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DASAR SISTEM INFORMASI

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Prodi Sistem Informasi - Fakultas Ilmu Komputer

DASAR SISTEM INFORMASI

Pert.13 :

Electronic Business Systems and Electronic Commerce Systems

e-Commerce trends
e-Commerce processes
e-Commerce success factors
e-Commerce categories

Universitas **Esa Unggul**

LEARNING OUTCOMES

- **e-Commerce trends**
- **e-Commerce processes**
- **e-Commerce success factors**
- **e-Commerce categories**
- **Collaboration and Trading**
- **e-Commerce Portals**
- **Electronic Payment Processes**
- **Securing Electronic Payments**

Learning Objectives

1. Identify the major categories and trends of e-commerce applications

2. Identify the essential processes of an e-commerce system, and give examples of how they are implemented in e-commerce applications.

3. Identify and give examples of several key factors and Web store requirements needed to succeed in e-commerce.

Learning Objectives

4. Identify and explain the business value of several types of e-commerce marketplaces.

5. Discuss the benefits and trade-offs of several e-commerce clicks and bricks alternatives.

Case 1 eBay: Running the Right Play in the Right Company

- eBay has 31 sites around the world
- They generated $1.1 billion in 2004 sales, 46% of eBay's overall trading revenues
- Playbook: collective wisdom of eBay's worldwide managers

Case Study Questions

1. Why has eBay become such a successful and diverse online marketplace? Visit the eBay website to help with your answer, and check out the many trading categories, specialty sites, and other features.

2. What do you think of eBay's playbook concept? Why do they call it a playbook?

3. Is eBay's move into the international arena a good long-term strategy? Why or why not?

Real World Internet Activity

1. eBay is aggressively, and successfully, moving into new international markets. Using the Internet,

    –   See if you can find one or two of eBay's international sites.

    –   How do they differ from the eBay site in North America?

    –   Can you find products that are unique to the international site?

    –   How about services and features?

Real World Group Activity

- The eBay playbook is designed to assist in making the decisions necessary to tailor eBay's presence to the unique nature of an international arena. In most cases, however, the playbook cannot tell them what to expect when moving into a new country. In small groups,
  - Brainstorm some of the challenges of opening an eBay site in a new country.
 - Pick a country and see if you can imagine the playbook for that new market.

Electronic commerce

- Electronic commerce adalah proses pembelian & penjualan, pemasaran & pelayanan, pengiriman & pembayaran dari suatu produk, jasa atau informasi melalui jaringan komputer, antara suatu enterprise dan calon pelanggan, pelanggan, pemasok, atau patner bisnis lainnya.
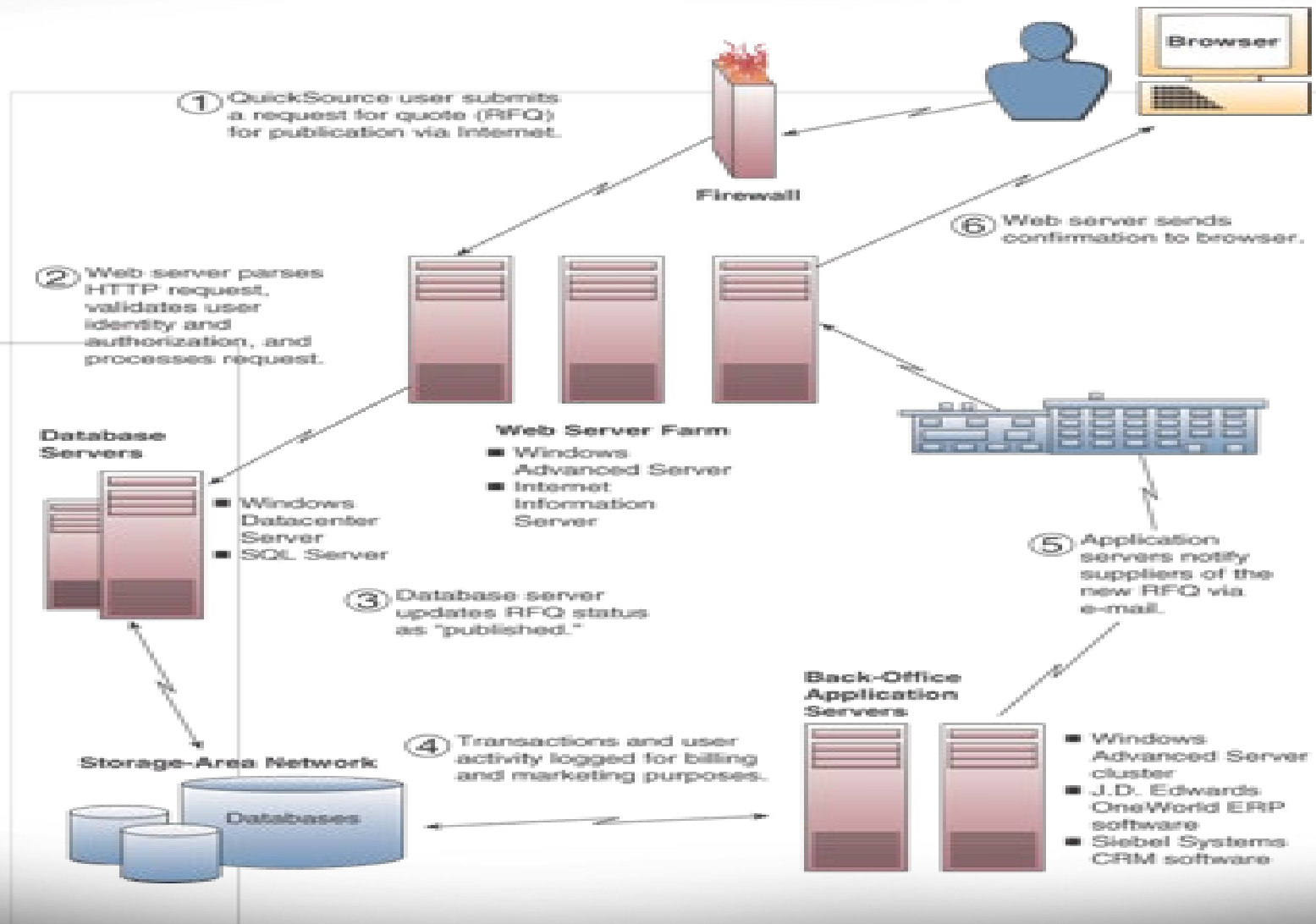
Electronic Commerce

- More than just buying and selling products online

- Includes the entire online process of

  - Developing, marketing, selling, delivering, servicing and paying for products and services

  - Transacted on the internetworked global marketplaces of customers

  - With the support of a worldwide network of business partners

Processes involved in E-commerce
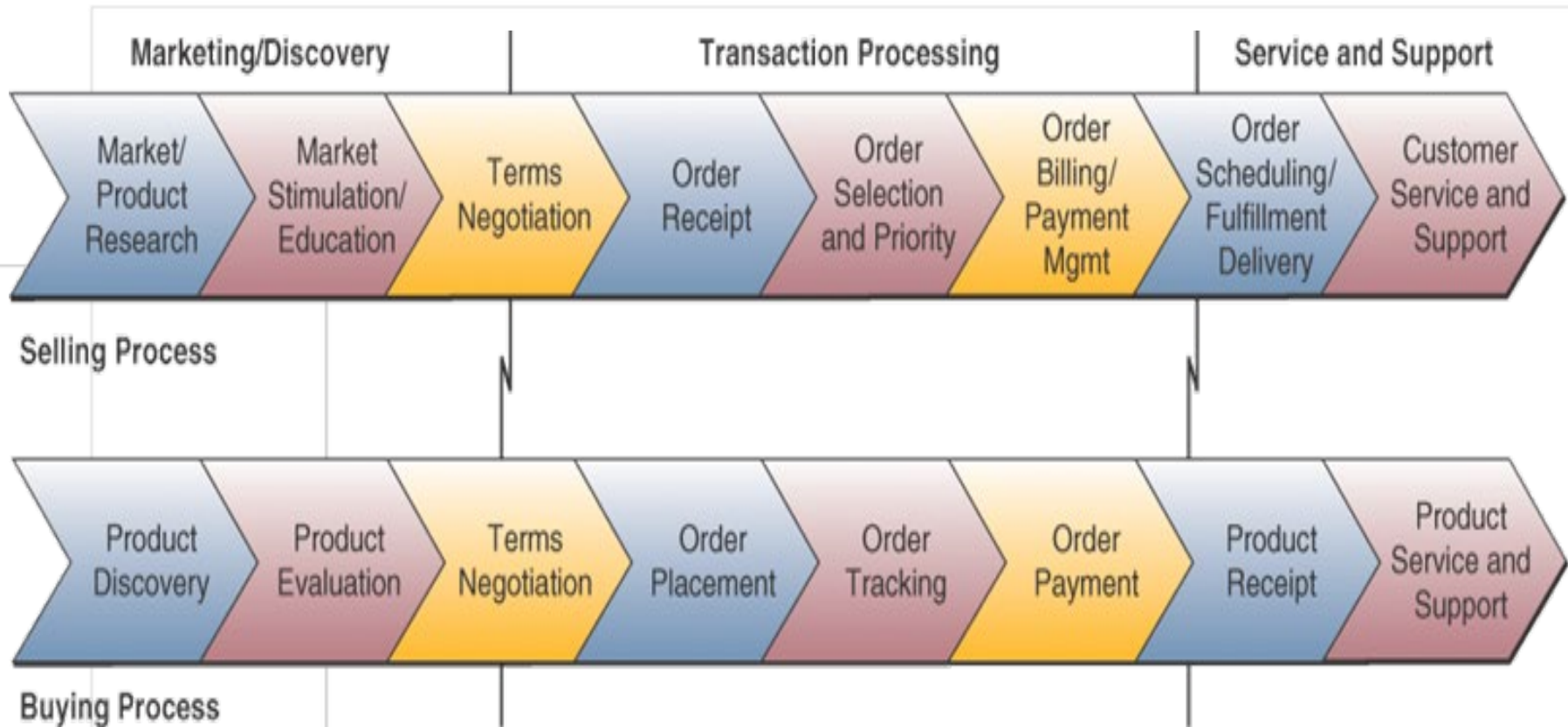
E-commerce technologies

Categories of e-Commerce

- Business-to-Consumer (B2C) – businesses develop attractive electronic marketplaces to sell products and services to consumers

- Business-to-Business (B2B) – involves both electronic business marketplaces and direct market links between businesses

- Consumer-to-Consumer (C2C) – online auctions where consumers can buy and sell with each other

Kategori E-Commerce

- Business to Consumer Commerce

  ➢ transaksi terjadi antara suatu perusahaan dengan konsumen

- Business to Business Commerce

  ➢ transaksi terjadi antar suatu perusahaan dengan perusahaan lainnya

Business to Consumer Commerce

- GUI harus lebih menarik
- Virtual storefronts
- Virtual shopping mall
- Interactive order processing
- Secure electronic payment systems

Business to Business Commerce (I)

- Mendukung proses pengelolaan
  "supply chain":
  - Supplier management
  - Inventory management
  - Distribution management
  - Channel management
  - Payment management
  - Financial management
  - Salesforce management

Business to Business Commerce (II)

- Wholesaling on the web

- EDI (Electronic Data Interchange)

- Keuntungan:
  - Pengurangan dalam penggunaan kertas
    - Arus transaksi lebih cepat
    - Pengurangan kesalahan
    - Produktifitas meningkat
    - Mendukung "Jusi in time"
    - Pengurangan dalam level persediaan

- Internal Business Process

Essay...# Essential e-commerce process architecture

8-19
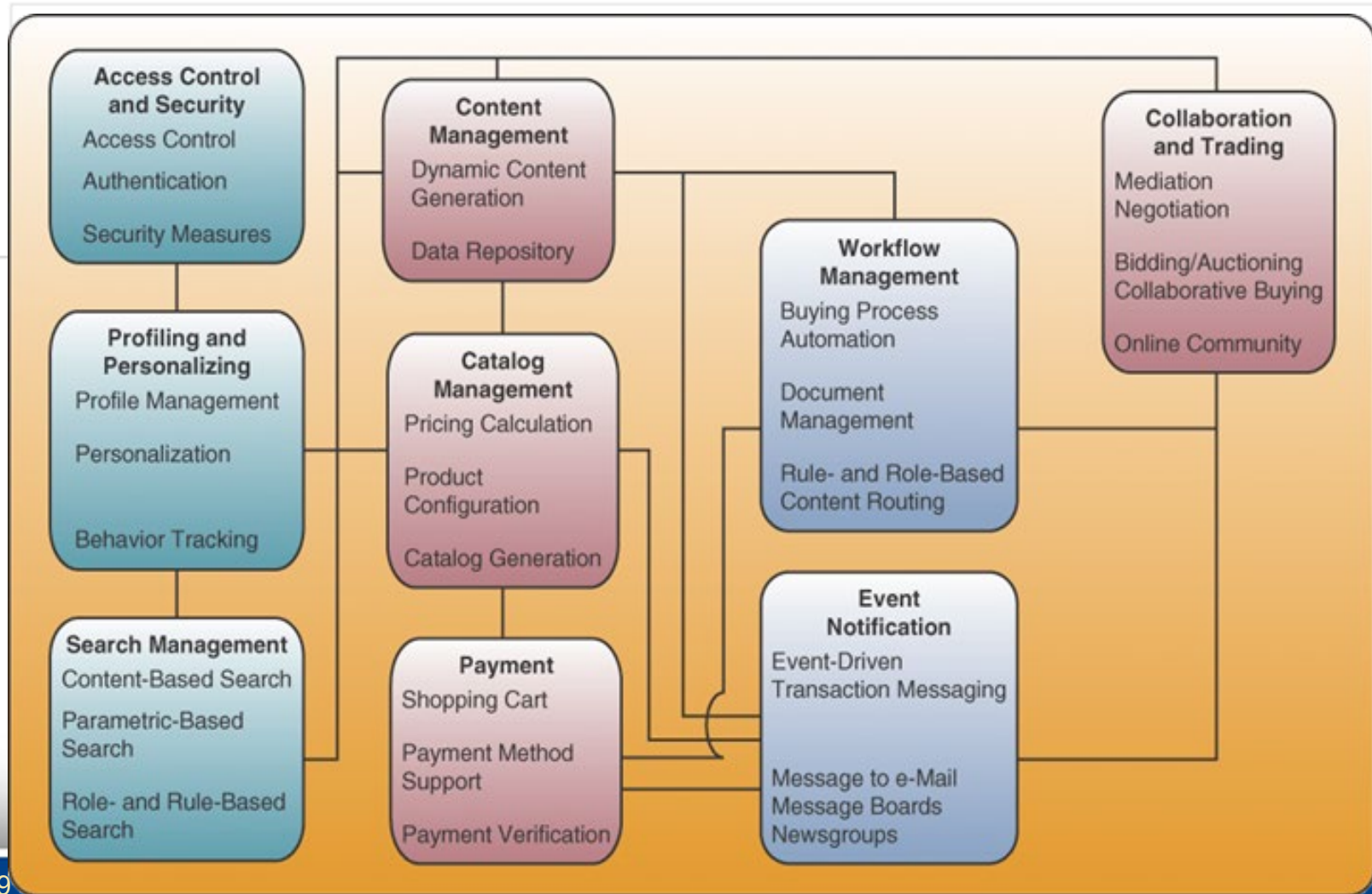
Access Control and Security

- E-commerce processes must establish mutual trust and secure access

- Between the parties in an e-commerce transaction

- By authenticating users, authorizing access, and enforcing security features

Profiling and Personalizing

- Gather data on you and your website behavior and choices

- Build electronic profiles of your characteristics and preferences

- Profiles are used to recognize you and provide you with a personalized view of the contents of the site with product recommendations and personalized advertising

- One-to-one marketing strategy

Search Management

- Search processes that helps customers find the specific product or service they want to evaluate or buy

Content and Catalog Management

- **Content Management** – software that helps e-commerce companies develop, generate, deliver, update, and archive text data and multimedia information at e-commerce websites

- **Catalog Management** – software that helps generate and manage catalog content

- May support customer self-service and mass-customization of products, e.g., Dell Computer configuration management

Workflow Management

- Software that helps employees electronically collaborate to accomplish structured work tasks within knowledge-based business processes

- Ensure proper transactions, decisions, and work activities are performed and the correct data and documents are delivered to the right employee, customer, or supplier

Catalog/content management and workflow example
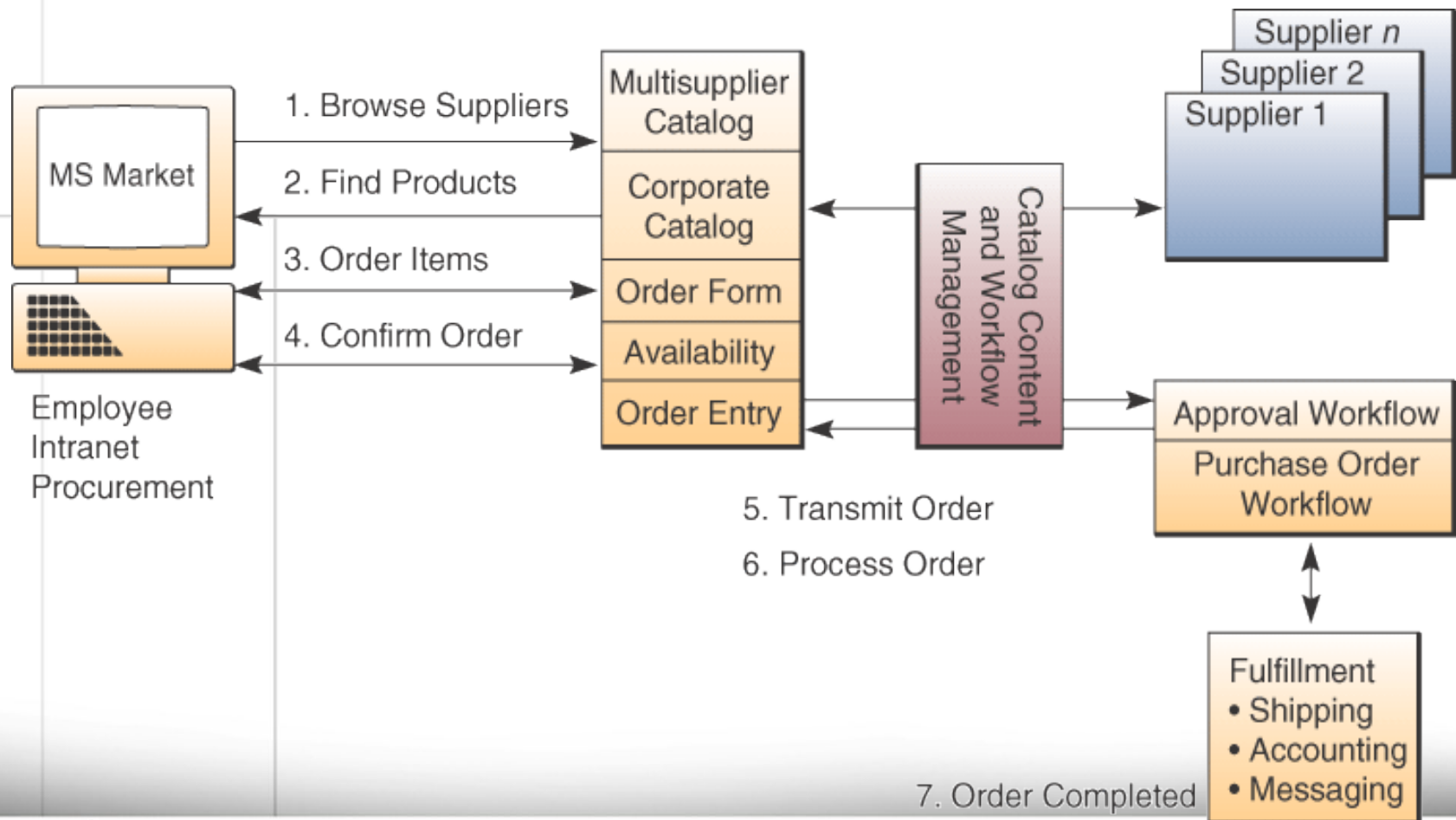
Event Notification

- Most e-commerce applications are event-driven

- Respond to events such as customer's first website access, payment, delivery

- Event notification software monitors e-commerce processes

- Records all relevant events including problem situations

- Notifies all involved stakeholders

Collaboration and Trading

- Processes that support the vital collaboration arrangements and trading services

- Needed by customers, suppliers, and other stakeholders

- Online communities of interest
  - E-mail, chat, and discussion groups
 - Enhance customer service and build customer loyalty

Electronic Data Interchange (EDI)

- Merupakan salah satu bentuk pertama dari penerapan electronic commerce

- EDI meliputi pertukaran dokumen transaksi bisnis perusahaan melalui Internet dan jaringan antara pemasok (organisasi dan konsumen2 dan supplier2nya.)

E-Commerce dan Customer Value

- Perusahaan memanfaatkan Internet untuk:
  - Membuat pelanggan menjadi loyal
  - Mengantisipasi kebutuhan pelanggan
  - Merespon keinginan pelanggan
  - Meningkatkan layanan pelanggan

E-Commerce dan nilai pelanggan (customer value)
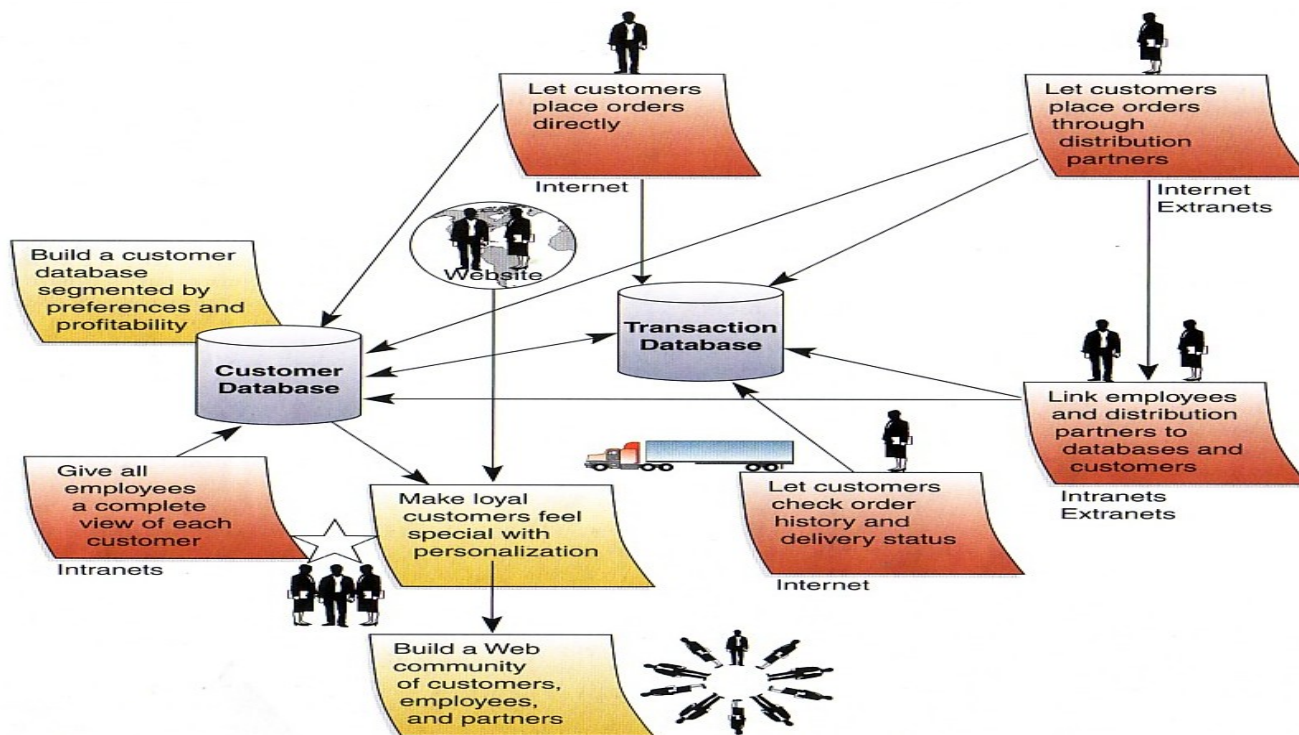
Dari gambar di atas dapat terlihat bagaimana penerapan e-business yang berfokus pada pelanggan dapat meningkatkan nilai dan loyalitas pelanggan dalam penerapan e-Commerce

Manfaat Internet untuk Customer Value

- Biaya dukungan relatif lebih rendah
- Akses yang lebih luas ke Customer Service
- Memperkuat patner bisnis melalui layanan informasi online
- Interaktif
- Layanan proaktif dan program pemasaran
- Memudahkan respon yang lebih cepat dan tanggap

Sistem Pengolahan Transaksi

- Transaksi adalah kejadian (event) yang terjadi sebagai bagian dari aktivitas bisnis seperti penjualan, pembelian, penyim-panan, penarikan, penggantian, dan pembayaran.

- Sistem Pengolahan Transaksi (Transaction Processing System = TPS) adalah sistem informasi yang mengolah data yang dihasilkan dari aktivitas transaksi bisnis.
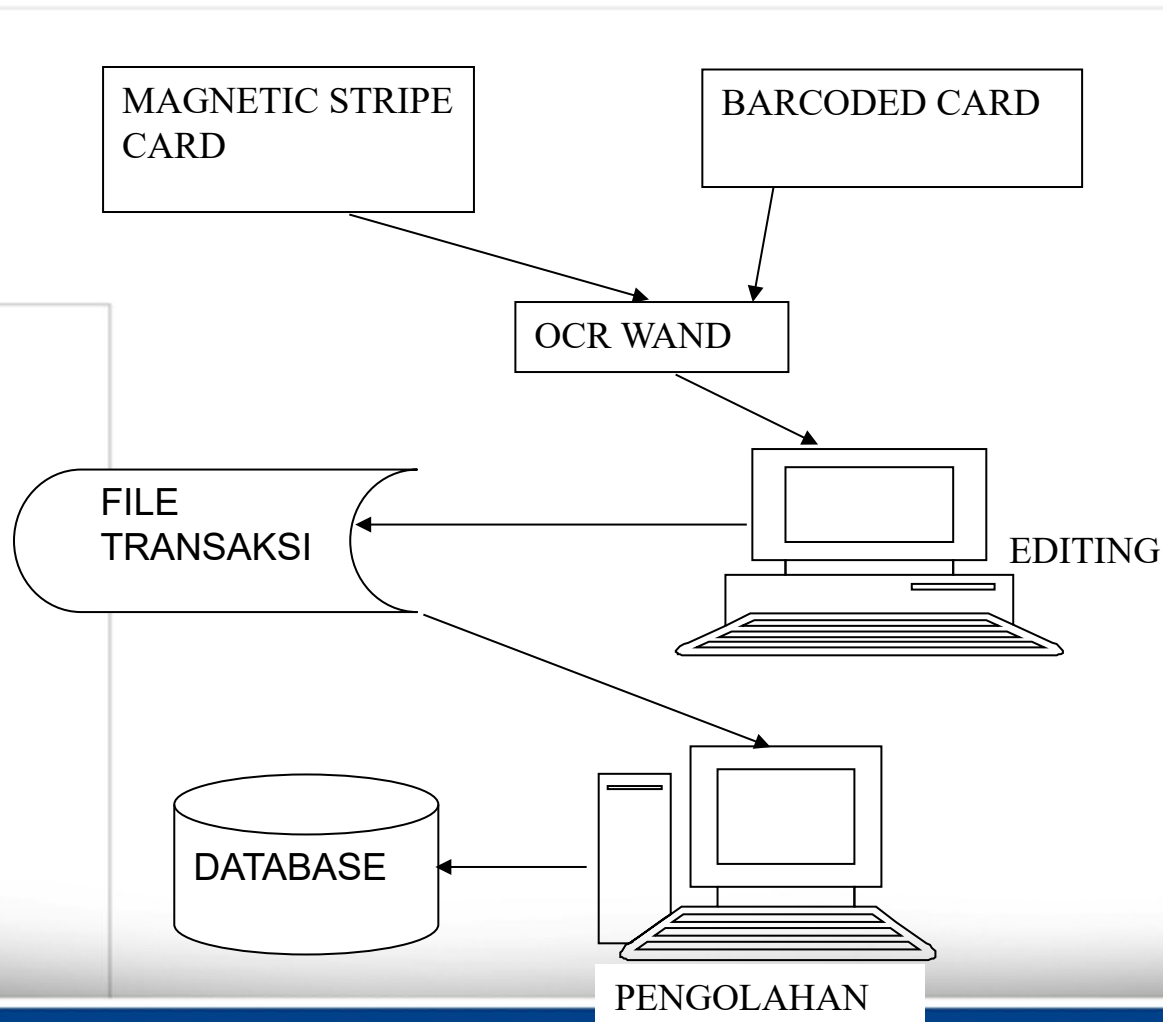
Siklus Pengolahan Transaksi

1. Entri Data/ memasukkan data
   - Traditional Data Entry
   - Source Data Automation
   - Electronic Data Interchange (EDI)
   - Electronic Fund Transfer (EFT)
2. Pengolahan transaksi
3. Perawatan basis data
4. Pencetakan dolumen dan laporan
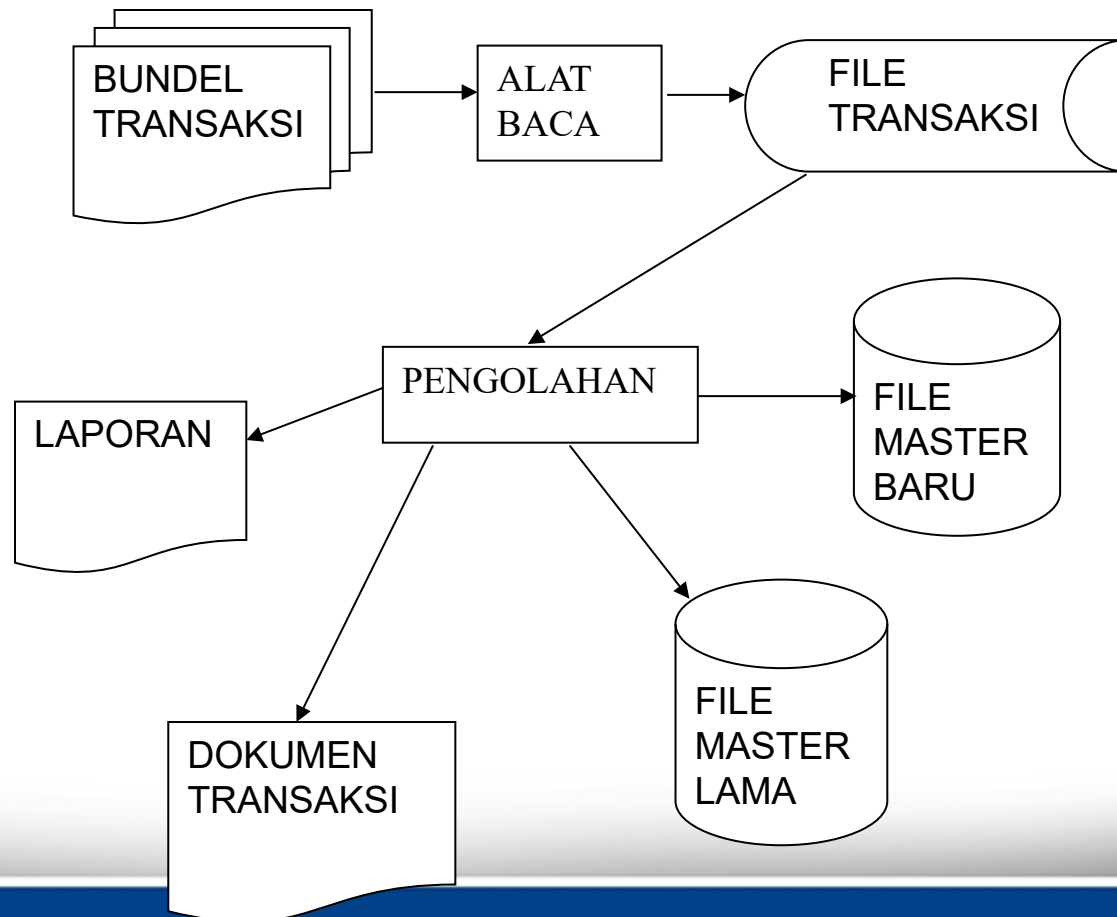5. Pengolahan permintaan laporan, etc (inquiry)

Data Entri secara Tradisional

FORM TRANSAKSI

ENTRI

EDITING

WORKSTATION

FILE TRANSAKSI

DATABASE
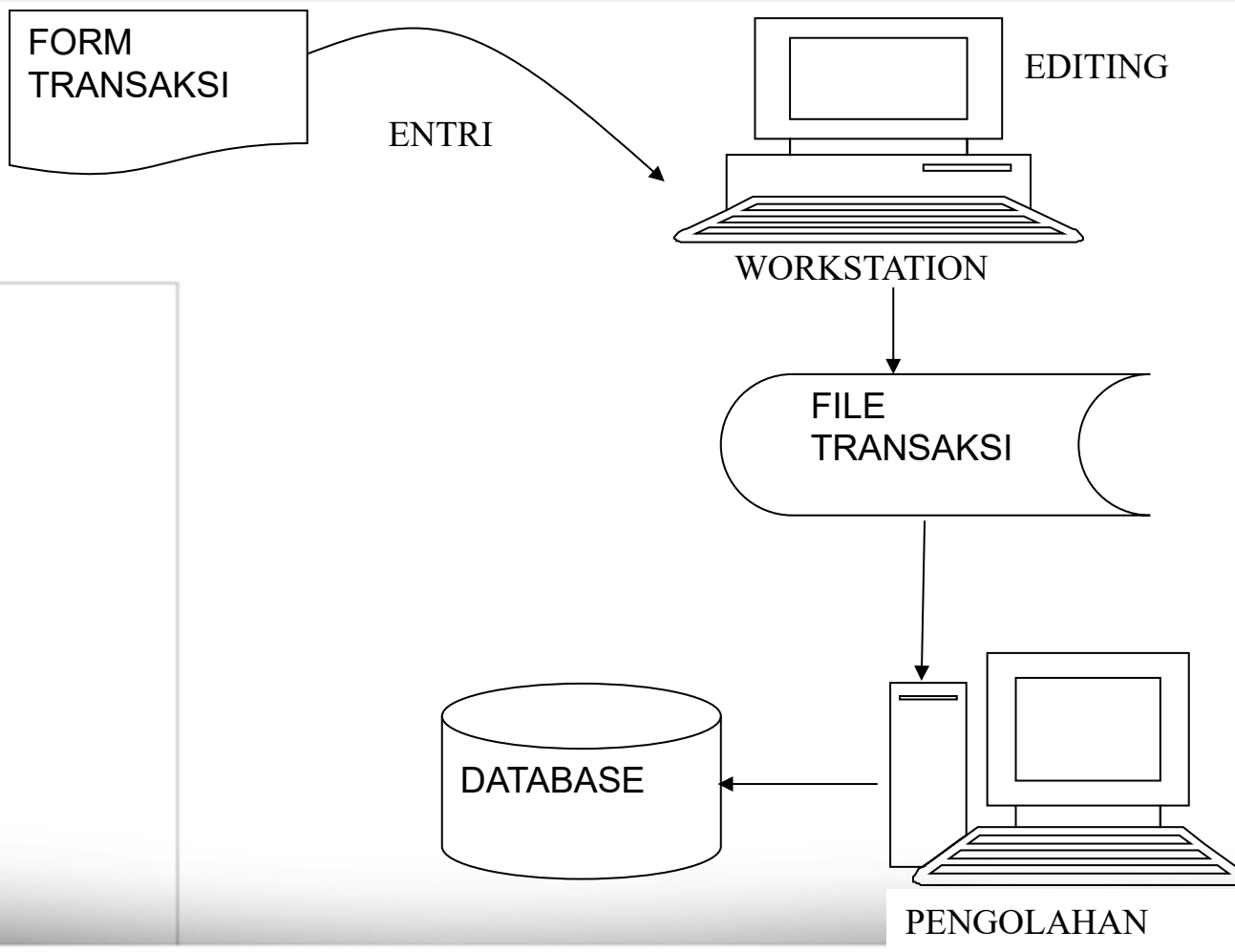
PENGOLAHAN

Source Data Automation

Pengolahan transaksi

Batch Processing

Pengolahan transaksi

Real time/online Transaction Processing

TRANSAKSI

POS TERMINAL

ONLINE WORKSTATION

- PENGOLAHAN TRANSAKSI
- UPDATING DATABASE
- PENGOLAHAN INQUIRY

DATABASE PRODUK

DATABASE PELANGGAN

DATABASE PENJUALAN
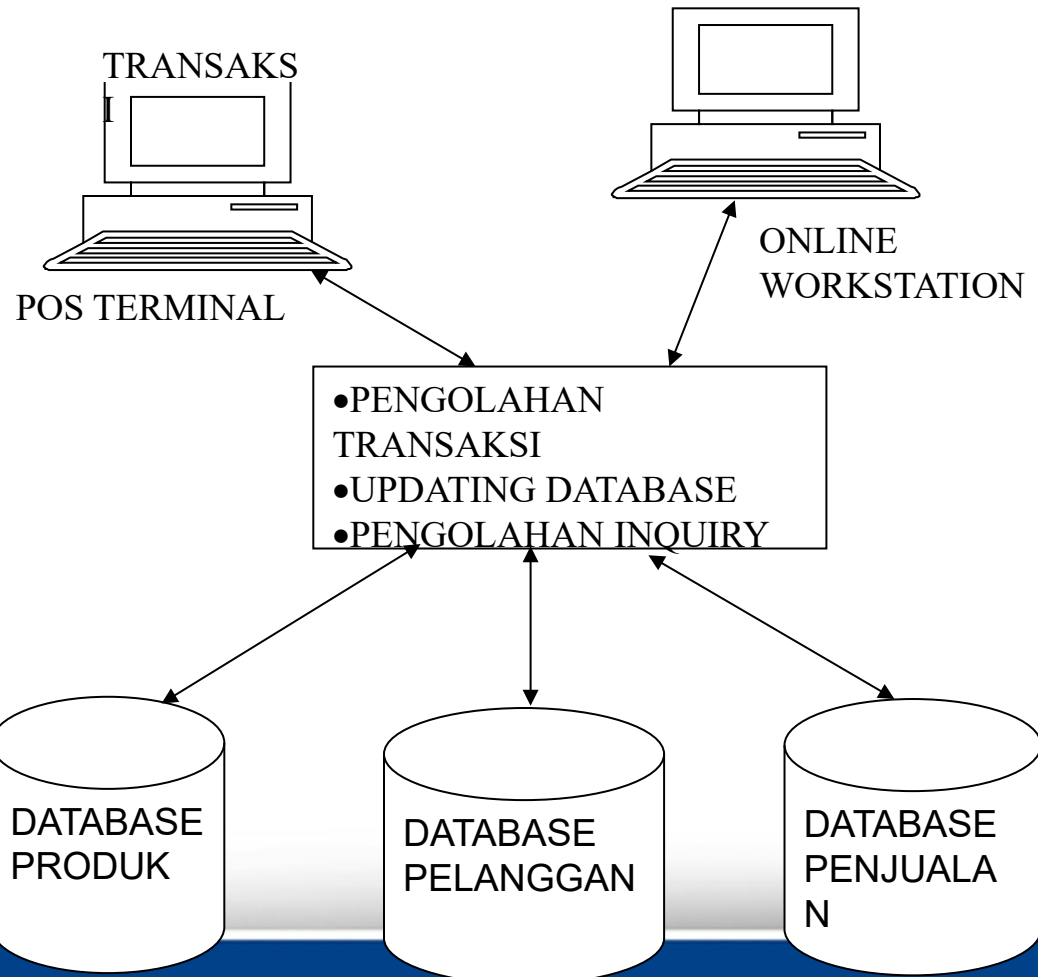
Electronic Payment Processes

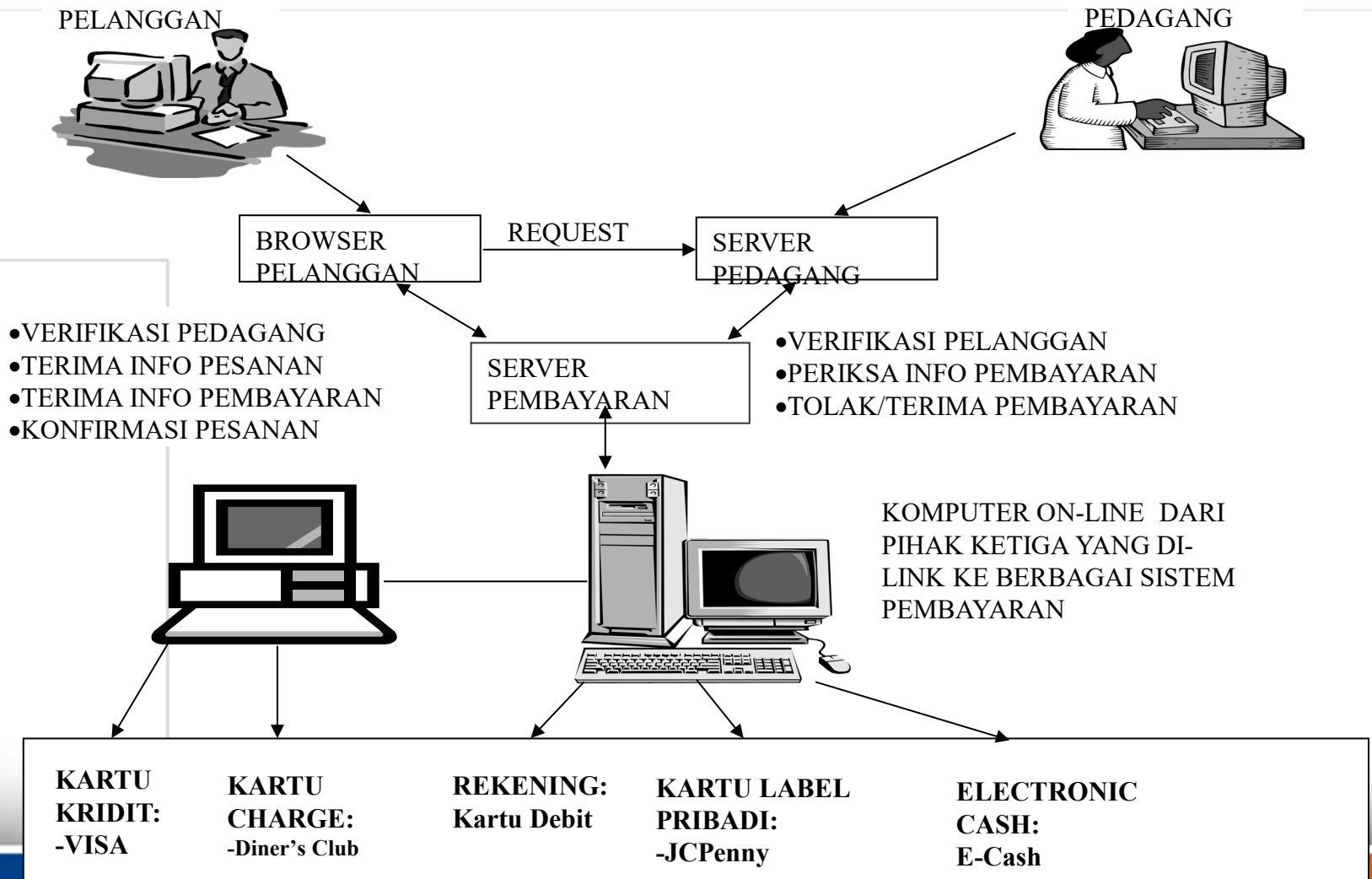- Web Payment Processes
  - Shopping cart process
  - Credit card payment process
  - Other more complex payment processes
- Electronic Funds Transfer (EFT)
  - Capture and process money and credit transfers between banks and businesses and their customers
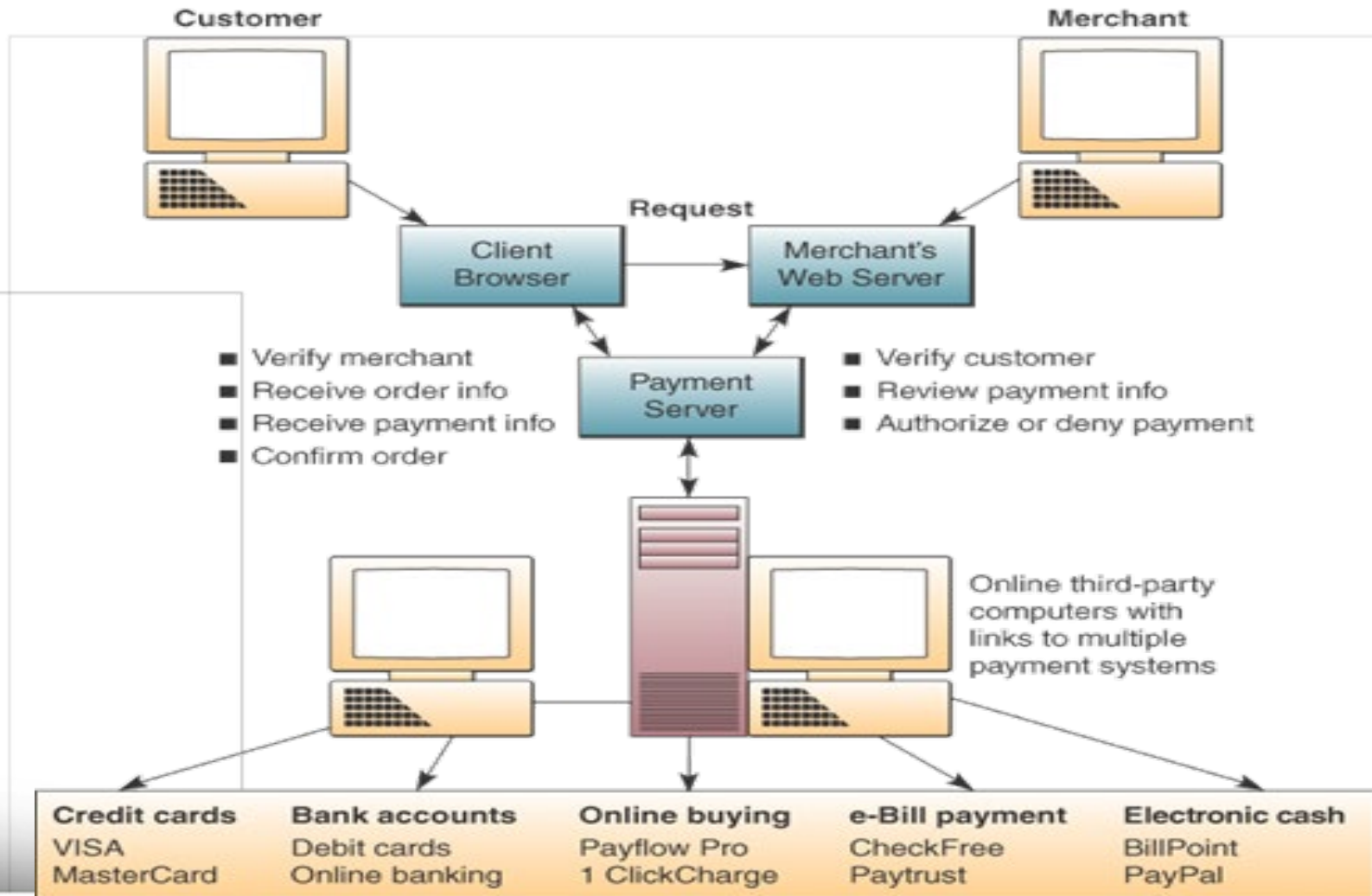
Electronic Payments

- Electronic Funds Transfer
  - Adalah sistem pembayaran dana secara elektronik tanpa uang kas maupun dokumen kertas
  - Contoh: Credit cards, debit cards, ATM
- Secure Electronic Payments pada Internet
  - Transaksi melalui Internet rawan terhadap intersepsi
  - Perlu penerapan sekuriti melalui enkrispsi data
  - Contoh : SET (Secure Electronic Transaction)

Contoh
Secure Electronic Payment Systems

PELANGGAN

PEDAGANG

BROWSER PELANGGAN → REQUEST → SERVER PEDAGANG

SERVER PEMBAYARAN

- VERIFIKASI PEDAGANG
- TERIMA INFO PESANAN
- TERIMA INFO PEMBAYARAN
- KONFIRMASI PESANAN

- VERIFIKASI PELANGGAN
- PERIKSA INFO PEMBAYARAN
- TOLAK/TERIMA PEMBAYARAN

KOMPUTER ON-LINE DARI PIHAK KETIGA YANG DI-LINK KE BERBAGAI SISTEM PEMBAYARAN

KARTU KRIDIT:
-VISA

KARTU CHARGE:
-Diner's Club

REKENING:
Kartu Debit

KARTU LABEL PRIBADI:
-JCPenny

ELECTRONIC CASH:
E-Cash

Secure Electronic Payment Example

Securing Electronic Payments

- **Network sniffers**
  - Software that recognizes and intercepts credit card number formats

- Security measures to combat
  - Encrypt (code and scramble) data between customer and merchant
  - Encrypt credit card authorizations
  - Take sensitive information off-line

Case 2: Google and Others
In search of the Future

- The search engine has become the Internet's "killer app"

- Selling ads linked to search results has become a growth business

- Demand for new ways of searching digital information

- Goal:
  - Extract information from databases, Web pages, documents, or audio and video clips automatically
  - Recognize names, dates and dollar amounts
  - Find the relationships among them

Case Study Questions

1. What is the driver behind the development of new and more powerful search engines

2. Why can human beings still do much better at assessing the relevance of a website than sophisticated search engines? What are the modern search engines failing to include?

3. What is the difference between looking for search terms and looking for "expressions of human language?"

Real World Internet Activity

1. Search engines exist for just about any type of Internet search you may wish to conduct. The big ones like Google, Yahoo, and MSN are commonly used. Using the Internet,

   – See if you can find some lesser-known search engines.

   – What are their special features and benefits?

   – Why aren't more people using them?

   – Check out www.kartoo.com to see a unique approach to Internet search.

Real World Group Activity

- Each day, data is becoming more and more complex. Adding to its complexity is its sheer volume, which is monumental. In small groups,
  - Brainstorm how some of the complex data we commonly generate can be sorted and searched.
  - How would we go about searching for a picture of something? How about a particular color?

e-Commerce Trends
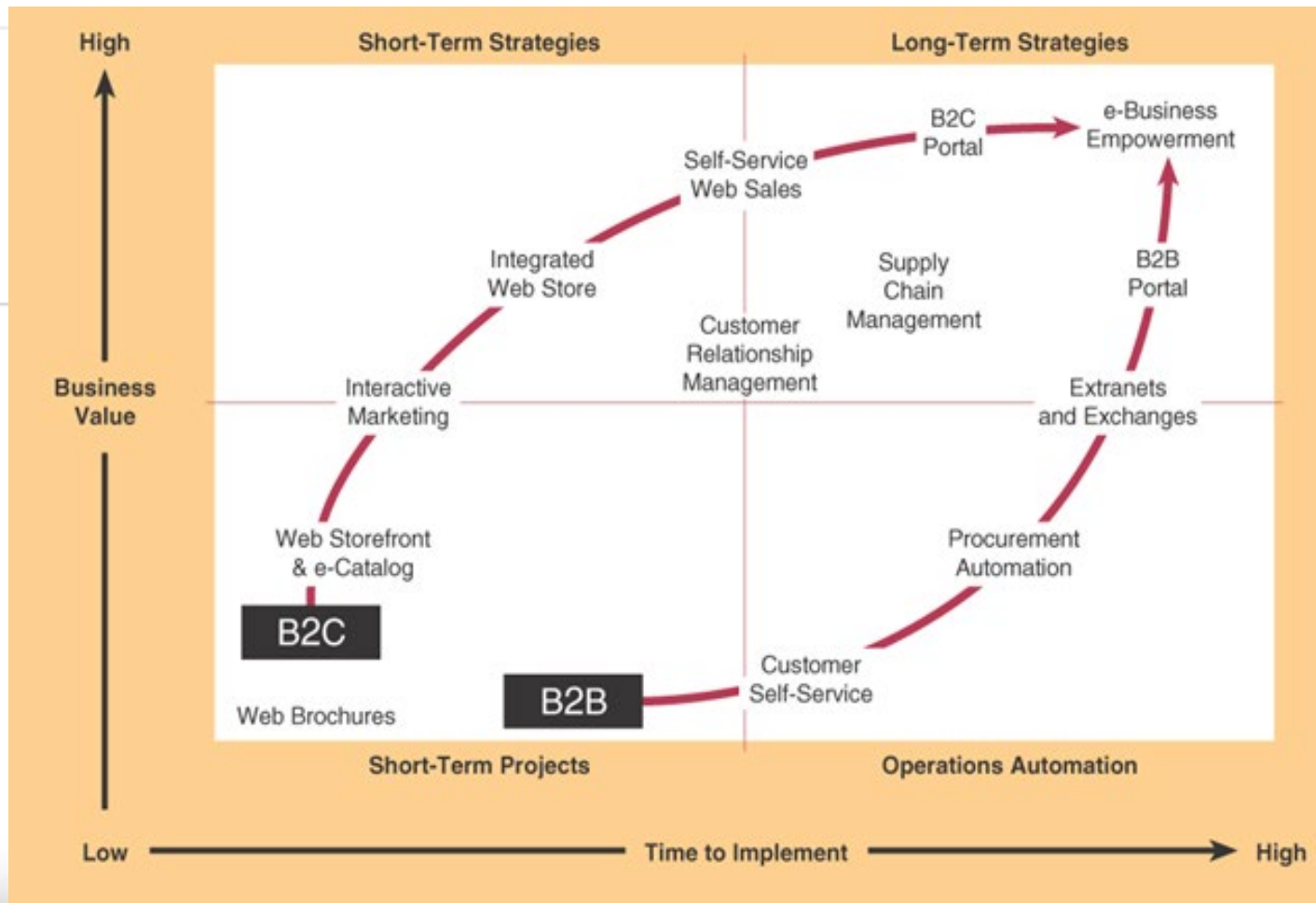
Source: Adapted from Jonathan Rosenoer, Douglas Armstrong, and J. Russell Gates, *The Clickable Corporation: Successful Strategies for Capturing the Internet Advantage* (New York: The Free Press, 1999), p. 24.
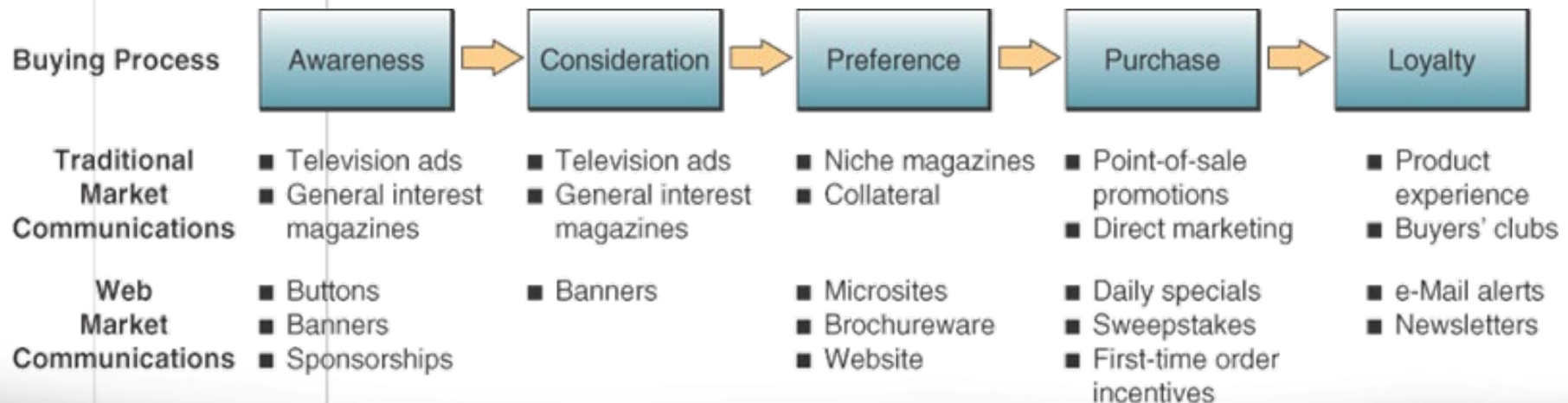
e-Commerce Success Factors

- **Selection and Value**
  - Attractive product selections, competitive prices, satisfaction guarantees, and customer support after the sale

- **Performance and Service**
  - Fast, easy navigation, shopping, and purchasing, and prompt shipping and delivery

- **Look and Feel**
  - Attractive web storefront, website shipping areas, multimedia product catalog pages, and shopping features

e-Commerce Success Factors

- Advertising and Incentives
  - Targeted web page advertising and e-mail promotions, discounts and special offers, including advertising at affiliate sites

Buying Process	Awareness	Consideration	Preference	Purchase	Loyalty
Traditional Market Communications	■ Television ads ■ General interest magazines	■ Television ads ■ General interest magazines	■ Niche magazines ■ Collateral	■ Point-of-sale promotions ■ Direct marketing	■ Product experience ■ Buyers' clubs
Web Market Communications	■ Buttons ■ Banners ■ Sponsorships	■ Banners	■ Microsites ■ Brochureware ■ Website	■ Daily specials ■ Sweepstakes ■ First-time order incentives	■ e-Mail alerts ■ Newsletters

e-Commerce Success Factors

- **Personal Attention**
  - Personal web pages, personalized product recommendations, Web advertising and e-mail notices, and interactive support for all customers

- **Community Relationships**
  - Virtual communities of customers, suppliers, company representatives, and others via newsgroups, chat rooms, and links to related sites

- **Security and Reliability**
  - Security of customer information and website transactions, trustworthy product information, and reliable order fulfillment

Web Store Requirements

Developing a Web Store		
Build Website design tools Site design templates Custom design services Website hosting	**Market** Web page advertising E-mail promotions Web advertising exchanges with affiliate sites Search engine registrations	
Serving Your Customers		
Serve Personalized Web pages Dynamic multimedia catalog Catalog search engine Integrated shopping cart	**Transact** Flexible order process Credit card processing Shipping and tax calculations E-mail order notifications	**Support** Website online help Customer service e-mail Discussion groups and chat rooms Links to related sites
Managing a Web Store		
Manage Website usage statistics Sales and inventory reports Customer account management Links to accounting system	**Operate** 24x7 website hosting Online tech support Scalable network capacity Redundant servers and power	**Protect** User password protection Encrypted order processing Encrypted website administration Network firewalls and security monitors

Developing a Web Store

- Build website
  - Use simple website design tools
  - Predesigned templates
  - Build your own website or use outside contractor
- Market website to attract visitors and transform them into loyal customers

Serving Customers

- Serve customers by creating user profiles, personal Web pages and promotions that help develop a one-to-one relationship

- Transact with customers by providing an attractive, friendly, and efficient Web store

- Support customers with
  - Self-help menus, tutorials, FAQs
  - E-mail correspondence with customer service representatives

Managing a Web Store

- Manage both the business and the website
  - Record and analyze traffic, inventory and sales
  - Link to accounting system
- Operate twenty-four hours a day, seven days a week
- Protect transactions and customer records, use firewalls, and repel hacker attacks

e-Commerce Marketplaces

- **One to Many** – sell-side marketplaces host one major supplier who dictates product catalog offerings and prices

- **Many to One** – buy-side marketplaces attract many suppliers that flock to these exchanges to bid on the business of a major buyer

- **Some to Many** – distribution marketplaces unite major suppliers who combine their product catalogs to attract a larger audience of buyers

e-Commerce Marketplaces

- **Many to Some** – procurement marketplaces unite major buyers who combine their purchasing catalogs to attract more suppliers and thus more competition and lower prices

- **Many to Many** – auction marketplaces used by many buyers and sellers that can create a variety of buyers' or sellers' auctions to dynamically optimize prices

e-Commerce Portals

- B2B e-commerce portal can provide several types of marketplaces in one site

- Often developed and hosted by third-party market-maker companies who serve as infomediaries that bring buyers and sellers together in catalog, exchange, and auction markets.

B2B e-Commerce Web Portal
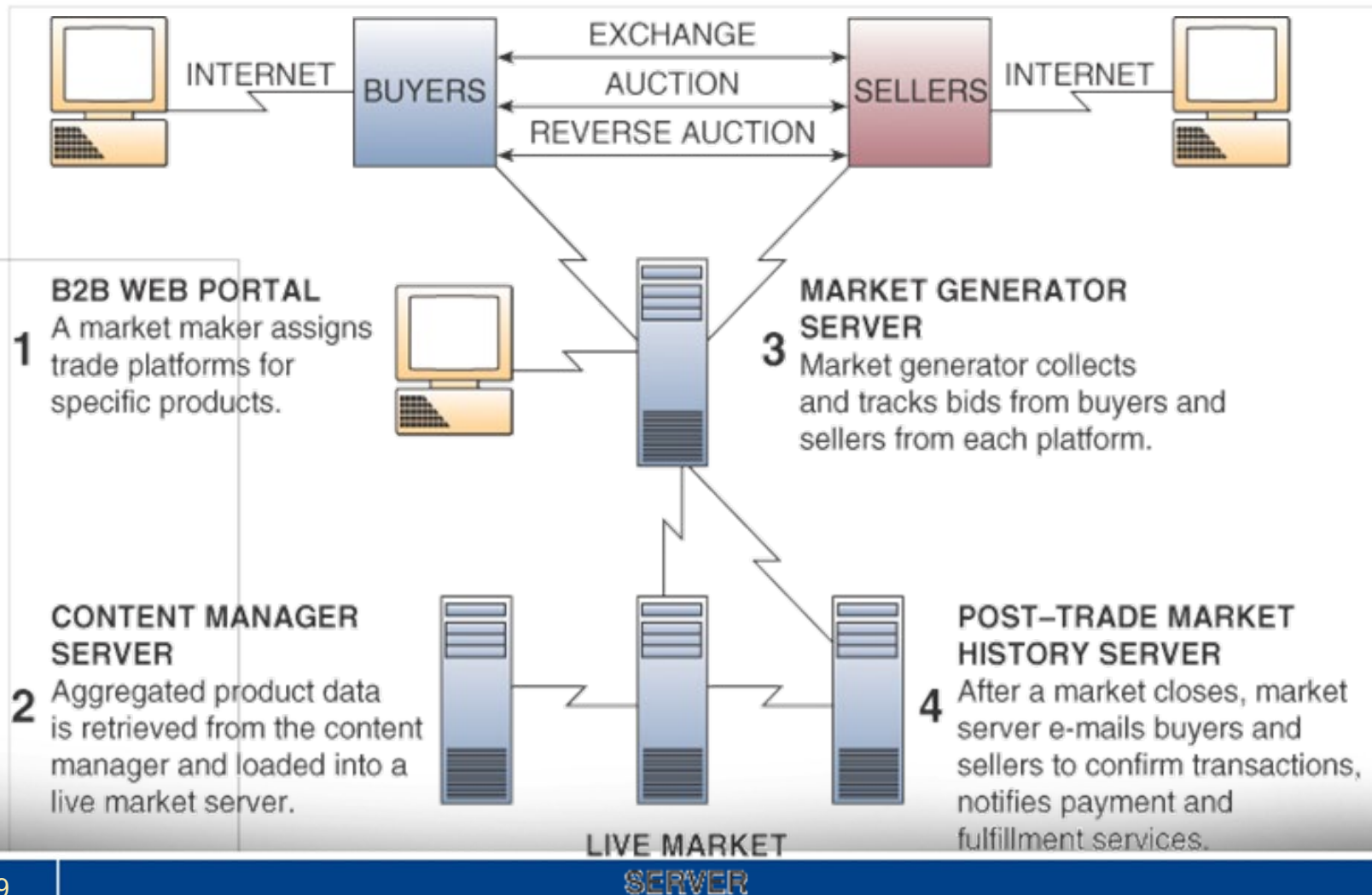
Clicks and Bricks

- Should we integrate our e-commerce business operations with our traditional physical business operations

- Or should we keep them separate?

e-Commerce Channel

- The marketing or sales channel created by a company to conduct and manage its chosen e-commerce activities

- Issue is whether the e-commerce channel should be integrated with traditional sales channel.

Checklist for Channel Development

- What audiences are attempting to reach?
- What action do we want these audiences to take?
  - Learn about us, give us information, make an inquiry, to buy something from website, or buy through another channel?
- Who owns the e-commerce channel within the organization?
- Is the e-commerce channel planned alongside other channels?

Checklist for Channel Development

- Do we have a process for generating, approving, releasing, and withdrawing content?

- Will our brands translate to the new channel or will they require modification?

- How will we market the channel itself?

Case 3: The WWW is Anything but Business as Usual

- Microsoft.com attracts 8 million visitors a day and handles 40 to 50,000 requests per second

  – Customers are now part of Microsoft's communities

- Federated is using what they've learned in e-commerce for internal use

- Dell has launched a major redesign of their site so that it will work in many countries

Case Study Questions

1. What are the primary driver behind the Web upgrade activities of Microsoft and Dell?

2. What is the business value of Microsoft's Web-based live feedback program?

3. What lessons on developing successful e-commerce projects can be gained from the information in this case?

Real World Internet Activity

1. The concept of building a community on the Internet is still in its infancy. Using the Internet,

   – See if you can find other companies that are doing the same things that Microsoft, Federated, and Dell are doing to build customer communities as outlined in the case.

Real World Group Activity

- Advertisers have learned that running banner ads on websites is profitable despite the fact that most web surfers claim they do not like to see them. In small groups,

  – Brainstorm ways in which advertisers can take advantage of the Internet by providing advertising an Internet surfer might want to see. In other words, how can Internet advertising be more targeted and relevant?