

Marketing Research

Chapter 2 Information Systems and Knowledge Management

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LEARNING OUTCOMES

After studying this chapter, you should

1. Know and distinguish the concepts of data, information and intelligence
2. Understand the four characteristics that describe data
3. Know the purpose of research in assisting marketing operations
4. Know what a decision support system is and does
5. Recognize the major categories of databases

Information, Data, and Intelligence

- Data
 - Facts or recorded measures of certain phenomena (things).
- Information
 - Data formatted (structured) to support decision making or define the relationship between two facts.
- Market intelligence
 - The subset of data and information that actually has some explanatory power enabling effective decisions to be made.

EXHIBIT 2.1 Data, Information, Intelligence



- Products purchased are recorded by the scanner forming data.



- Inventory systems use the data to create information.
- The information tells managers what items need to be stocked.
- The information also generates and can even place orders for more products to be trucked to the store.



- Analysts analyze the data statistically and write research reports addressing important questions such as:
 - What types of trends exist in customer purchases, and are there regional differences?
 - Where should new stores be located?

The Characteristics of Valuable Information

- **Relevance**
 - The characteristics of data reflecting how pertinent these particular facts are to the situation at hand.
- **Data quality**
 - The degree to which data represent the true situation.
- **Timeliness**
 - Means that the data are current enough to still be relevant.
- **Information Completeness**
 - Having the right amount of information.

Knowledge Management

- Knowledge
 - A blend of previous experience, insight, and data that forms organizational memory.
- Knowledge Management
 - The process of creating an inclusive, comprehensive, easily accessible organizational memory, which is often called the organization's *intellectual capital*.

Global Information Systems

- Global Information System
 - An organized collection of computer hardware, communication equipment, software, data, and personnel.
 - Designed to capture, store, update, manipulate, analyze, and immediately display information about worldwide business activities.

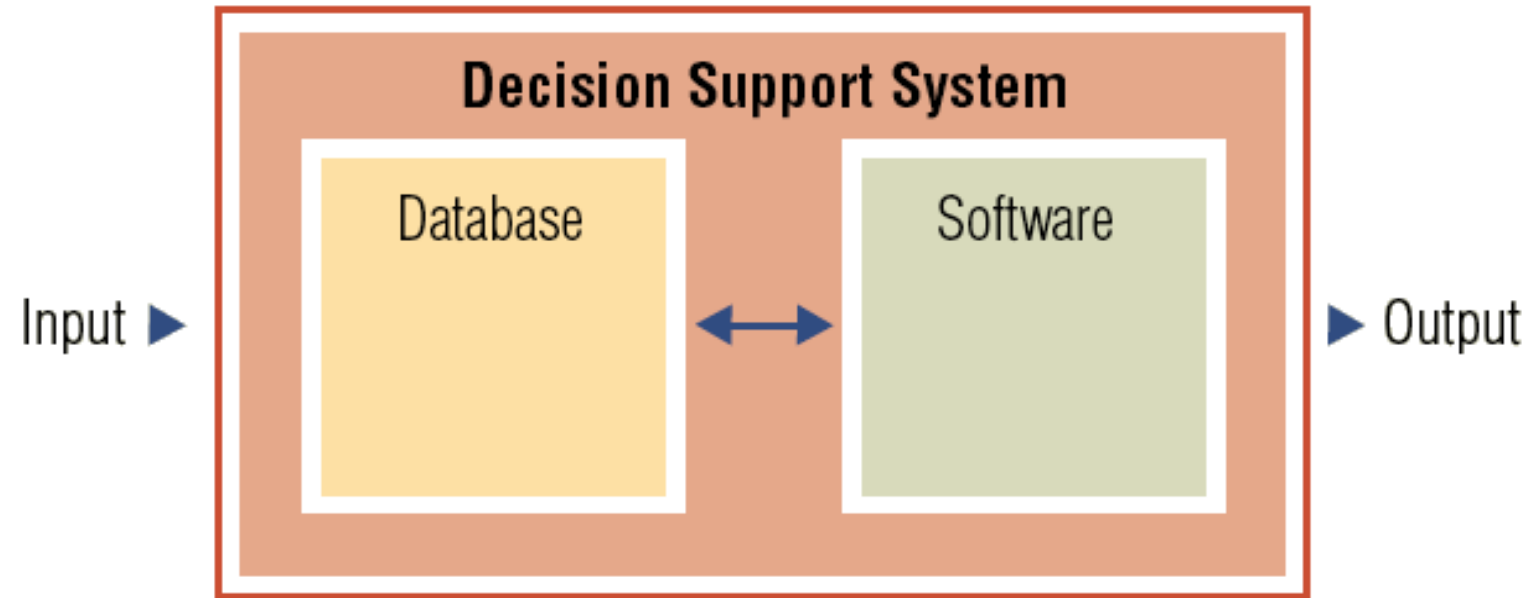
DSS and Marketing Research

- Functions that research serves in business:
 - **Foundational**—what consumer segments should be served and with what types of products?
 - **Testing**—how effective will new product concepts or promotional ideas be?
 - **Issues**—how will specific issues impact the firm.
 - **Performance**—which metrics are critical in real-time management and what insights can be gained from “what-if” analyses of policy changes?

Decision Support Systems

- Decision Support System (DSS)
 - Helps decision makers confront problems through direct interaction with computerized databases and analytical software programs.
 - Stores data and transform them into organized information that is easily accessible to marketing managers.
- Components of a Decision Support System
 - Databases
 - Software programs

EXHIBIT 2.2 Decision Support System



Decision Support System Components (cont'd)

- Customer Relationship Management (CRM)
 - A system for bringing together many important pieces of information:
 - Customer profiles, sales, marketing effectiveness/responsiveness, market trends
 - CRM provides a complete, dependable, and integrated view of its customer base.
 - Management, salespeople, customer service can access customer preferences and purchase information to match customer needs with product offerings and service requirement reminders.

Decision Support System Components (cont'd)

- Software
 - Various types of programs that tell computers, printers, and other hardware what to do.
 - Allows managers to combine and restructure databases, diagnose relationships, build analytical models, estimate variables, and otherwise analyze the various databases.
- Business Intelligence
 - The application of software tools to analyze data in extensive data warehouses to discover significant patterns and relationships.

Databases and Data Warehousing

- Database
 - A collection of raw data arranged logically and organized in a form that can be stored and processed by a computer.
- Data Warehouse
 - The multitiered computer storehouse of current and historical data.
- Data Warehousing
 - The process allowing important day-to-day operational data to be stored and organized for simplified access.

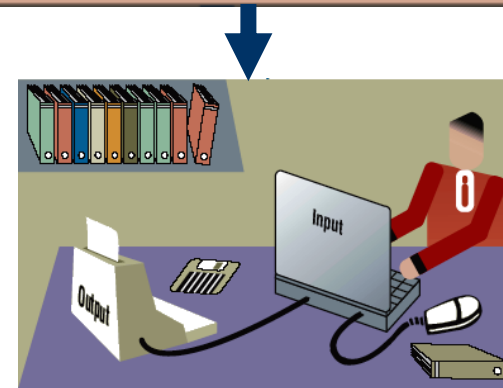
Input Management

- Input Management
 - All numerical, text, voice, and image data entered into the decision support system.
- Major Sources of Input
 - Internal records
 - Proprietary marketing research
 - Salesperson input
 - Behavioral tracking
 - Outside vendors and external distributors

EXHIBIT 2.3 Five Major Sources of Marketing Input for Decision Support Systems

Source:

- Internal Records
- Proprietary Marketing Research
- Salesperson Input
- Behavioral Tracking
- Outside Vendors and External Distributors



Input Management (cont'd)

- Internal Records
 - Contain data that may become useful information for marketing managers.
 - Accounting reports of sales and inventory figures, provide considerable data.
 - Costs, orders, shipments, inventory, sales, and other aspects of regular operations.
 - Customer profiles

Input Management (cont'd)

- Proprietary Marketing Research
 - Conducts projects to study specific company problems.
 - Emphasizes the gathering of new data.
 - Survey findings
 - Test market results
 - Is not conducted regularly or continuously.

Input Management (cont'd)

- Marketing Intelligence
 - A network of sources and procedures used by marketing executives to obtain information about nonrecurring developments in the external marketing environment.
 - E-mail logs of comments and complaints, discovery of competition price changes, news of industry technology
- Outside Vendors and External Distributors
 - Data specialists collect, store, and distribute marketing information as their products.
 - A. C. Nielsen Company provides television program ratings, audience counts.

Computerized Data Archives

- Data Wholesalers
 - Companies that put together consortia of data sources into packages that are offered to municipal, corporate, and university libraries for a fee.
 - Wilson Business Center
 - Hoovers
 - PROQUEST
 - INFOTRAC
 - DIALOG (Dialog Information Services, Inc.)
 - LEXISNEXIS,
 - Dow Jones News Retrieval Services

EXHIBIT 2.4 Vendors of Information Services and Electronic Indexing

Vendors	Selected Databases	Type of Data
DIALOG	ABI/INFORM	Summaries and citations from over 1,000 academic management, marketing, and general business journals with full text of more than 500 of these publications
	ASI (American Statistics Index)	Abstracts and indexes of federal government statistical publications
	PROMT (The Predicast Overview of Markets and Technologies)	Summaries and full text from 1,000 U.S. and international business and trade journals, industry newsletters, newspapers, and market research studies; information about industries and companies, including the products and technologies they develop and the markets in which they compete
	Investext	Full text of over 2 million company, industry, and geographic research reports written by analysts at more than 600 leading investment banks, brokerage houses, and consulting firms worldwide
Dow Jones News Retrieval	Business Newsstand	Articles from <i>New York Times</i> , <i>Los Angeles Times</i> , <i>Washington Post</i> , and other leading newspapers and magazines
	Historical Market Data Center	Historical data on securities, dividends, and exchange rates
	Web Center	Information obtained from searches of corporate, industry, government, and news websites

Computerized Data Archives

- Types Of Databases
 - Statistical
 - Financial
 - Video
- Electronic Data Interchange (EDI)
 - The integration of one company's computer systems directly with another company's proprietary computer systems.

Networks and Electronic Data Interchange

- Electronic Data Interchange (EDI)
 - A type of exchange that occurs when one company's computer system is integrated with another company's system to exchange business information with suppliers or customers.

What Exactly is the Internet?

- Internet
 - A global computer network that allows users access to information and documents from distant sources.
 - A combination of a worldwide communication system and the world's largest library.
- Host
 - Where the content for a particular website physically resides and is accessed.

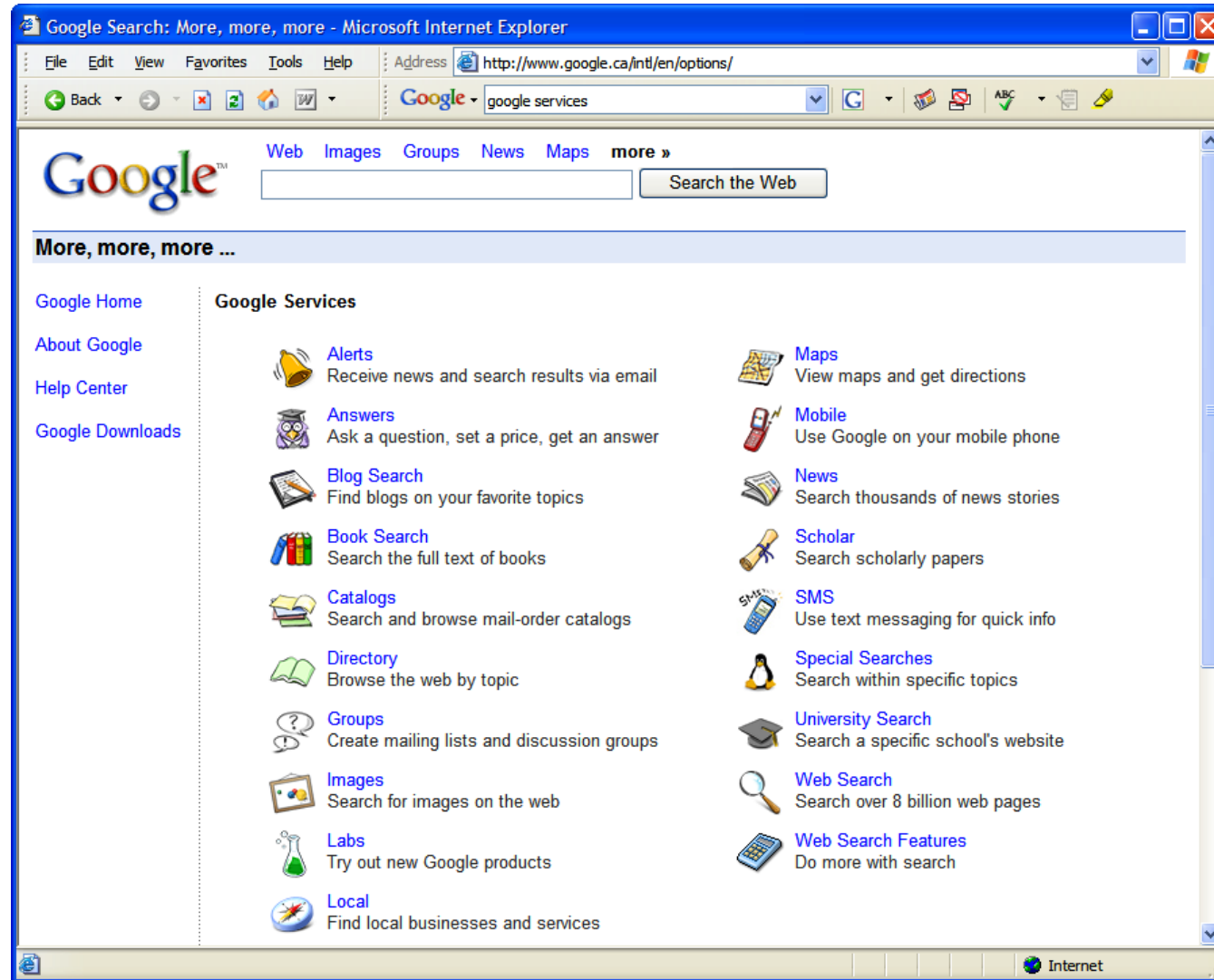
Navigating the Internet

- World Wide Web (WWW)
 - The Internet's graphical interface of thousands of interconnected web pages or documents.
- Content providers
 - Parties that furnish information on the World Wide Web.
- Intranet
 - A private data network that uses internet standards and technology and provides firewalls for security.

Navigating the Internet (cont'd)

- Uniform Resource Locator (URL)
 - A web site address that web browsers recognize
- Search Engines
 - Computerized directories used to search the WWW
 - YAHOO (www.yahoo.com)
 - GOOGLE (www.google.com)
 - HOTBOT (www.hotbot.com)
- Keyword Search
 - Takes place as the search engine searches through millions of web pages for documents containing the keywords.

EXHIBIT 2.5 The Google Web Interface



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Selected Web Sites

- Marketing Information
 - <http://www.usatoday.com>
 - <http://www.businessweek.com>
 - <http://www.adcritic.com>
 - <http://www.ceoexpress.com>
 - <http://www.census.gov>
- Author's Home Page
 - <http://www2.bus.okstate.edu/zikmund>

Interactive Media and Environmental Scanning

- Interactive Medium
 - A medium, such as the Internet, that a person can use to communicate with and interact with other users.
- Environmental Scanning
 - Entails all information gathering designed to detect changes in the external operating environment of the firm.

Information Technology

- Pull Technology
 - Consumers request information from a web page and the browser then determines a response; the consumer is essentially asking for the data.
- Push Technology
 - Sends data to a user's computer without a request being made; software is used to guess what information might be interesting to consumers based on the pattern of previous responses.

Information Technology (cont'd)

- Smart Agent Software
 - Software capable of learning an Internet user's preferences and automatically searching out information in selected websites and then distributing it.
- Cookies
 - Small computer files that a content provider can save onto the computer of someone who visits its website.

Information Technology (cont'd)

- Intranet
 - A company's private data network that uses internet standards and technology provide a secure knowledge portal to organizational memory and integration of information from outside sources
 - The information on an intranet—data, graphics, video, and voice—is available only inside the organization or to those individuals whom the organization deems as appropriate participants.
- Firewall
 - Security software installed to limit access to only those persons authorized to enter an intranet.

Key Terms and Concepts

- data
- information
- market intelligence
- knowledge
- knowledge management
- relevance
- global information system
- decision support system (DSS)
- data quality
- timeliness
- information completeness
- customer relationship management (CRM)
- database
- data warehousing
- data warehouse
- data wholesalers
- proprietary marketing research
- electronic data interchange (EDI)
- Internet
- host
- World Wide Web (WWW)
- content provider
- scanner data

Key Terms and Concepts (cont'd)

- Uniform Resource Locator (URL)
- search engine
- key word search
- interactive medium
- pull technology
- push technology
- environmental scanning
- smart agent software
- cookies
- intranet

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Thank you