

Concepts in Enterprise Resource Planning

Third Edition

Chapter Three

*Marketing Information Systems and the
Sales Order Process*

Objectives

After completing this chapter, you will be able to:

- Describe the unintegrated sales processes of the fictitious Fitter Snacker company
- Explain why unintegrated Sales and Marketing information systems lead to company-wide inefficiency, higher costs, lost profits, and customer dissatisfaction
- Discuss sales and distribution in the SAP ERP system, and explain how integrated data sharing increases company-wide efficiency

Objectives (cont'd.)

- Describe how SAP ERP processes a standard sales order
- Describe the benefits of customer relationship management software, a useful extension of ERP software

Introduction

- Fitter Snacker (FS)
 - Fictitious company that makes healthy snack bars
 - Does not have an integrated information system
- Marketing and Sales (M/S) is the focal point of many of FS's activities
- FS's M/S information systems are not well integrated with company's other information systems
 - Company-wide use of transaction data is inefficient

Overview of Fitter Snacker

- Manufactures and sells two types of nutritious snack bars:
 - NRG-A: “advanced energy”
 - NRG-B: “body building proteins”
- Has organized its sales force into two groups, known as divisions:
 - Wholesale Division
 - Direct Sales Division

Overview of Fitter Snacker (cont'd.)

- The two sales divisions differ in terms of quantities of orders and pricing terms
- Sells snack bars under the Fitter Snacker brand name
- Packages the bars in store-brand wrappers for some chain stores

Problems with Fitter Snacker's Sales Process

- Many of Fitter Snacker's sales orders have problems, such as:
 - Incorrect pricing
 - Excessive calls to the customer for information
 - Delays in processing orders
 - Missed delivery dates

Problems with Fitter Snacker's Sales Process (cont'd.)

- Reasons for problems:
 - FS has separate information systems throughout the company for three functional areas:
 - Sales order system
 - Warehouse system
 - Accounting system
 - High number of transactions that are handled manually
 - Information stored in the three systems is not available in real time

Problems with Fitter Snacker's Sales Process (cont'd.)

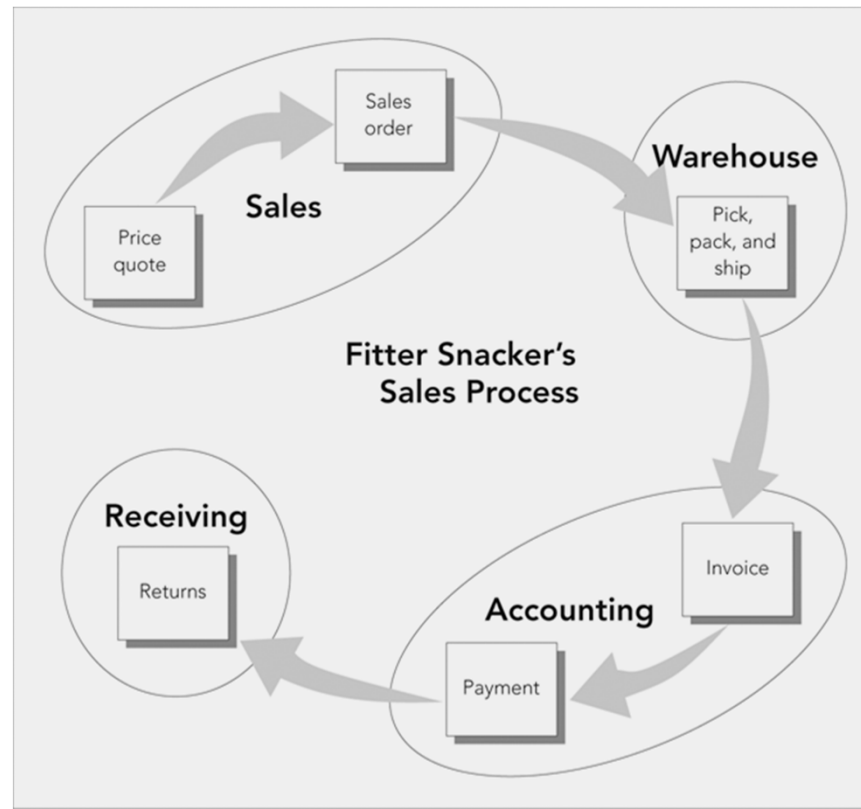


Figure 3-1 The sales process

Sales Quotations and Orders

- Giving a customer a price quotation and then taking the customer's order at FS
 - Sales call: salesperson either telephones the customer or visits in person
 - At the end of sales call, salesperson prepares a handwritten quotation on a form that generates two copies
 - Original sheet goes to the customer
 - Middle copy is first faxed and then mailed to the sales office
 - Salesperson keeps the bottom copy for his or her records

Sales Quotations and Orders (cont'd.)

- Giving a customer a price quotation and then taking the customer's order at FS (cont'd.)
 - Quotation form has an 800 number that the customer can call to place an order
- Problems can occur with this process
- Inefficiencies in the rest of the ordering process
 - Determining the delivery date
 - Checking customer's credit status
 - Entering customer's order into the current order entry system

Order Filling

- Packing lists and shipping labels
 - Printed twice a day
 - Hand-carried to the warehouse
 - At warehouse, hand-sorted into small orders and large orders
- Warehouse
 - Small-order packing area
 - Large-order packing area
- FS uses a PC database program to manage inventory levels in the warehouse

Order Filling (cont'd.)

- FS keeps inventory levels fairly low, and inventory levels change rapidly during the day
 - Picker might go to the shelves to pick an order and discover that there are not enough of the desired type of snack bars to fill the order
 - To determine what to do in this situation, order picker might have conversations with warehouse supervisor, production supervisor, and sales clerks

Accounting and Invoicing

- Invoicing the customer is problematic
- Sales clerks send the Accounting department the sales order data for customer invoices
- Accounting department loads the data into PC-based accounting program
- Clerks manually make adjustments for partial shipments and any other changes
- Sometimes, order corrections are delayed and don't catch up to the invoicing process
 - Results in late or inaccurate invoices

Payment and Returns

- Problems with procedure for processing payments
 - If any errors have occurred in the sales process, customer will receive an incorrect invoice
 - Many customers don't return a copy of the invoice with their payment; errors can result

Payment and Returns (cont'd.)

- FS's returns processing is flawed
 - Many customers do not call for the RMA number, or fail to include it with their returned material
 - Makes it more difficult for Accounting department to credit the appropriate account
 - Poor penmanship on the returned material sheet can create problems for Accounting
- If a customer's account has not been properly credited, customer may receive a dunning letter in error

Sales and Distribution in ERP

- ERP systems can minimize data entry errors and provide accurate information in real time to all users
- ERP systems can track all transactions (such as invoices, packing lists, RMA numbers, and payments) involved in the sales order

Sales and Distribution in ERP (cont'd.)

- SAP ERP Sales and Distribution module treats the sales order process as a cycle of events:
 - Pre-sales activities
 - Sales order processing
 - Inventory sourcing
 - Delivery
 - Billing
 - Payment

Pre-Sales Activities

- Customers can get pricing information about the company's products:
 - Through an inquiry or a price quotation
- Marketing activities such as tracking customer contacts, including sales calls, visits, and mailings
- Company can maintain data about customers and generate mailing lists based on specific customer characteristics

Sales Order Processing

- Sales order processing: series of activities that must take place to record a sales order
- Sales order can start from a quotation or inquiry generated in the pre-sales step
- Information collected from the customer to support the quotation is immediately included in sales order
- Critical steps in sales order processing:
 - Recording the items to be purchased
 - Determining the selling price
 - Recording the order quantities

Sales Order Processing (cont'd.)

- Users can define various pricing alternatives in the SAP ERP system
- SAP ERP system checks the Accounts Receivable tables in the SAP ERP database to confirm the customer's available credit
- If customer has sufficient credit available
 - Order is completed
- If customer does not have sufficient credit available
 - SAP ERP system prompts sales personnel to take one of the possible appropriate actions

Inventory Sourcing

- Available-to-Promise (ATP) check
 - SAP ERP system checks company's inventory records and production planning records to see whether:
 - Requested material is available
 - Requested material can be delivered on the date the customer desires
 - Includes expected shipping time
- System can recommend an increase in planned production if a shortfall is expected

Delivery

- **Delivery** in SAP ERP system
 - Releasing the documents that the warehouse uses to pick, pack, and ship orders
- Delivery process allows deliveries to be created so that the warehouse and shipping activities are carried out efficiently
- Once the system has created documents for picking, packing, and shipping, documents are transferred to Materials Management module

Billing

- SAP ERP system creates an invoice by copying sales order data into the invoice document
- Accounting can print this document and mail it, fax it, or transmit it electronically to the customer
- Accounting records are updated at this point

Payment

- When the customer sends in a payment, it is automatically processed by the SAP ERP system
 - Debits cash and credits (reduces) customer's account
- Timely recording of this transaction has an effect on the timeliness and accuracy of any subsequent credit checks for the customer

A Standard Order in SAP ERP

- How Fitter Snacker's sales order process would work with an SAP ERP system in place
- How the ERP system would make FS's sales order process more accurate and efficient
- ERP allows business processes to cut across functional area lines

Taking an Order in SAP ERP

- Order entry screen in SAP ERP's 4.7 Enterprise system
- A unique number is assigned by the company to each customer in the database
- For most data entry fields, SAP ERP system determines whether an entry is valid
- Search screen for customers

Taking an Order in SAP ERP (cont'd.)

Create Standard Order: Overview

Sales document Edit Goto Extras Environment System Help

Standard Order Net value 0.00

Sold-to party

Ship-to party

PO Number PO date

Sales Item overview Item detail Ordering party Procurement Shipping Reason for rejection

Req. deliv. date 0 09/07/2009 Deliver Plant

☐ Complete div. Total Weight 0.000

Delivery block Volume 0.000

Billing block Pricing date 09/06/2009

Payment card Exp. date

Payment terms Incoterms

Order reason

Sales area 00FS / 01 / S8 00 Filter Sales, Direct, Snack Bars

Item	Material	Order quantity	SU	S	Description	Customer Material Numb	ITCa	DG	HgLvlt	CFirst date
										09/07/1:
										09/07/1:
										09/07/1:
										09/07/1:
										09/07/1:

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Sold-to party:
Where the customer's identification number is entered

PO Number: The number assigned by the customer to this sales order

Req. deliv. date:
The date when the customer would like to receive the order

Material and Order quantity:
What the customer is ordering

Figure 3-2 SAP ERP order entry screen

Taking an Order in SAP ERP (cont'd.)

Data Entry Field	Explanation
Sold-to party	Identification number assigned to customer
P.O. Number	The number assigned by the customer to the sales transaction. This is different from the sales order number assigned by the Seller (using SAP ERP) to the sales transaction. In a paper process, the purchase order number is usually a sequential number pre-printed on the purchase order form.
Req. deliv. date	The delivery date for the order requested by the customer. The SAP ERP system will evaluate the ability to meet this date and suggest alternatives, if necessary.
Material	The identification number assigned in the SAP ERP system to the item requested by the customer.
Order quantity	The number of units of the material the customer is requesting.

Figure 3-3 Data entry fields in the order entry screen

Taking an Order in SAP ERP (cont'd.)

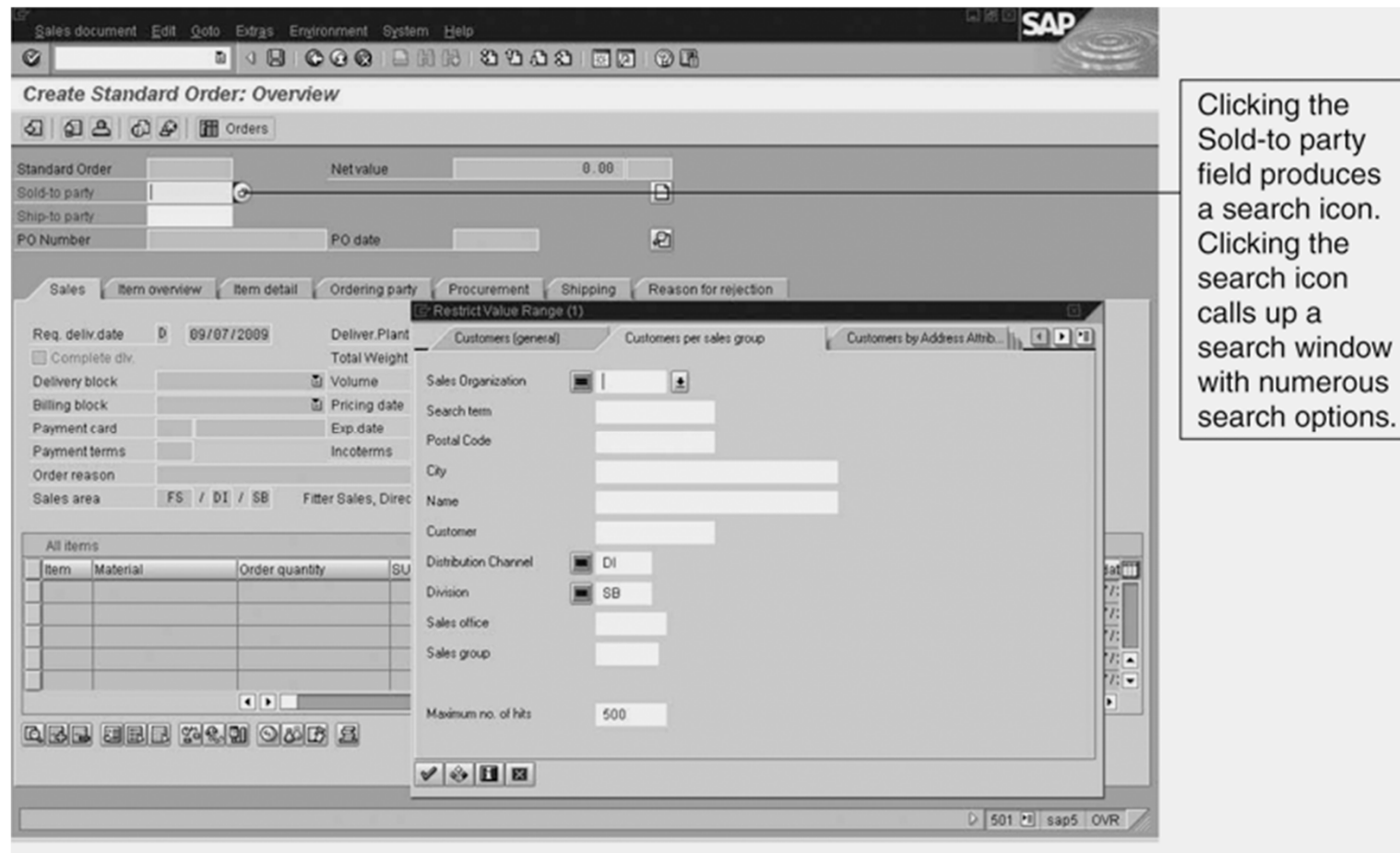


Figure 3-5 Search screen for customers

Taking an Order in SAP ERP (cont'd.)

- **Customer master data**
- Master data: data that remain fairly stable
 - Maintained in the central database and available to all SAP ERP modules
- **Material master data**
- **Organizational structures**
 - SAP ERP system allows the user to define various ways to group customers and salespeople
 - Distribution Channel

Taking an Order in SAP ERP (cont'd.)

- When a sales order is saved, SAP ERP system assigns a document number to the sales order transaction
- SAP ERP system keeps track of the document numbers for the sales order
 - Employees can track status of an order while it is in process or research it after shipping
- **Document flow** in SAP ERP: linked set of document numbers related to an order

Taking an Order in SAP ERP (cont'd.)

The screenshot displays the SAP Document Flow tool interface. At the top is a menu bar with 'Document flow', 'Edit', 'Goto', 'Environment', 'System', and 'Help'. Below the menu is a toolbar with various icons. The main area is titled 'Document Flow' and contains buttons for 'Status overview', 'Display document', 'Service documents', and 'Additional links'. The interface shows a 'Standard Order' with number '5' and a 'Business partner' '1', identified as 'West Hills Athletic Club'. Below this is a table with three columns: 'Doc.', 'Date', and 'Overall Processing Stat'. The table lists several documents, including 'Standard Order 5', 'Outbound Delivery 80000003', 'Picking request 20040906', 'GD goods issue:delvy 4900000012', 'Invoice 90000002', and 'Accounting document 90000002'. A callout box on the right points to the 'Accounting document 90000002' row, stating: 'accounting document 90000002 is linked to sales order 5'.

Doc.	Date	Overall Processing Stat
Standard Order 5	09/06/09	Completed
Outbound Delivery 80000003	09/06/09	Completed
. Picking request 20040906	09/06/09	Completed
. GD goods issue:delvy 4900000012	09/06/09	complete
. Invoice 90000002	09/06/09	Completed
.. Accounting document 90000002	09/06/09	Cleared

accounting document 90000002 is linked to sales order 5

Figure 3-9 The Document Flow tool, which links sales order documents

Discount Pricing in SAP ERP

- When a company installs an ERP system, it can configure it for a number of pricing strategies
- Various kinds of discounts can be allowed
- As a safeguard, system can enforce limits on the size of discounts
- **Condition technique**
 - Control mechanism developed by SAP to accommodate various ways that companies offer price discounts

Discount Pricing in SAP ERP (cont'd.)

Create Standard Order: Item Data

Sales Document Item: 10 Item category: TAN Standard Item
Material: F100 NR0-A

Sales A Sales B Shipping Billing Conditions Account assignment Schedule lines Partners Texts Purchase order data

Qty: 10 CS Net: 2,160.00 USD Tax: 0.00

CnTy	Name	Amount	CrCY	per	U	Condition value	Curr	Num	OUn	CCon	Un	Condition value	CdC
PR00	Price	240.00	USD		1 CS	2,400.00	USD		1 CS	1 CS		0.00	
	Gross	240.00	USD		1 CS	2,400.00	USD		1 CS	1 CS		0.00	
K007	Customer Discount	10.000	%			240.00	USD		0	0		0.00	
	Discount Amount	24.00	USD		1 CS	240.00	USD		1 CS	1 CS		0.00	
	Rebate Basis	216.00	USD		1 CS	2,160.00	USD		1 CS	1 CS		0.00	
	Net Value for Item	216.00	USD		1 CS	2,160.00	USD		1 CS	1 CS		0.00	
	Net Value 2	216.00	USD		1 CS	2,160.00	USD		1 CS	1 CS		0.00	
	Total	216.00	USD		1 CS	2,160.00	USD		1 CS	1 CS		0.00	
SKT0	Cash Discount	0.000	%			0.00	USD		0	0		0.00	
YPRS	Cost	16.80	USD		1 CS	168.00	USD		1 CS	1 CS		0.00	
	Standard - USA/With	199.20	USD		1 CS	1,992.00	USD		1 CS	1 CS		0.00	

Annotations:

- net price for order, including discounts
- base price is \$240/case
- the production cost of the 10 cases is \$1,992
- discount is 10 percent

Figure 3-10 Pricing conditions for sales order

Integration of Sales and Accounting

- ERP systems integrate Accounting with all business processes
- When a sales order is recorded, related accounting data are updated automatically

Integration of Sales and Accounting (cont'd.)

The screenshot shows the SAP 'Display Document: Overview' screen. The menu bar includes Document, Edit, Goto, Extras, Settings, Environment, System, and Help. The toolbar contains various icons for document navigation and actions. The main area displays document details for document number 90000002, company code FS, fiscal year 2009, document date 09/06/2009, posting date 09/06/2009, period 9, reference WH100, and currency USD. A table titled 'Items in document currency' lists three items: West Hills Athletic Club (2,160.00), Sales Revenue (2,400.00), and Sales Discount (240.00). Two callout boxes provide additional context: one points to the document number field stating 'accounting document 90000002, accessible from the document flow screen', and another points to the Sales Revenue and Sales Discount rows stating 'accounts affected by the sales order'.

Document Number	Company Code	Fiscal Year	Document Date	Posting Date	Period	Reference	Cross-CC no.	Currency	Texts exist
90000002	FS	2009	09/06/2009	09/06/2009	9	WH100		USD	<input type="checkbox"/>

Item	PK	BusA	Acct no.	Description	Tx	Amount in USD
001	01		1	West Hills Athletic Club		2,160.00
002	50		600000	Sales Revenue		2,400.00-
003	40		610000	Sales Discount		240.00

accounting document 90000002, accessible from the document flow screen

accounts affected by the sales order

Figure 3-12 Accounting detail for the West Hills sales order

Customer Relationship Management

- Companies without a good connection between their workers and their customers run the risk of losing business
- **Customer relationship management (CRM) software** can help companies streamline their interactions with customers
- **On-demand CRM:** software and computer equipment reside with CRM provider

Core CRM Activities

- One-to-one marketing
- Sales force automation (SFA)
- Sales campaign management
- Marketing encyclopedias
- Call center automation

SAP's CRM Software

- Examples of tools that provide CRM functionality within the SAP ERP system
 - Contact management tool
 - To make sure that information about sales contacts is available throughout the organization
 - Sales activity manager
 - Supports a strategic and organized approach to sales activity planning and can help make sure that follow-up activities are accomplished
- Employing a separate CRM system that communicates with the ERP system

SAP

Sales activity Edit Goto Follow-up actions Documents Utilities System Help

Create Sales activity

03/10/09 - 03/05/10

Employee

Sales activity

Type	Sales Call
From	09/06/2009 20:40
To	09/06/2009 20:40
Comment	

Contact persons

Company	1	West Hills Athletic Club / 200
Contact person	10	MBA Lisa Kubota / 2001 S. 11th St
Employee respons.	0	

Follow-up actions

Create standard order Start Link objects

Description Partner Texts Sales summary

Reason

Reason Regular Sales Call

Initiator

☐ Business partner

☒ Us

Status

Status Open

Outcome Successful

OutcomeAnalysis 001

Preparation English

Review current plans and interest in new products

Organizational unit

Sales Org.	Fitter Sales	Sales office	Southern Sales
Distr. Channel	Direct	Sales group	Southwest
Division	Snack Bars		

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Figure 3-14 SAP ERP sales activity manager

SAP's CRM Software (cont'd.)

- SAP ERP system processes business transactions and provides much of the raw data for CRM
- SAP's Business Warehouse: system for reporting and analysis of transactional data
- Advanced Planner and Optimizer (APO): system that supports efficient planning of the supply chain
- SAP's view of CRM is to provide a set of tools to manage the three basic task areas, or jobs:
 - Marketing, sales, and service

SAP's CRM Software (cont'd.)

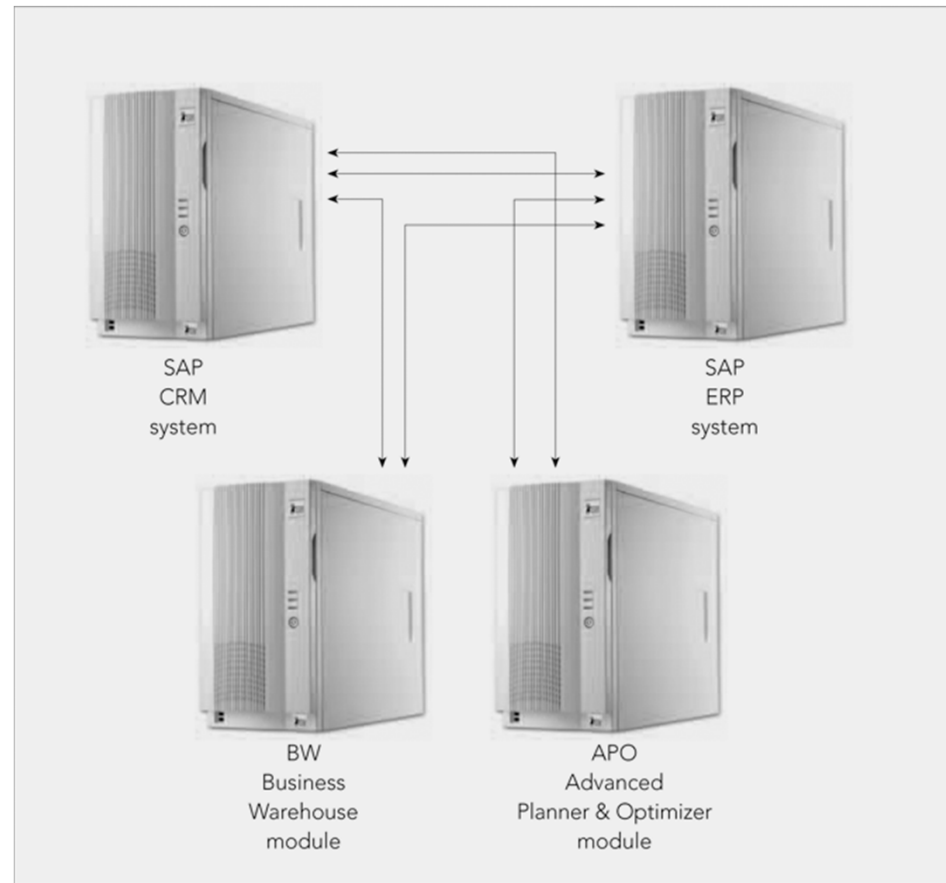


Figure 3-15 SAP CRM system landscape

SAP's CRM Software (cont'd.)

- Four phases of the cultivation of customer relationship:
 - Prospecting
 - Acquiring
 - Servicing
 - Retaining
- Contact Channels
- Marketing and Campaign Management
- Campaign Execution Activity Management
- Campaign Analysis tool

SAP's CRM Software (cont'd.)

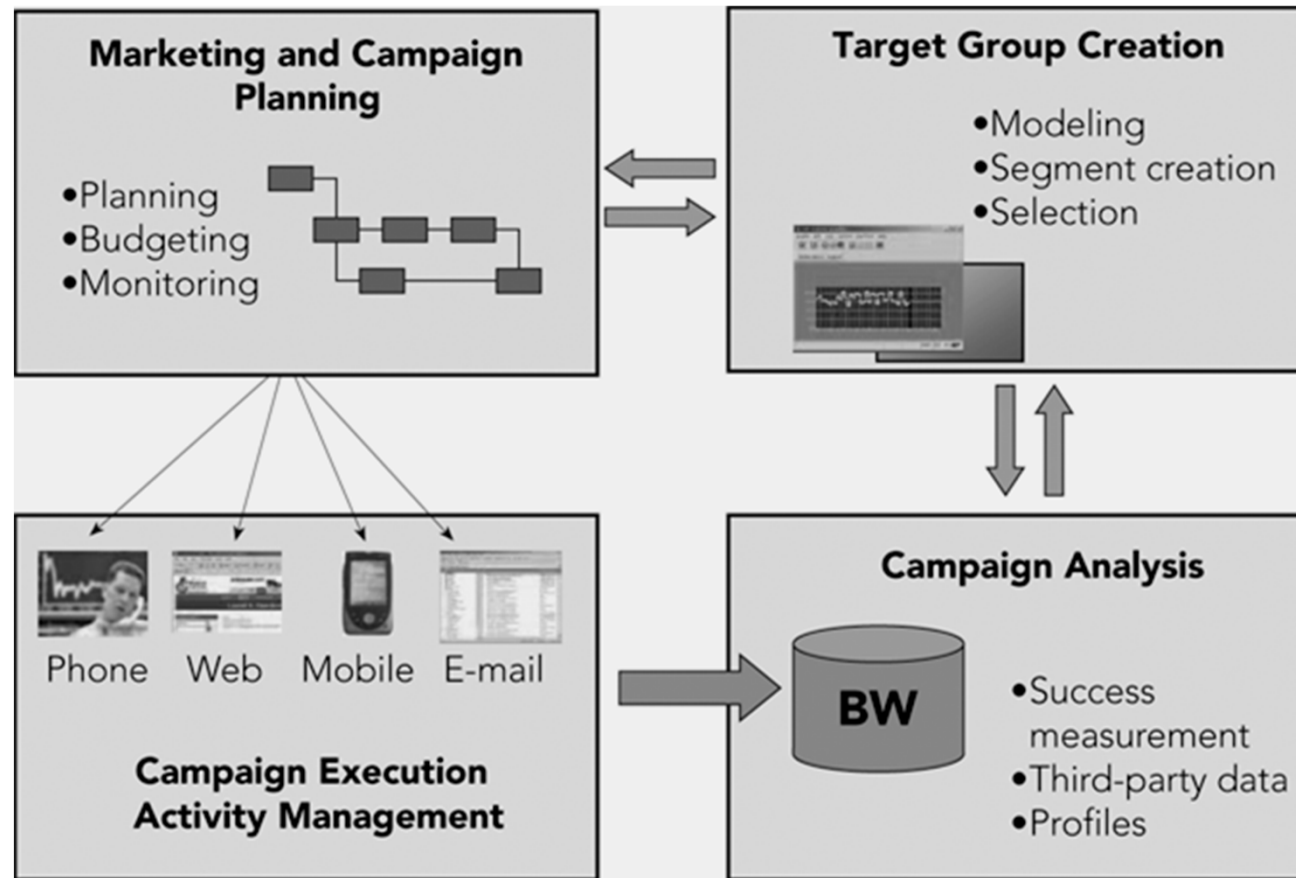


Figure 3-16 Marketing and campaign planning

The Benefits of CRM

- Lower costs
- Higher revenue
- Improved strategy and performance measurement

Summary

- Fitter Snacker's unintegrated information systems are at the root of an inefficient and costly sales order process
- An ERP system such as SAP ERP treats a sale as a sequence of related functions
 - Including: taking orders, setting prices, checking product availability, checking the customer's credit line, arranging for delivery, billing the customer, and collecting payment
 - In SAP ERP, all these transactions, or documents, are electronically linked

Summary (cont'd.)

- Installing an ERP system means making various configuration decisions
 - Configuration decisions reflect management's view of how transactions should be recorded and later used for decision making
- ERP system's central database contains:
 - Tables of master data: relatively permanent data about customers, suppliers, material, and inventory
 - Transaction data tables: store relatively temporary data such as sales orders and invoices

Summary (cont'd.)

- Customer relationship management (CRM) systems
 - Build on the organizational value that ERP provides
 - Specifically increase the flexibility of the company's common database regarding customer service
 - Various kinds of CRM software are available
 - Can be installed in-house or on-demand