in Table 10.1.

Table 10.1 Description of Horizontal Information Flows *

Flow No.	Description
1	Customer places order.
2	Sales order department requires credit approval from credit department.
3	Credit department informs sales order department of disposition of credit request.
4	Sales order department acknowledges customer order.
5	Sales order department notifies shipping department of sales order.
6	Sales order department notifies warehouse, revenue collection process, payroll process, and general ledger process of sales order.
7	Warehouse sends completed picking ticket to shipping.
8	Shipping department informs sales order department of shipment.
9	Shipping department informs carrier and revenue collection process of shipment.

*Many of these steps may be automated. See Technology Insight 10.1 for a description of these steps in an enterprise system implementation.

mation flows generated or captured through the M/S process. The information flows are superimposed onto the organizational structures that house the departments. The figure also illustrates the multiple entities with which the M/S process interacts (customers, carriers, other business processes, and so forth).

Figure 10.2 reveals nine information flows that function as vital communications links among the various operations departments. The information flows also connect those departments with the entities residing in the relevant environment of the M/S process. If the order itself were initiated over the Internet or other EDI-based system, many of the flows would be automated and require less human intervention.

For example, the first information flow apprises representatives in the sales order department of a customer request for goods. This information flow, the customer order, might take the physical form of a telephone call, a mailed document, or an electronic transmission. In turn, flow 5 informs workers in the shipping department of a pending sale; this communication facilitates the operational planning and related activities associated with the shipping function. This information flow, the sales order, might take the form of a copy of a paper copy of a sales order, or it might be electronically transmitted and observed on a computer screen in the shipping department.

As noted earlier in the text, many of the information flows through an organization become automated when *enterprise systems* are in place. Having reviewed the information flows in Table 10.1 and Figure 10.2, you should take a few minutes now to read Technology Insight 10.1 (page 330), which discusses how the horizontal information flows in an enterprise system become automated and, therefore, more efficient in terms of supporting the M/S process.

A Vertical Perspective

To understand the relationship between the M/S process and managerial decision making, you need to become familiar with the key players involved in the marketing function. Figure 10.3 (page 331) presents these players in the form of an organization chart.

Review Question

Which entities, shown as external to the M/S process, also are outside the "boundary" of the organization and which are not?

TECHNOLOGY INSIGHT 10.1

Enterprise System Support for Horizontal Information Flows

The information flows presented in Figure 10.2 (page 328) are very similar to what we would expect when an organization uses an enterprise system. However, many of the tasks outlined could occur quite differently because of the messaging capabilities embedded in contemporary enterprise systems. Let us take another look at each of the information flows in Figure 10.2.

1. The customer places the order (While this could be done electronically over the Internet, we will assume for now it is placed as in the system discussed in this chapter.)

2. Because the sales order department requires credit approval from the credit department, the approval process is automatically incorporated into the routing set-up within the enterprise system. Hence, once the sales order department releases the order to credit approval, the document is automatically routed electronically to the credit department and queued for their approval.

3. The credit department's approval requires a few simple data entry steps and the approval is automatically routed electronically back to the sales order department by the enterprise system. [This step assumes that the order requires a manual credit approval. If the credit-approval rules can be programmed (or configured) into the system, the entire credit approval would be performed by the enterprise system.]

4. The sales order department's response to the customer is also automatically triggered by the enterprise system in most implementations. This response may be electronic or may still be paper-based as in traditional systems.

5. The routing to the shipping department is very likely triggered by the enterprise system simultaneously with customer notification and likely not to require any additional entry by the sales order department beyond that entered to trigger information flow #4.

6. Similarly, routings to the warehouse, payroll, revenue collection, and general ledger are also more than likely triggered by the same action as that in flows #4 and #5.

7. Once the warehouse has completed picking the order, the information is entered into the system to reflect that the goods have been picked and are ready for shipment. Should the sales order department receive any inquiries from the customer, it can tell the customer that the goods have been picked and await shipment.

8. Once the shipping department releases the shipment, the information is entered into the enterprise system at the shipping location to record the order as shipped. Should the sales order department receive any inquiries from the customer, it can tell the customer that the goods have been shipped.

9. Similarly, the carrier and the billing personnel may inquire about the status of the order.

As demonstrated in this overlay to the M/S process, an enterprise system may not change many of the workings of the business process but, rather, removes much of the wasteful time and paper shuffling

## TECHNOLOGY INSIGHT 10.1 *(continued)*

that takes place in traditional systems, incorporating electronic messaging systems that speed notifications. Also, the use of automated triggers ensures that various steps in the process will not be omitted, as the system requires each process activity to be completed before triggering the next process activity.

Review Question

What key players would you expect to find in the marketing function's organization chart?

As the figure illustrates, sales-related data are captured in the sales order department and then flow upward (in a summarized format) to managers housed within the marketing organizational structure. Much of this information would be based traditionally on sales-related events and normally would be captured through the use of a sales order form or through entry of data directly into a computer database. As organizations become ever increasingly focused on customers, however, the information needed for decision making is less focused on executing and recording the sale

Figure 10.3   A Vertical Perspective of the M/S Process

(Horizontal information flows, as illustrated in Figure 10.2)
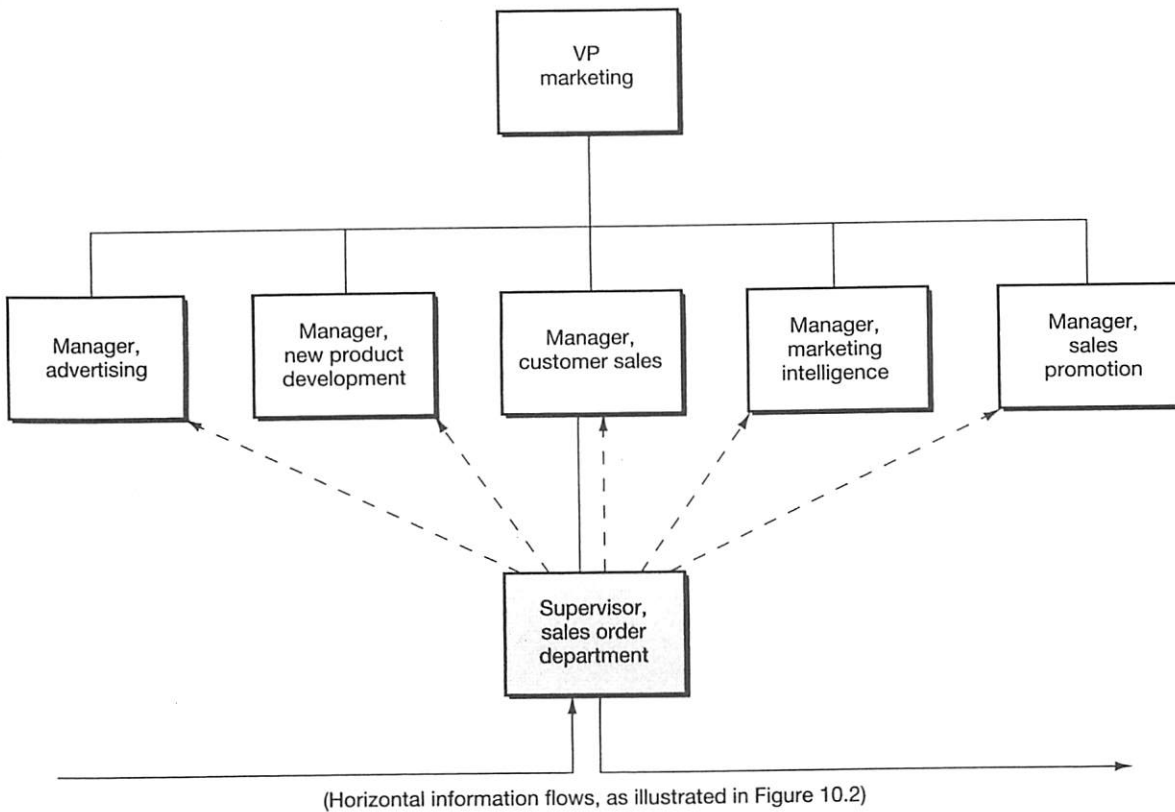
NOTES:

1. This figure represents a partial organization chart of the marketing function.
2. The broken lines represent vertical information flows (often in the form of management reports) based on data generated or captured by the M/S process.

seven outputs emerge. Also, notice the entities in the relevant environment with which the M/S process interacts. Some of these entities reside outside the organization (Customer and Carrier), whereas some are internal to the organization but external to the M/S process (payroll process and revenue collection process.)[7] These internal entities are covered in detail in subsequent chapters.

Figure 10.5 presents a *level 0 diagram* of the M/S process. Observe that the inputs and outputs are identical to those presented in Figure 10.4. As you recall, this *balancing* of inputs and outputs is an important convention to observe when constructing a set of data flow diagrams. The single bubble in Figure 10.4 has been divided into three bubbles in Figure 10.5, one for each of the three major functions performed by the M/S process.[8] Additional data flows connecting the newly partitioned bubbles appear, as do the data stores used to store various sets of data.[9]

The physical means used to disseminate the order may vary from using a paper sales order form to using computer screen images as illustrated in Figure 10.6 (page 342). Regardless of the physical form used, we generally expect the dissemination to include the following data flows:

◇ A picking ticket authorizes the warehouse to "pick" the goods from the shelf and send them to shipping. The picking ticket identifies the goods to be picked and usually indicates the warehouse location.

◇ A packing slip is attached to the outside of a package and identifies the customer and the contents of the package.

◇ A customer acknowledgment is sent to the customer to notify him or her of the order's acceptance and the expected shipment date.

◇ A sales order notification is sent to the billing department to notify it of a pending shipment.

◇ The bill of lading represents a contract between the shipper and the carrier in which the carrier agrees to transport the goods to the shipper's customer.

The carrier's signature on the bill of lading, and/or the customer's signature on some other form of receipt, substantiates the shipment.

Logical Data Descriptions

Figure 10.5 shows that the M/S process employs the following seven data stores:

◇ Marketing data   ◇ Sales order master data

◇ Customer master data   ◇ Completed picking ticket file

◇ Inventory master data   ◇ Shipping notice file

◇ Accounts receivable master data

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[7]   The slash on the lower right corner of the Customer entity square indicates that there is another occurrence of this entity on the diagram.

[8]   To focus our discussion, we have assumed that the M/S process performs three major functions. A given M/S process, however, may perform more or fewer functions than we have chosen to illustrate here. Each of the three functions (process bubbles) shown in Figure 10.5 is decomposed (that is, "exploded") into lower-level diagrams in Appendix A.

[9]   The line enclosing the right side of the Sales order master data store indicates that there is another occurrence of that data store on the diagram.