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# Electronic Business Management

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# Electronic Business Management

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# *Chapter 01: Introduction to E-Business and E-Commerce*

## 1. Introduction

Organizations have now been applying technologies based on **the Internet**, **World Wide Web** and **wireless communications** to transform their businesses for over 3 decades since the creation of the first web site (http://info.cern.ch) by Sir Tim Berners-Lee in 1991. Deploying these technologies has offered many opportunities for innovative e-businesses to be created based on new approaches to business.

E-business and E-commerce is an exciting area to be involved with, since many new opportunities and challenges arise yearly, monthly and even daily. Innovation is a given, with the continuous introduction of new technologies, new business models and new communications approaches.

During the same period managers at established businesses have had to determine how to apply new electronic communications technologies to transform their organisations. As we will see later in this chapter, existing businesses have evolved their approaches to e-business through a series of stages. Innovation in e-business is relentless, with the continuous introduction of new technologies, new business models and new communications approaches. So all organizations have to review new electronic and Internet-based communications approaches for their potential to make their business more competitive and also manage ongoing risks such as security and performance.

An organization's capability to manage technology-enabled change is the essence of successfully managing e-business. The pace of change and the opportunities for new communications approaches make e-business and e-commerce an exciting area of business to be involved in.

In this course, we will explore approaches managers can use to assess the relevance of different e-business opportunities and then devise and implement strategies to exploit these opportunities. We will also study how to manage more practical risks such as delivering a satisfactory service quality, maintaining customer privacy and managing security.

In this chapter we start by introducing the scope of e-business and e-commerce. Then we review the main opportunities and risks of e-business together with the drivers and barriers to adoption of e-business services. Finally, we will look at some of the organizational challenges of managing e-

business. (Chaffey, 2009)

## 2. E-Business and E-Commerce definitions and concepts

### 2.1. Defining e-business

Electronic business (e-business) can be defined as the use of the internet to network and empower business processes, electronic commerce, organizational communication and collaboration within a company and with its customers, suppliers, and other stakeholders. E-businesses utilise the internet, intranets, extranets and other networks to support their commercial processes. (Combe, 2014)

### 2.2. Defining e-Commerce

Electronic commerce (e-commerce) is the buying and selling, marketing and servicing of products and services via computer networks. Since e-business includes the process of transacting with suppliers and customers there is an overlap in activities with e-commerce. (Combe, 2014)

Although the terms ‘e-business’ and ‘e-commerce’ are often used synonymously, the distinction between them lies in the broader range of processes in e-business that incorporates internal transactions within an organisation. These include transactions relating to procurement, logistics, supply chain management, payments, stock control and order tracking. E-commerce can best be conceived as a subset of e-business. Where the two concepts overlap is in the buying and selling of products and services.

Buy-side e-commerce refers to electronic transactions between a purchasing organisation and its suppliers and sell-side e-commerce refers to electronic transactions between a supplier organization and its customers. (Combe, 2014)

### 2.3. Buy-side and sell-side e-commerce

**Buy-side e-commerce** refers to transactions to procure resources needed by an organization from its suppliers.

**Sell-side e-commerce** refers to transactions involved with selling products to an organization’s customers. So e-commerce transactions between organizations can be considered from two perspectives: sell-side from the perspective of the selling organization and buy-side from the perspective of the buying organization. (Chaffey, 2009)

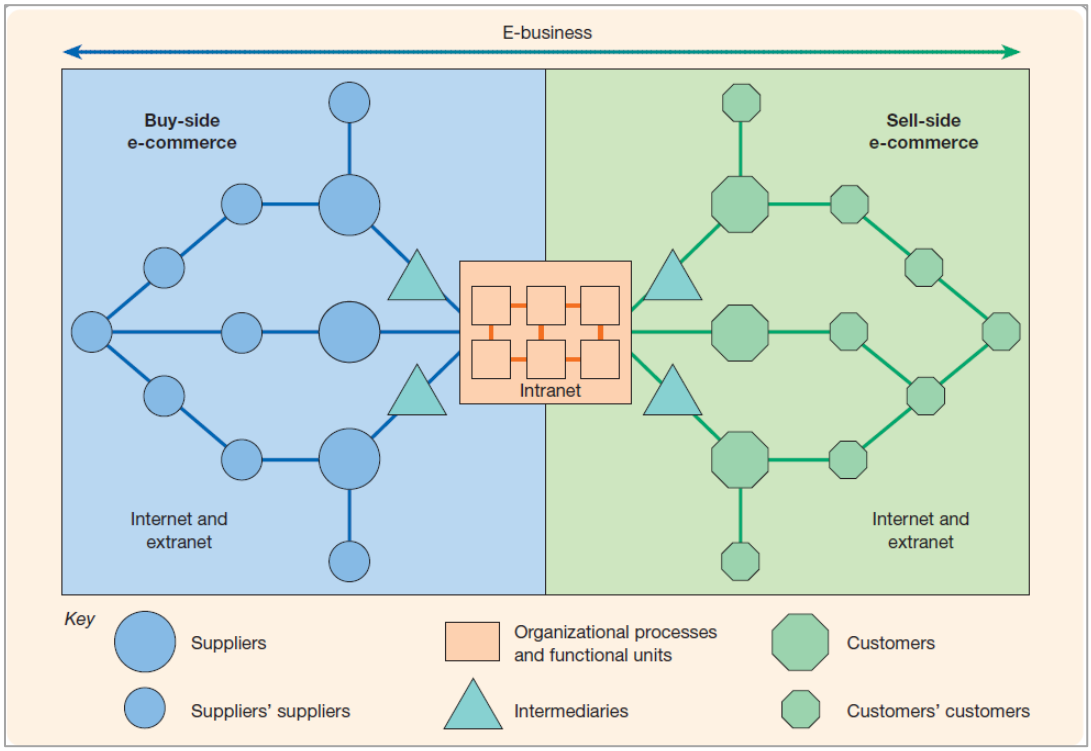


**Figure 1.1 The distinction between buy-side and sell-side e-commerce**

Referring to Figure 1.1, the key business processes are the organizational processes or units in the center of the figure. They include research and development, marketing, manufacturing and inbound and outbound logistics. The buy-side e-commerce transactions with suppliers and the sell-side e-commerce transactions with customers can also be considered to be key business processes.

Figure 1.2 presents some alternative viewpoints of the relationship between e-business and e-commerce. In Figure 1.2(a) there is a relatively small overlap between e-commerce and e-business. From Figure 1.1 we can reject Figure 1.2(a) since the overlap between buy-side and sell-side e-commerce is significant. Figure 1.2(b) seems to be more realistic, and indeed many commentators seem to consider e-business and e-commerce to be synonymous.

It can be argued, however, that Figure 1.2(c) is most realistic since e-commerce does not refer to many of the transactions within a business, such as processing a purchasing order, that are part of e-business.

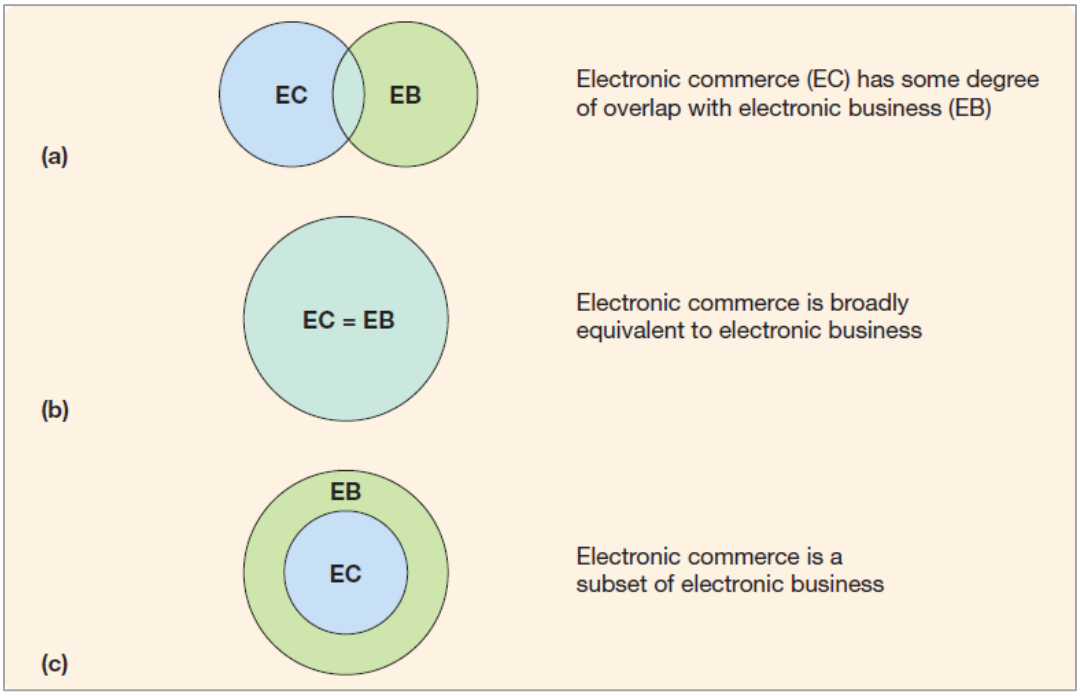


**Figure 1.2 Three definitions of the relationship between e-commerce and e-business**

So e-commerce can best be conceived of as a subset of e-business and this is the perspective we will use in this course. Since the interpretation in Figure 1.2(b) is equally valid, what is important within any given company is that managers involved with the implementation of e-commerce or e-business are agreed on the scope of what they are trying to achieve. (Chaffey, 2009)

## 2.4. Mobile e-Commerce

Mobile e-commerce, or m-commerce, is a subset of electronic commerce. While it refers to online activities that are similar to those mentioned above in the e-commerce section, the underlying technology is different because mobile commerce is limited to mobile telecommunication networks, which are accessed through wireless hand-held devices such as mobile phones, smartphones, hand-held computers, and tablets. For example, eBay customers can download and retain an eBay "app" (application) to their mobile device and then use it whenever they want to search and purchase products. The app stores their login details and payment preferences, which streamlines the purchasing process. (Jelassi, 2020)

## 2.5. Social Commerce

Social commerce generally refers to the use of the social web to deliver e-commerce activities and transactions, particularly the use of user-generated content and content sharing. From a business

perspective, the socialization of e-commerce can strengthen business relationships with customers, increase website traffic, identify potential opportunities, and facilitate product and brand development. (Jelassi, 2020)

In comparison to e-commerce, social commerce enables users to interact with others and create value jointly. The integration and utilization of information and content are implemented through multiple actors instead of a two-way collaboration between a customer and business on online platforms. Many leading e-commerce sites recognize the importance of social commerce and include social commerce features in their e-commerce sites. For example, Alibaba, one of the biggest e-commerce companies, provides online discussion areas and facilitates online communities for user interaction.

These social commerce features facilitate the exchange and integration of information and knowledge and promote selling and buying delivered through e-commerce platforms. Buyers can use the information and knowledge gleaned through social commerce features to assist in their shopping journeys and purchase decisions. (Jelassi, 2020)

## 3. Benefits of e-Business Adoption

Before making a decision to initiate e-business activities, businesses should evaluate the benefits of e-business and also consider their capability, resourcing, demand, and alignment with organization goals. The next section introduces some general potential benefits that e-business may create. (Jelassi, 2020)

1. **Worldwide connection**. The Internet and other information technologies can connect worldwide information, content, knowledge, and people to a business. E-business provides an approach to access information or contact other people worldwide, often at an extremely low cost.

2. **Organization communication and process**. e-Business communication software allows internal staff to communicate with others and to work with staff in other businesses online. For example, Skype and software for meetings allow “virtual teams” of staff to meet colleagues and discuss projects.

3. **Core business (product/service)**. e-Business creates the potential for companies to expand market share through online channels and overcome the physical barriers of face-to-face contact. For example, they may respond to customers anywhere instantly. E-business has also created cross-

border competition, for example, domestic retailers can sell goods to customers worldwide through international e-commerce platforms.

4. **Environment**. To some degree, e-businesses can be more transparent than traditional businesses, because anyone can access to an e-business platform that publicly available. A company's marketing-mix can be gleaned through their online profile. Hence, e-business enables companies to be more sensitive to changes within their business environment.

5. **Value creation through differentiation or low cost**. e-Business typically has a lower entry cost in comparison to traditional business. According to neoclassic economics, low entry costs could facilitate the formation of prefect competition since barriers to entry are largely reduced, transaction costs lowered, information asymmetry is reduced, market-dominant pricing is possible, and all with less legislation and regulation than businesses with physical storefronts. e-Business may also help businesses in financial distress. For example, prior to its acquisition by Amazon, sales at Whole Foods' grocery stores were declining. Amazon promoted Whole Foods to its online Prime subscribers and added online ordering of Whole Foods groceries via Prime, and sales rebounded. As e-business matures, more objects can be put online and more customer needs can be fulfilled via e-business platforms. There are endless opportunities to create new value and capture more value for companies knowing how to design suitable e-business strategies. (Jelassi, 2020)

## 3.1. Benefits from e-commerce and e-business

When reviewing potential benefits, it is useful to identify both tangible benefits (for which monetary savings or revenues can be identified) and intangible benefits (for which it is more difficult to calculate cost savings). The types of potential benefits are summarized in Table 1.3. (Chaffey, 2009)

### Tangible benefits

- Increased sales from new sales leads giving rise to increased revenue from:
    - new customers, new markets
    - existing customers (repeat-selling)
    - existing customers (cross-selling).
- Marketing cost reductions from:
    - reduced time in customer service

    - online sales
    - reduced printing and distribution costs of marketing communications.
- Supply-chain cost reductions from:
    - reduced levels of inventory
    - increased competition from suppliers
    - shorter cycle time in ordering.
- Administrative cost reductions from more efficient routine business processes such as recruitment, invoice payment and holiday authorization.

### Intangible benefits

- Corporate image communication
- Enhancement of brand
- More rapid, more responsive marketing communications including PR
- Faster product development lifecycle enabling faster response to market needs
- Improved customer service
- Learning for the future
- Meeting customer expectations to have a web site
- Identifying new partners, supporting existing partners better
- Better management of marketing information and customer information
- Feedback from customers on products

## 4. Limitation of e-Business and e-Commerce Adoption

There are limitations to e-commerce. These again will be dealt with according to the three major stakeholders – organizations, consumers and society. (BCA, 2011)

### 4.1. Limitations of e-commerce to organizations

*Lack of sufficient system security, reliability, standards and communication protocols*. There are numerous reports of websites and databases being hacked into, and security holes in software. For example, Microsoft has over the years issued many security notices and patches for their software. Several banking and other business websites, including Barclays Bank, Powergen and even the Consumers Association in the UK, have experienced breaches in security where a technical oversight or a fault in its systems led to confidential client information becoming available to all.

*Rapidly evolving and changing technology*, so there is always a feeling of trying to catch up and not be left behind. Under pressure to innovate and develop business models to exploit the new opportunities which sometimes leads to strategies detrimental to the organization. The ease with which business models can be copied and emulated over the Internet increases that pressure and curtails longerterm competitive advantage.

*Facing increased competition* from both national and international competitors often leads to price wars and subsequent unsustainable losses for the organization.

*Problems with compatibility of older and newer technology*. There are problems where older business systems cannot communicate with web based and Internet infrastructures, leading to some organizations running almost two independent systems where data cannot be shared. This often leads to having to invest in new systems or an infrastructure, which bridges the different systems. In both cases this is both financially costly as well as disruptive to the efficient running of organizations. (BCA, 2011)

## 4.2. Limitations of e-commerce to consumers

*Computing equipment* is needed for individuals to participate in the new digital economy, which means an initial capital cost to customers. A basic technical knowledge is required of both computing equipment and navigation of the Internet and the World Wide Web.

*Cost of access to the Internet*, whether dial-up or broadband tariffs. Cost of computing equipment. Not just the initial cost of buying equipment but making sure that the technology is updated regularly to be compatible with the changing requirement of the Internet, websites and applications.

*Lack of security and privacy* of personal data. There is no real control of data that is collected over the Web or Internet. Data protection laws are not universal and so websites hosted in different countries may or may not have laws which protect privacy of personal data.

*Physical contact and relationships are replaced by electronic processes*. Customers are unable to touch and feel goods being sold on-line or gauge voices and reactions of human beings.

*A lack of trust* because they are interacting with faceless computers. (BCA, 2011)

## 4.3. Limitations of e-commerce to society

*Breakdown in human interaction*. As people become more used to interacting electronically there

could be an erosion of personal and social skills which might eventually be detrimental to the world we live in where people are more comfortable interacting with a screen than face to face.

*Social division*. There is a potential danger that there will be an increase in the social divide between technical haves and have-nots – so people who do not have technical skills become unable to secure better-paid jobs and could form an underclass with potentially dangerous implications for social stability. Reliance on telecommunications infrastructure, power and IT skills, which in developing countries nullifies the benefits when power, advanced telecommunications infrastructures and IT skills are unavailable or scarce or underdeveloped.

*Wasted resources*. As new technology dates quickly how you do dispose of all the old computers, keyboards, monitors, speakers and other hardware or software?

*Facilitates Just-In-Time manufacturing*. This could potentially cripple an economy in times of crisis as stocks are kept to a minimum and delivery patterns are based on pre-set levels of stock which last for days rather than weeks.

*Difficulty in policing the Internet*. This means that numerous crimes can be perpetrated and often go undetected. There is also an unpleasant rise in the availability and access of obscene material and ease with which pedophiles and others can entrap children by masquerading in chat rooms. (BCA, 2011)

## 5. Drivers of E-Business and E-Commerce

It is important to identify the key drivers of e-commerce to allow a comparison between different countries. It is often claimed that e-commerce is more advanced in the USA than in Europe. These key drivers can be measured by a number of criteria that can highlight the stages of advancement of e-commerce in each of the respective countries. The criteria that can determine the level of advancement of e-commerce can be given as: (BCA, 2011)

1. **Technological factors** – The degree of advancement of the telecommunications infrastructure which provides access to the new technology for business and consumers

2. **Political factors** – including the role of government in creating government legislation, initiatives and funding to support the use and development of e-commerce and information technology

3. **Social factors** – incorporating the level and advancement in IT education and training which will enable both potential buyers and the workforce to understand and use the new technology

4. **Economic factors** – including the general wealth and commercial health of the nation and the elements that contribute to it These are mainly at the level of the firm and are influenced by the macroenvironment and e-commerce, which include:

- Organizational culture – attitudes to research and development (R&D); its willingness to innovate and use technology to achieve objectives.
- Commercial benefits – in terms of cost savings and improved efficiency that impact on the financial performance of the firm.
- Skilled and committed workforce – that understands, is willing and able to implement new technologies and processes.
- Requirements of customers and suppliers – in terms of product and service demand and supply.
- Competition – ensuring the organization stays ahead of or at least keeps up with competitors and industry leaders. (BCA, 2011)

As managers, we need to assess the impact of e-commerce and e-business on our marketplace and organizations. What are the drivers of changed consumer and business behaviour? How should we respond? How much do we need to invest? What are our priorities and how quickly do we need to act? Answering these questions is an essential part of formulating an e-business and e-marketing strategy. (Chaffey, 2009)

Business adoption of e-commerce and e-business is driven by benefits to different parts of their organization. First and foremost, they are concerned how the benefits of e-business will impact on profitability or generating value to an organization. The two main ways in which this can be achieved are:

- Potential for increased revenue arising from increased reach to a larger customer base and encouraging loyalty and repeat purchases among existing customers.
- Cost reduction achieved through delivering services electronically. Reductions include staff costs, transport costs and costs of materials such as paper.

There are two main categories of drivers: (Chaffey, 2009)

### Cost/efficiency drivers

1) Increasing speed with which supplies can be obtained
2) Increasing speed with which goods can be dispatched
3) Reduced sales and purchasing costs
4) Reduced operating costs.

### Competitiveness drivers

1) Customer demand
2) Improving the range and quality of services offered
3) Avoiding losing market share to businesses already using e-commerce.

## 6. Major Trends in E-Commerce

The mobile platform based on smartphones and tablet computers has finally arrived with a bang, making true mobile e-commerce a reality. Social networks are enabling social e-commerce by providing search, advertising, and payment services to vendors and customers. More and more people and businesses are using the Internet and mobile devices to conduct commerce; smaller, local firms are taking advantage of the Internet and mobile platform as e-commerce technologies become less and less expensive. New e-commerce brands have emerged while traditional retail brands such as Tesco and Carrefour are further extending their omnichannel strategies and retaining their dominant retail positions by strengthening their e-commerce operations. At the societal level, other trends are apparent. The Internet and mobile platform provide an environment that allows millions of people to create and share content, establish new social bonds, and strengthen existing ones through social network, photo- and video-posting, and blogging sites and apps, while at the same time creating significant privacy issues.

The major digital copyright owners have increased their pursuit of online file-sharing services with mixed success, while reaching broad agreements with the big technology players like Apple, Amazon, and Google to protect intellectual property rights. Taxation of online sales continues to pose challenges for governments. Sovereign nations have expanded their surveillance of, and control over, online communications and content as a part of their anti-terrorist activities and their traditional interest in snooping on citizens. Privacy seems to have lost some of its meaning in an age when millions create public online personal profiles. (Laudon, 2017)

## 6.1. Business

- Retail e-commerce continues to grow worldwide, with a global growth rate of almost 25%, and even higher in emerging markets such as China, India, and Brazil.
- Mobile retail e-commerce explodes and now accounts for over 30% of total retail e-commerce.
- The mobile app ecosystem continues to grow, with around 2 billion people using mobile apps worldwide.
- Social e-commerce, based on social networks and supported by advertising, emerges and grows by 25%.
- Local e-commerce, the third dimension of the mobile, social, local e-commerce wave, also is growing, fueled by an explosion of interest in on-demand services such as Uber.
- On-demand service firms like Uber and Airbnb attract billions in capital, garner multi-billion dollar valuations, and show explosive growth.
- Mobile and social advertising platforms show strong growth and begin to challenge search engine marketing.
- Small businesses and entrepreneurs continue to flood into the e-commerce marketplace, often riding on the infrastructures created by industry giants such as Apple, Facebook, Amazon, Google, and eBay.
- • B2B e-commerce worldwide continues to strengthen and grow. (Laudon, 2017)

## 6.2. Technology

- A mobile computing and communications platform based on smartphones, tablet computers, and mobile apps becomes a reality, rivaling the PC platform and creating an alternative platform for online transactions, marketing, advertising, and media viewing. Mobile messaging services like WhatsApp and Snapchat are used by 40% of smartphone users.
- Cloud computing completes the transformation of the mobile platform by storing consumer content and software on Internet servers and making it available to any consumer-connected device from the desktop to a smartphone.
- Computing and networking component prices continue to fall dramatically.
- As firms track the trillions of online interactions that occur each day, a flood of data, typically referred to as Big Data, is being produced.

- In order to make sense out of Big Data, firms turn to sophisticated software called business analytics (or Web analytics) that can identify purchase patterns as well as consumer interests and intentions in milliseconds. (Laudon, 2017)

### 6.3. Society

- User-generated content, published online as social network posts, tweets, blogs, and pins, as well as video and photo-sharing, continues to grow and provides a method of self-publishing that engages millions.
- Social networks encourage self-revelation, while threatening privacy.
- Participation by adults in social networks increases; Facebook becomes ever more popular in all demographic categories.
- Conflicts over copyright management and control continue, but there is substantial agreement among online distributors and copyright owners that they need one another.
- Taxation of online sales poses challenges for governments.
- Surveillance of online communications by both repressive regimes and Western democracies grows.
- Concerns over commercial and governmental privacy invasion increase.
- Online security continues to decline as major sites are hacked and lose control over customer information.
- Spam remains a significant problem.
- On-demand service e-commerce produces a flood of temporary, poorly paid jobs without benefits. (Laudon, 2017)

*  *  *

## Review

**True/False Questions**

1. Buy-side e-commerce refers to electronic transactions between a purchasing organisation and its suppliers

   ☒ True

   ☐ Fulse

2. E-Business can best be conceived of as a subset of e-commerce

   ☐ True

   ☒ Fulse

3. "Faster product development lifecycle enabling faster response to market need" is a considered as a tangible benefit of e-business.

   ☐ True

   ☒ Fulse

**Multiple Choices Questions**

1. ---------- is the the use of the internet to network and empower business processes, electronic commerce, organizational communication and collaboration within a company and with its customers, suppliers, and other stakeholders
   a. Social commerce
   b. Mobile commerce
   c. E-commerce
   *d. E-business*
2. ---------- refers to the use of the social web to deliver e-commerce activities and transactions
   *a. Social commerce*
   b. Mobile commerce
   c. E-commerce
   d. E-business
3. What choice is not considered as a limitation of e-commerce to organization?
   a. Lack of sufficient system security, reliability, standards and communication

protocols

b. Rapidly evolving and changing technology
c. Facing increased competition
d. *A lack of trust*

**Essay Questions**

1. Define e-commerce and explain the relationship between the concepts of e-commerce and e-business.
2. Summarize the major benefits of e-business adoption.
3. Describe three of the main barriers to adoption of e-commerce by consumers and suggest how a company could counter these.
4. What are the main differences between business-to-business and business-toconsumer e-commerce?

*  *  *

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*  *  *

# *Chapter 02: Electronic Commerce – Part I*

Internet has created a new world beyond the real world—a "virtual network world". E-commerce brought about by Internet is one of the most significant scientific accomplishments. In business, the prosperous e-commerce technology gives rise to a revolution in the circulation system. It breaks the boundary of time and space, alters the trade pattern, improves the circulation of merchandize, capital and information, and makes enterprises have an edge over others as well by reducing the cost of production effectively.

In short, e-commerce has enabled the traditional business to achieve greater, faster, better and more economical results. The influence of the e-commerce will go beyond the business activity. It will make a profound impact on each aspect of human society, such as production and employment, government function, working talent, law systems and education etc. It permeates into every profile: industries, logistics, finance, media, governments, enterprises, research organizations and even traditional agricultures. With the development of the e-commerce, it will influence and impact to a larger extent every aspect of our society with each passing day.

A new economic revolution on the basis of digitalization and Internet has set in. We can say without exaggeration that the electronic commerce is the most significant industrial revolution since Industrial Revolution, with deeper influence on mankind than the former two industrial revolutions, because it not only can raise greatly productivity, efficiency of economic operations, lower the economy operation cost, and make many originally impossible things possible, but also influence people's life styles and every social aspect and therefore change their world outlook and methodology. (Qin, 2009)

## 1. Electronic Commerce: Definition and Concepts

### 1.1. Defining Electronic Commerce

**Electronic commerce (EC)** refers to using the Internet and other networks (e.g., intranets) to purchase, sell, transport, or trade data, goods, or services. (Turban, 2018)

## 1.2. Major EC Concepts

### Pure Versus Partial EC

EC can be either pure or partial depending on the nature of its three major activities: ordering and payments, order fulfillment, and delivery to customers. Each activity can be done physically or digitally. Thus, there are eight possible combinations as shown in Table 2.1. If all activities are digital, we have pure EC; if none are digital, we have no EC; otherwise, we have partial EC. (Turban, 2018)

**Table 2.1 – Classification of e-commerce**

| Activity | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Ordering, payment | P | D | D | D | D | P | P | P |
| Order fulfillment | P | D | D | P | P | D | P | D |
| Delivery (shipment) | P | D | P | P | D | D | D | D |
| Type of EC | Non-EC | Pure EC | Partial EC | | | | | |

Legend: *P* physical, *D* digital

### EC Organizations

Purely physical organizations (companies) are referred to as brick-and-mortar (or old economy) organizations, whereas companies that are engaged only in EC are considered virtual (pure-play) organizations. Click-and-mortar (click-and-brick) organizations are those that conduct some EC activities, usually as an additional marketing channel. Gradually, many brick-and-mortar companies are changing to click-and-mortar ones. (Turban, 2018)

### Cyberspace

Cyberspace is the nonphysical environment where EC is conducted by using computers and networks. The most important mechanisms are the Web, electronic market places, social networks, and communication tools. (Turban, 2018)

## 1.3. Electronic Markets and Networks

EC can be conducted in an **electronic market (e-marketplace)**, an online location where buyers and sellers conduct commercial transactions such as selling goods, services, or information. Any individual can also open a private market selling products or services online. Electronic markets can also match individuals to others or to jobs. They usually are owned by independent owners.

Electronic markets are connected to sellers and buyers via the **Internet** or to its counterpart within organizations, an intranet. An **intranet** is a corporate or government internal network that uses Internet tools, such as Web browsers and Internet protocols. Another computer environment is an **extranet**, a network that uses Internet technology to link intranets of several organizations in a secure manner. (Turban, 2018)

## 2. E-commerce versus Traditional Commerce

E-commerce is an extension of traditional commerce, which is concerned with the activities of business, industry and trade including the exchange of goods, services, information and money. It has the same essential ingredients of ordinary commerce. The major difference between e-commerce and commerce is that with e-commerce, these exchanges of goods and services are carried out over the web instead t of the traditional physical act of going to a trader for goods and services. Now that a large number of people have access to the internet and it is a good platform for the development of e-commerce.

Successful E-commerce strategies allow organizations distinct advantages in terms of both cost and revenues- the fundamentals of all business. This is because cost can be cut immensely as retail outlets are not required. Most of the cost associated with traditional high capital business is eliminated and or transformed into profit in the Internet environment. (Susheela, 2015)

Table 2.2 show the maijor difference between e-commerce and traditional commerce.

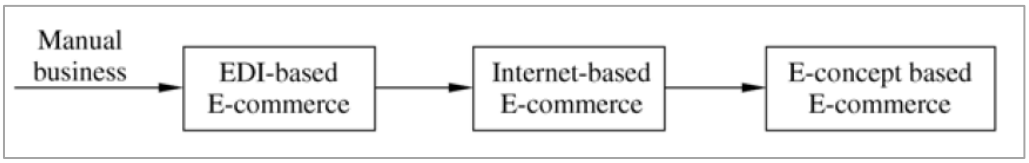
**Table 2.2. Difference between e-commerce and traditional commerce**

| | E-Commerce | Traditional Commerce |
|---|---|---|
| Reduce Data Error | Doesn't involve data at multi points.<br>Data goes directly from one computer to another Computer without involving human being | The buyer and seller create purchase order on their system and send it to their trading partner. The receiver/seller then re-enter the same information on the computer, which will create data error |
| Reduce cost | Initial cost of E-commerce is very high as compared to paper process but over a long period of time, it is very effective. | Time is directly linked to saving the money. There is repetition of same work at every level and it involves a lot of wastage of time and if the error is arisen that will lead to more |

| | | |
|---|---|---|
| | | wastage of money. |
| Reduce Paper work | E-commerce data in the electronic form make it easy to share it across the organization. | It requires re-entry of data at each level and requires lot of time. So the peak time is wasted in reentering and printing of the reports |
| Reduce Processing cycle time | E-commerce reduces the processing cycle time of complete cycles as the data is entered the system, it is simultaneously Processed. | When the buyer order in a paper format, the data is re-entered in to the Sellers's computer and then only processing can take place which is a time consuming process. |
| Reduce labor | No need to maintain large number of employees, instead there arises the need to manage them more efficiently. | Need to maintain a large number of employees because one-third of labor force is employed to fulfill orders from customers. |

## 3. Origin and development of e-commerce

E-commerce is the necessity of international business, vice verse, international business boosts e-commerce. The development of computer science and communications sciences has laid a solid foundation for e-commerce. The development of information security makes e-commerce proceed in a secure way; the laws concerning this field also provide legal guarantees for e-commerce. The origin and development of e-commerce is illustrated in Figure 2.1. It has been through three phases. (Qin, 2009)




(Qin, 2009)

**Figure 2.1 The development of e-commerce**

### 3.1. Phase One: E-commerce based on EDI (Electronic Data Interchange)

EDI (Electronic Data Interchange): The EDI originated in the 60s of the 20th century. The large-scaled business enterprise carried out the EDI basically in the 80s. EDI is a kind of teleportation method to transmit business documents from one computer to another. Because EDI reduces the paper note greatly, people vividly call it as "trade without paper" or "bargain without paper". From the perspective of technology, the EDI includes both hardware (mainly the network) and software (mainly software and standard of EDI). For the sake of safety, most EDI were not transmitted by

network until the 90s of 20c, but by VAN (the value-Added Network) of exclusive use.

What EDI needs is a standard software to translate information in the customer databases into the EDI-standard so as to deliver. Because the business enterprise of different professions adopt different format on the basis of their own business characteristics, therefore when transmitting documents, they must be translated into the EDI standard format. (Qin, 2009)

## 3.2. Phase Two: E-commerce based on Internet

EDI enjoys advantages and tremendous strength in decreasing enormously the intensity, mistakes and cost to make and handle documents on the one hand, and in improving efficiency to a large extent on the other hand. Therefore, it speeds up the development of international business. However, the high cost of VAN and EDI communication system hinder the expansion of e-commerce based on EDI. Moreover, EDI is only suitable for large-scaled transnational corporation rather than medium and small-sized ones, for it does not take information share into account. Since both the increasing large-scaled transnational corporations and many a medium and small-sized enterprise thirst for information sharing, the establishment of a new electronic information exchange system of low cost is on the agenda to realize the information sharing.

In the middle and late 90s of the 20th Century, owing to the prompt popularity of Internet, from universities to enterprises, and then even to common people's families, Internet functions from the information sharing to a popular mass media.

After 1991, business that has always been outside of Internet came into the realm and made e-commerce a big hit in Internet, which gives impetus to the rapid development of Internet.

Many enterprises made a big success by online direct marketing such as Dell Company, distinguished for direct online selling, online book store Amazon, Yahoo Internet search engine, Baidu Internet search engine, and Ebay.

The reason why e-commerce based on Internet is so attractive to enterprises is that e-commerce enjoys several evident advantages over e-commerce based on EDI:

1. **Low in cost**. The expense of Internet is low, no more than 1/10 of VAN in general.
2. **Wide in overlaying**. Internet spreads all over the world, by which trade partners can conveniently send commercial information and documents with common telephone wires.
3. **Complete in function**. Internet can help different users to carry out their targets of different

levels, such as issuing electronic commercial information negotiating on line and setting up virtual department stores and online banks etc.

4. **Flexible in use**. E-commerce based on Internet is not confined to agreement of special data exchange. Any commercial document can be formed by filing the screen documents that are identical with the current paper documents. Such documents can be understood and used directly by anyone without any translation.

Internet meets the demands of medium and small-sized enterprises to exchange electronic data by overcoming the shortage of EDI. Internet, lower in cost, wider in coverage and better in service, will certainly replace VAN as the hardware carrier of EDI. Electronic information exchange system with the characteristics of being both lower in cost and able to share information makes itself popular among all enterprises. EDI based on Internet enjoys the advantages of both EDI and Internet, therefore, EDI realized by means of Internet is directly called as "Internet EDI".

In e-commerce based on Internet, at first, people mainly make daily "business correspondences" by e-mails, and then release information by Internet. Since 1995, enterprises have gradually turned to Internet to release information.

Therefore, the public can directly access to the enterprise information, goods and services by Internet, which leads to the exploration of information issuing system represented by the technology of Web and becomes the principal application of Internet. (Qin, 2009)

## 3.3. Phase Three: E-concept e-commerce

Since early 2000, people's understanding has developed from e-commerce to higher e-concept e-commerce, and it is realized that e-commerce is in fact the combination of information technology and commerce applications. Apart from business, electronic information technology can be applied in many other fields, such as medical treatment, education, hygiene, military, administration and so on, to form e-concept in the fields. For instance:

- electronic education—remote education, the combination of electronic information technology and education;
- electronic treatment—remote treatment, the combination of technology and treatment;
- electronic administration, the combination of technology and administration;
- electronic command, the combination of technology and command;
- online banks, the combination of technology and finance;

- virtual enterprises, the combination of technology and business organizations and so forth.

Various patterns of e-commerce such as E-B, E-C, E-G etc., have come into being by applying e-conept. With the development of electronic information technology and the increasing need of the society, more and more e-concepts will emerge and the genuine e-times will advene. (Qin, 2009)

## 4. E-Commerce Framework

The EC field is diverse, involving many activities, organizational units, and technologies. Therefore, a framework that describes its contents can be useful. Figure 2.2 introduces one such framework. (Turban, 2018)

As shown in the figure, there are many EC applications (top of figure). To perform these applications, companies need the right information, infrastructure, and support services. EC applications are supported by infrastructure and by the following five support areas (shown as pillars in the figure):

The infrastructure for EC is shown at the bottom of the figure. Infrastructure describes the hardware, software, and networks used in EC. All of these components require good management practices. This means that companies need to plan, organize, motivate, devise strategy, and restructure processes, as needed, to optimize the business use of EC models and strategies.

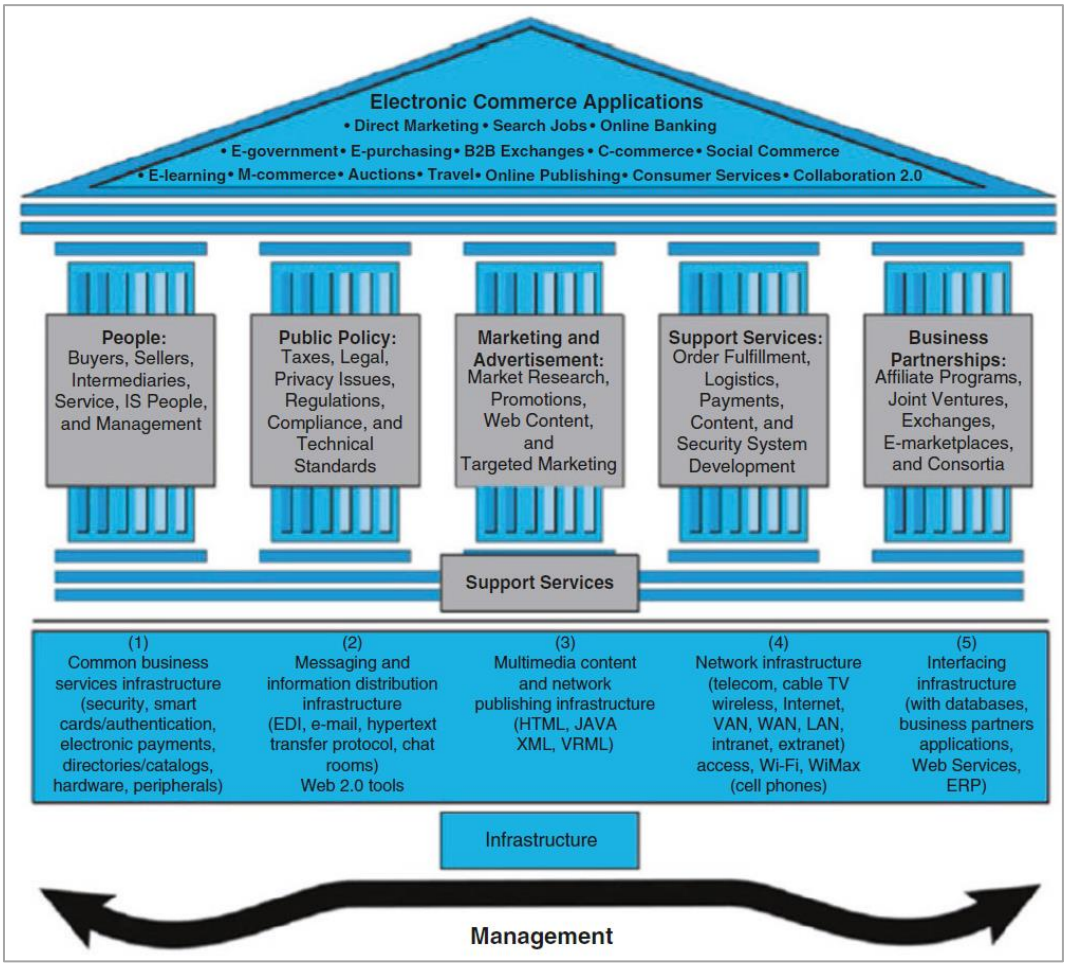



**Figure 2.2 A framework for electronic commerce**

## 4.1. Types of E-Commerce

A common classification of EC is by the type of the transactions and the transacting members. The major types of EC transactions are listed below. (Turban, 2017)

These categories are illustrated in Figure 2.3. (Turban, 2017)

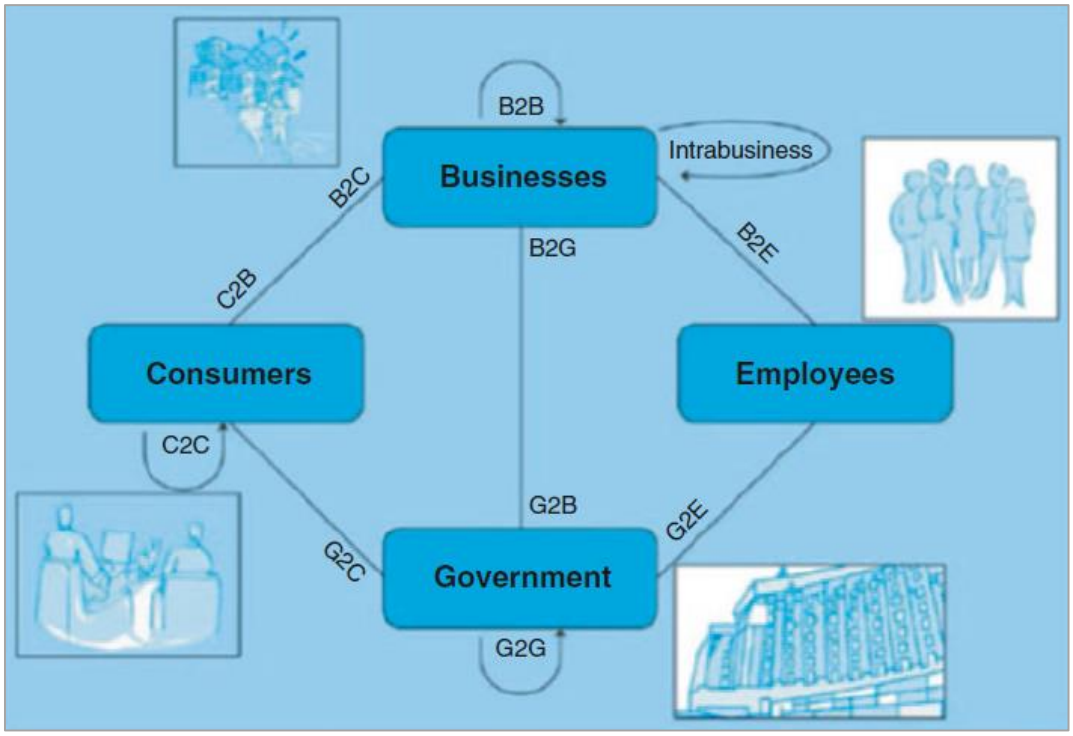



**Figure 2.3 Categories of transactions in e-commerce**

## Business-to-Business (B2B)

Business-to-business (B2B) EC refers to transactions between and among organizations. Today, about 85% of EC volume is B2B. For Dell, the entire wholesale transaction is B2B. Dell buys most of its parts through e-commerce and sells its products to businesses (B2B) and individuals (B2C) using e-commerce. (Turban, 2017)

## Business-to-Consumer (B2C)

Business-to-consumer (B2C) EC includes retail transactions of products or services from businesses to individual shoppers. The typical shopper at Amazon.com is this type. Since the sellers are usually retailers, we also call this e-tailing. (Turban, 2017)

## Consumer-to-Business (C2B)

In consumer-to-business (C2B), people use the Internet to sell products or services to organizations. Alternatively, individuals use C2B to request bids on products or services. Priceline.com is a well-known organizer of C2B travel service transactions, where people place a request for offers at a price they are willing to pay for a specific trip. (Turban, 2017)

### Intrabusiness EC

The intrabusiness EC category refers to EC transactions among various organizational departments and individuals in one company. (Turban, 2017)

### Business-to-Employees (B2E)

The business-to-employees (B2E) category refers to the delivery of services, information, or products from organizations to their employees. A major category of employees is mobile employees, such as field representatives or repair employees that go on to customers. EC support to such employees is also called business-to-mobile employees (B2ME). (Turban, 2017)

### Consumer-to-Consumer (C2C)

In the consumer-to-consumer (C2C) EC category, individual consumers sell to or buy from other consumers. Examples of C2C include individuals selling computers, musical instruments, or personal services online. eBay sales and auctions are mostly C2C as are the ads on Craigslist. (Turban, 2017)

### Collaborative Commerce

Collaborative commerce (c-commerce) refers to online activities and communications done by parties working to attain the same goal. For example, business partners may design a new product together. (Turban, 2017)

### e-Government

In e-government EC, a government agency buys or provides goods, services, or information from or to businesses (G2B) or from or to individual citizens (G2C). Governments can deal also with other governments (G2G). (Turban, 2017)

### Social Commerce

The explosion of social media and networks, as well as Web 2.0 tools (e.g., wikis, blogs), resulted in new ways of conducting e-commerce by making it social. Several new and modified EC models were created, rejuvenating the field. (Turban, 2017)

## 5. E-Commerce Features

Figure 2.4 illustrates eight unique features of e-commerce technology that both challenge

traditional business thinking and explain why we have so much interest in e-commerce. These unique dimensions of e-commerce technologies suggest many new possibilities for marketing and selling—a powerful set of interactive, personalized, and rich messages are available for delivery to segmented, targeted audiences. (Laudon, 2017)

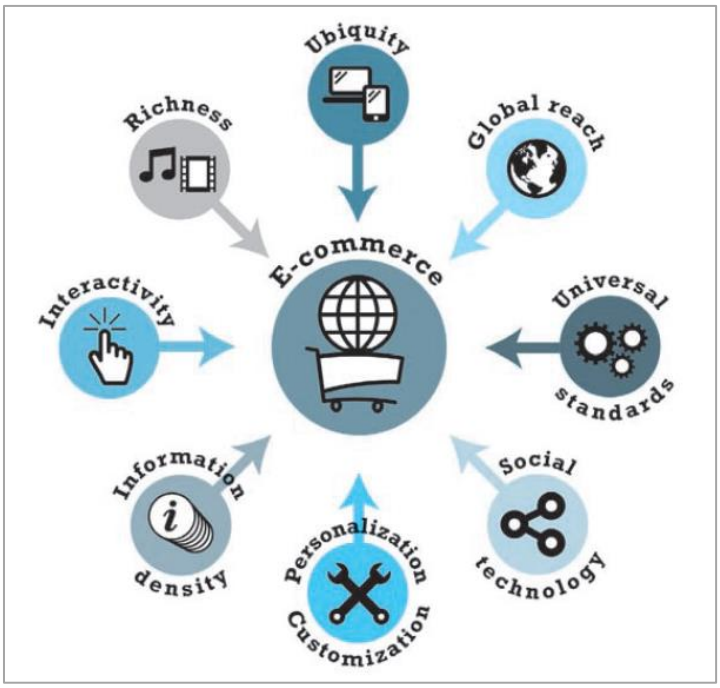



**Figure 2.4 Features of e-commerce**

## 5.1. Ubiquity

In traditional commerce, a **marketplace** is a physical place you visit in order to transact. E-commerce, in contrast, is characterized by its **ubiquity**: it is available just about everywhere, at all times. It liberates the market from being restricted to a physical space and makes it possible to shop from your desktop, at home, at work, or even from your car, using mobile e-commerce.

The result is called a **marketspace**—a marketplace extended beyond traditional boundaries and removed from a temporal and geographic location. From a consumer point of view, ubiquity reduces *transaction costs*—the costs of participating in a market. To transact, it is no longer necessary that you spend time and money traveling to a market. (Laudon, 2017)

## 5.2. Global Reach

Most traditional commerce is local or regional—it involves local merchants or national merchants with local outlets. E-commerce technology permits commercial transactions to cross cultural, regional, and national boundaries far more conveniently and cost-effectively than is true in

traditional commerce. As a result, the potential market size for e-commerce merchants is roughly equal to the size of the world's online population.

More realistically, the Internet makes it much easier for start-up e-commerce merchants within a single country to achieve a national audience than was ever possible in the past.

The total number of users or customers an e-commerce business can obtain is a measure of its **reach**. (Laudon, 2017)

## 5.3. Universal Standards

One strikingly unusual feature of e-commerce technologies is that the technical standards of the Internet, and therefore the technical standards for conducting e-commerce, are **universal standards**—they are shared by all nations around the world. In contrast, most traditional commerce technologies differ from one nation to the next. The universal technical standards of e-commerce greatly lower *market entry costs*—the cost merchants must pay just to bring their goods to market. At the same time, for consumers, universal standards reduce *search costs*—the effort required to find suitable products. And by creating a single, one-world marketspace, where prices and product descriptions can be inexpensively displayed for all to see, *price discovery* becomes simpler, faster, and more accurate. Because everyone uses the same technology, it is possible to easily find many of the suppliers, prices, and delivery terms of a specific product anywhere in the world, and to view them in a coherent, comparative environment. (Laudon, 2017)

## 5.4. Richness

Information **richness** refers to the complexity and content of a message. Traditional markets, national sales forces, and small retail stores have great richness: they are able to provide personal, face-to-face service using aural and visual cues when making a sale. The richness of traditional markets makes them a powerful selling or commercial environment. Prior to the development of the Web, there was a trade-off between richness and reach: the larger the audience reached, the less rich the message. E-commerce technologies have the potential for offering considerably more information richness than traditional media such as printing presses, radio, and television because they are interactive and can adjust the message to individual users. Chatting with an online sales person, for instance, comes very close to the customer experience in a small retail shop. The richness enabled by e-commerce technologies allows retail and service merchants to market and sell "complex" goods and services that heretofore required a face-to-face presentation by a sales

force to a much larger audience. (Laudon, 2017)

## 5.5. Interactivity

Unlike any of the commercial technologies of the twentieth century, with the possible exception of the telephone, e-commerce technologies allow for **interactivity**, meaning they enable two-way communication between merchant and consumer and among consumers. Traditional television, for instance, cannot ask viewers questions or enter into conversations with them, or request that customer information be entered into a form. In contrast, all of these activities are possible on an e-commerce site and are now commonplace with smartphones and social networks. Interactivity allows an online merchant to engage a consumer in ways similar to a face-to-face experience. (Laudon, 2017)

## 5.6. Information Density

E-commerce technologies vastly increase **information density**—the total amount and quality of information available to all market participants, consumers, and merchants alike. E-commerce technologies reduce information collection, storage, processing, and communication costs. At the same time, these technologies greatly increase the currency, accuracy, and timeliness of information—making information more useful and important than ever. As a result, information becomes more plentiful, less expensive, and of higher quality. A number of business consequences result from the growth in information density. In e-commerce markets, prices and costs become more transparent. *Price transparency* refers to the ease with which consumers can find out the variety of prices in a market; *cost transparency* refers to the ability of consumers to discover the actual costs merchants pay for products.

But there are advantages for merchants as well. Online merchants can discover much more about consumers; this allows merchants to segment the market into groups willing to pay different prices and permits them to engage in *price discrimination*—selling the same goods to different targeted groups at different prices. (Laudon, 2017)

## 5.7. Personalization/Customization

E-commerce technologies permit **personalization**: merchants can target their marketing messages to specific individuals by adjusting the message to a person's name, interests, and past purchases. Today this is achieved in a few milliseconds and followed by an advertisement based on the

consumer's profile. The technology also permits **customization**—changing the delivered product or service based on a user's preferences or prior behavior. Given the interactive nature of e-commerce technology, much information about the consumer can be gathered in the marketplace at the moment of purchase. With the increase in information density, a great deal of information about the consumer's past purchases and behavior can be stored and used by online merchants. Personalization and customization allow firms to precisely identify market segments and adjust their messages accordingly. (Laudon, 2017)

### 5.8. Social Technology: User-Generated Content and Social Networks

In a way quite different from all previous technologies, e-commerce technologies have evolved to be much more social by allowing users to create and share content with a worldwide community. Using these forms of communication, users are able to create new social networks and strengthen existing ones. All previous mass media in modern history, including the printing press, used a broadcast model (one-to-many) where content is created in a central location by experts (professional writers, editors, directors, actors, and producers) and audiences are concentrated in huge aggregates to consume a standardized product. The telephone would appear to be an exception but it is not a mass communication technology. Instead the telephone is a one-to-one technology. E-commerce technologies have the potential to invert this standard media model by giving users the power to create and distribute content on a large scale, and permit users to program their own content consumption. E-commerce technologies provide a unique, many-to-many model of mass communication. (Laudon, 2017)

## 6. EC Failures and Success

### 6.1. EC Failures

Starting in 1999, a large number of EC companies, especially e-tailing and B2B exchanges, began to fail. A survey regarding failures of dot-coms in 1998–2005 found that 62% of dot-coms lacked financial skills and 50% had little experience with marketing. Similarly, many companies failed to have satisfactory order fulfillment and enough inventory to meet the fluctuating and increasing demand for their products. The situation today is about the same in many small and medium companies. As of 2008, many start-ups related to Web 2.0 and social commerce started to collapse.

Does the large number of failures mean that EC's days are numbered? Absolutely not! First, the

dot-com failure rate is declining sharply. Second, the EC field is basically experiencing consolidation as companies test different business models and organizational structures. Third, some pure EC companies, including giants such as Amazon.com and Netflix, are expanding operations and generating increased sales. Finally, the click-and-mortar model seems to work very well, especially in e-tailing (e.g., Gap, Walmart, Target, Apple, and HP). (Turban, 2017)

## 6.2. EC Successes

The last few years have seen the rise of extremely successful EC companies such as eBay, Google+, Facebook, Amazon.com, Pay Pal, Pinterest, LinkedIn, and E*TRADE. Click-and-mortar companies such as Cisco, Walmart, General Electric, IBM, and Intel also have seen great success. Additional success stories include start-ups such as Uber, Airbnb, TripAdvisor, and Grubhub. (Turban, 2017)

*  *  *

## Review

**True/False Questions**

1. An intranet is a corporate or government internal network that uses Internet tools, such as Web browsers and Internet protocols.

   ☒ True

   ☐ Fulse

2. B2C refers to transactions between and among organizations.

   ☐ True

   ☒ Fulse

3. Information density is the total amount and quality of information available to all market participants, consumers, and merchants alike

   ☒ True

   ☐ Fulse

**Multiple Choices Questions**

1. What choice is not correct concerning e-commerce
   a. Doesn't involve data at multi points
   b. Initial cost is very high
   *c. Need to maintain a large number of employees*
   d. Reduces the processing cycle time of complete cycles
2. What e-commerce model is used when people use the Internet to sell products or services to organizations?
   a. B2B
   b. B2C
   *c. C2B*
   d. C2C
3. What e-commerce feature refers to the complexity and content of a message
   *a. Richness*
   b. Universal standarsa
   c. Interactivity

d. Information density

**Essay Questions**

1. Define e-commerce and list the main concepts related to e-commerce.
2. Summarize and briefly describe the main c-commerce features.
3. Compare between e-commerce and traditional commerce.
4. Discuss the three phases of e-commerce development.

* * *

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# *Chapter 03: Electronic Commerce – Part II*

## 1 Benefits an Drivers of E-commerce

There are many benefits of EC, and they continue to increase with time. We elected to organize them in three categories: EC provides benefits to organizations, individual customers, and society. (Turban, 2018)

### 1.1. Benefits to organizations

- Global reach. Quickly locating customers and business partners at reasonable cost worldwide.
- Cost reduction. Lower cost of information processing, storage, and distribution.
- Facilitate problem-solving. Solve complex problems that have remained unsolved.
- Supply chain improvements. Reduce delays, inventories, and cost.
- Business always open. Open 24/7/365; no overtime or other costs.
- Customization/personalization. Make order for customer preference.
- Ability to innovate, use new business models. Facilitate innovation and enable unique business models.
- Lower communication costs. The Internet is cheaper then VAN private lines.
- Efficient procurement. Saves time and reduces costs by enabling e-procurement.
- Improved customer service and relationship. Direct interaction with customers, better CRM.
- Help SME to compete. EC may help small companies to compete against large ones by using special business models.
- Lower inventories. Using customization inventories can be minimized.
- Lower cost of distributing digitizable product. Delivery online can be 90% cheaper; save paperworks.
- Provide competitive advantage. Lower prices, better service, improve brand image. (Turban, 2018)

### 1.2. Benefits to consumers

- Availability. Huge selection to choose from (vendor, products, information styles).
- Ubiquity. Can shop any time from any place.

- Self-configuration. Can self-customize products.
- Find bargains. Use comparison engine; pay less.
- Real-time delivery. Download digital products quickly.
- No sales tax. Sometimes; changing.
- Enable telecommuting. Can work or study at home or any place.
- Social interaction and engagement. In social networks, get reviews, recommendations.
- Find unique items. Using online auctions, collectible items can be found.
- Comfortable shopping. Shop at your leisure without pushy sales clerks bothering you; open 24/7. (Turban, 2018)

## 1.3. Benefits to society

- Enable telecommuting. Facilitate work at home; less traffic, pollution.
- More and better public services. Provided by e-government (e.g., e-health).
- Improved homeland security. Facilitate domestic security.
- Increased standard of living. Can buy more and cheaper goods/services, get better education.
- Close the digital divide. Allow people in rural areas and developing countries to use more services and purchase what they really like.
- Home shipping. Less travel, air pollution. (Turban, 2018)

## 1.4. Drivers of e-Commerce

EC is driven by many factors depending on the industry, company, and application involved. The major drivers are:

- Benefits to consumers,
- Benefits to organizations and vendors,
- Benefits to society,
- Innovative business models,
- Competition and business environment,
- Emerging of social business and economy,
- Technological developments,
- Capabilities of EC,
- Help by governments,
- Expansion of service industries and global reach. (Turban, 2017)

## 2. Commerce Limitations

Electronic commerce is also characterized by some technological and inherent limitations which have restricted the number of people using this revolutionary system. One important disadvantage of e-commerce is that the Internet has still not touched the lives of a great number of people, either due to lack of knowledge or trust. A large number of people do not use the Internet for any kind of financial transaction.

Another limitation of e-commerce is that it is not suitable for perishable commodities like food items. People prefer to ship in the conventional way than to use e-commerce for purchasing food products. So e-commerce is not suitable for such business sectors. The time period required for delivering physical products can also be quite significant in case of e-commerce. A lot of phone calls and e-mails may be required till you get your desired products. However returning a product and getting a refund can be more troublesome and time consuming than purchasing, in case if you are not satisfied with a particular product. (Susheela, 2015)

Some of the other limitations are:

- Credit card security is a serious issue if vulnerable
- Costs involved with bandwidth and other computer and server costs
- Extensive database and technical knowledge and experience required
- Customer apprehension about online Credit Card orders
- Constantly changing technology may leave slow business behind
- Some customers need instant gratification, and shipment times interrupt that
- Search utilities far surpasses the speed used to find products through catalogs
- Encourages competition between small and large online retailers

There was much publicity of Internet and E-Commerce over the last few years. But this type of commerce is not free from defects. These again will be dealt with according to the three major stakeholders - organisations, consumer and society. (Susheela, 2015)

### 2.1. Limitations of E-Commerce to Organisations

#### Security

One of the important limitations of e-commerce is the lack of sufficient system security, reliability, standards and communication protocols. There are numerous reports of websites and databases

being backed into, and security loop holes in software. For example, Microsoft has over the years issued many security notices for their software. Several banking and other business websites have experienced breaches in security where a technical oversight or a fault in its systems led to confidential client information becoming available to all.

### Pressure for innovation

Under pressure to innovate and develop business models to exploit the new opportunities may sometime leads to strategies harmful to the organisation. The ease with which business models can be copied and imitate over the Internet increase that pressure and restrict longer-term competitive advantage.

### Price wars

Facing increased competition from both national and international competitors often leads to price wars and subsequent occurrence of losses for the organisation.

### Problems with compatibility of older and new technology

There are problems where old business systems cannot communicate with web based and Internet infrastructures, leading to some organisations running almost two independent systems where data cannot be shared. This necessitates the form to invest in new systems which connect the different systems. In both cases this is both costly as well as difficult to the efficient running of organisations. (Susheela, 2015)

## 2.2. Limitations of E-Commerce to Consumers

### Financial commitment

Computing equipment is needed for individuals to participate in the new ‘digital’ economy, which means an initial capital cost to customers’.

### Computer literacy

A basic technical knowledge is required of both computing equipment and navigation of the Internet and the World Wide Web.

### Cost of internet

Cost of access to the Internet, whether dial-up or broadband tariffs, is another important limitation.

### Cost of computing equipment

Not only the initial cost of buying equipment but additional investment to update technology regularly to be compatible with the changing requirement of the Internet, websites and applications is also a major limitation.

### Lack of security and privacy of personal data

There is no real control of data that is collected over the Web or Internet. Data protection laws are not universal and so websites hosted in different countries may or may not have laws which protect privacy of personal data.

### No personal contact

Physical contact and relationships are replaced by electronic processes. Customers are unable to touch and feel goods being sold on-line or gauge voices and reactions of human beings. A lack of trust exists because they are interacting with faceless computers. (Susheela, 2015)

## 2.3. Limitations of E-Commerce to Society

### Breakdown in human interaction

As people become more used to interacting electronically there could be an erosion of personal and social skills which might eventually be harmful to the world we live in where people are more comfortable interacting with a screen than face to face.

### Social division

There is a potential danger that there will be an increase in the social divide between technical haves and have-nots - so people who do not have technical skills become unable to secure better-paid jobs and could form underclass with potentially dangerous implications for social stability.

### Wasted resources

As new technology outdates quickly, creates the problems to dispose of all the old computers, keyboards, monitors, speakers and other hardware or software.

### Facilitates Just-In-Time manufacturing

This could potentially damage an economy in time of crisis as stocks are kept to a minimum and delivery patterns are based on pre-set levels of stock which last for days rather than weeks.

### Difficulty in policing the Internet:

This means that numerous crimes can be committed and they often go undetected. This is also a rise in the availability and access of obscene material and ease with others can entrap children in chat rooms. (Susheela, 2015)

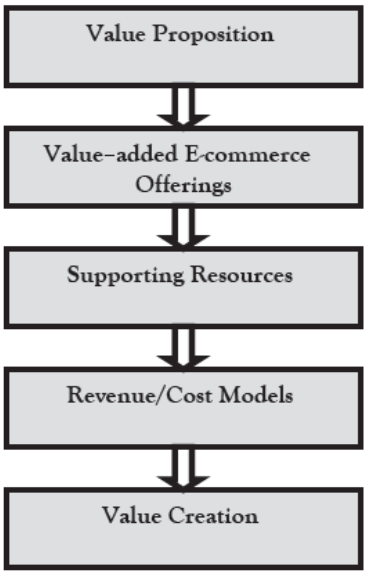
## 3. E-commerce Business Models

The term "business model" is commonly defined as a tool/method by which a company would like to generate revenue/profit and serve the customer needs. An e-commerce business model may be used to create and sustain a company's competitive advantage. (Radovilsky, 2015)

Figure 3.1 introduce a comprehensive set of components that may be employed to develop any e-commerce business model/application for any type (sector) of e-commerce, i.e., B2B, B2C, C2C, and others. They include:

- **Value proposition**: Who are the target customers and what are their benefits?
- **Value-added E-commerce Offerings**: What value-added offerings (value-added activities) including e-commerce products/services and e-commerce processes are involved in fulfilling the value proposition?
- **Supporting Resources**: What resources are required to support the value proposition, e-commerce products/services and processes?
- **Revenue and Cost Models**: How does the company generate revenue and reduce costs through its e-commerce model(s)?
- **Value Creation**: What monetary and non-monetary value (results) is created through the e-commerce business model?

These components are logically connected with each other in a sequence that defines their position in the set. (Radovilsky, 2015)




*(Radovilsky, 2015)*

**Figure 3.1 Components of E-Commerce Business Models**

## 3.1. Value Proposition

The ***value proposition*** represents the way an organization attains competitive advantage through e-commerce. It is also based upon unique values that the organization offers to its customers through e-commerce. The value proposition describes two main elements: (1) customers (target market segment) that will be using these e-commerce solutions; and (2) core customer benefits. (Radovilsky, 2015)

### Target Market Segment

The ***target market segment*** is a function of many variables:

- *Market size.* The bigger the market size, the more opportunities a company has to build an e-commerce model in this market.
- *Consumer demands that are not met* for convenience-oriented customers, low-, mid-, and high-end price customers, business customers in demand-side models, or even suppliers.
- *Insufficient level of competition* in a target market. If there is a market with insufficient sales (competition) of products/services for convenience-oriented or low- price customers, then it will be a very good target market segment for developing an e-commerce business model.

### Core customer benefits

***Core customer benefits*** are multiple benefits that the company may offer to its target segments through e-commerce. It is usually associated with the following benefits:

- Less expensive products and services; more deep discounts
- Ability to choose the best quality products and services
- Easy access to products, services, and information
- More choices of products, services, and information
- Customization and personalization
- Removal of intermediaries

## 3.2. Value-added E-commerce Offerings

***Value-added e-commerce offerings or activities*** represent a set of e-commerce products/services, processes and their relationships, which are required to fulfill the value proposition (market segments and core customer benefits) of an e-commerce model. The value-added offerings include three main elements: (1) product and service offerings, (2) e-commerce processes, and (3) relationships between products/services and processes. (Radovilsky, 2015)

### The product and service offerings

***The product and service offerings*** are based on a specific ***scope of offerings,*** which refers to a number of categories of products, services, and information that a company offers online. The scope of e-commerce offerings may be clustered into three groups:

- *Category-specific dominance* refers to companies that focus exclusively on one product category (like YouTube.com is specializing on upload streaming and downloading movies).
- *Cross-category dominance* represents an extension of product offerings from a single category to additional product categories (HP.com sells computers and related categories of electronic equipment).
- *Metamarkets* are e-commerce companies with cross-category dominance and many unrelated clusters of products (like Amazon.com sells books, CDs, toys, and other product categories that are not always related to each other).

### E-commerce process

An ***e-commerce process*** is a group of related online activities that uses information and other

resources to deliver value to customers, whether they are end consumers, business customers, or suppliers. An e-commerce processes may consist of customer processes, supplier, and internal organizational processes.

- The ***customer processes*** define e-commerce processes that the company may want to establish or modify to add value to its customers. Examples of such processes include:
    - Information search
    - Product offerings
    - Evaluation of alternatives
    - Purchase decision
    - Checkout process
    - Order tracking
    - Post-sales service and support
    - Need recognition (reminders, gifts, etc.).
- The ***supplier processes*** are associated with a set of processes that may be needed in certain e-commerce business models like (e-procurement, e-reverse auctions, etc.) to providing value by facilitating supplier selection, outsourcing from suppliers, and supplier support. Examples of such processes include:
    - Information search
    - Supplier selection
    - Outsourcing supplies
    - Supplier performance
    - Supplier relations
    - Supplier support
    - Checkout process
    - Order tracking
- The ***internal organizational processes*** provide technology, content development, update, online maintenance and support that affect the value offering to the customers. Examples of such processes include:
    - Technology update
    - Content development and update
    - Online maintenance and support

### Relationships between products/services and e-commerce process.

The customer process also demonstrates ***relationships between products/services and e-commerce process***. This process should effectively walk the customers through the entire purchase-decision cycle and encourage the customer to continually revisit the process.

## 3.3. Supporting Resources

The third component required in developing or improving an e-commerce business model is based on a ***set of resources that supports the e-commerce model's value proposition and online value-added offerings***. A company should always consider identifying resources that would add value to e-commerce development and differentiate the company from its competitors. These unique resources could be e-commerce technology, brand name, and quality of products and services. They can also represent distribution networks, supplier networks, personnel, integrated software, an ERP system, outsourcing, and other resources. The quality and appropriateness of e-commerce resources are based upon their ability to be unique in providing competitive advantage. (Radovilsky, 2015)

Strong links should exist between resources and the value proposition. In addition, strong complementary and supporting links should also exist among the resources in the system. The quality and appropriateness of resources can be assessed based upon the following criteria:

- Uniqueness of the resource system
- Strong links between resources and value proposition
- Strong links (complementation and support) among the resources in the system
- Providing sustainable advantage

## 3.4. Revenue and Cost Models

### Revenue Model

The ***revenue model*** describes how a company will generate revenue/profit through e-commerce to build and sustain a competitive advantage. A company developing or improving an e-commerce model needs to identify which revenue/profit model or combination of models is going to be employed in order to achieve a competitive advantage and fulfill the value proposition. (Radovilsky, 2015)

Examples of revenue models may include:

- **Product, Service, or Information Sales**: Sales through retail, wholesale sites or pay-per-use information
- **Transaction Fees**: Charging a fee or taking a percentage of the transaction sum for facilitating a customer-seller transaction
- **Subscription Fees**: Subscriber fees for magazines, newspapers or other information/service businesses
- **Advertising**: Charging fees for selling adds, sponsoring links and sponsoring sites
- **Affiliate Fees**: Companies receive commissions for referring customers to other sites
- **Licensing Fees**: Fees generated from the licensing of content (software applications)

### Cost Model

The ***cost model*** emphasizes ways that a company uses for reducing cost through an e-commerce business model. It is important to point out that for demand-side e-commerce (e-tailing, auctions, etc.), both revenue and cost models are relevant. However for supply-side e-commerce (e-procurement, reverse auctions, etc.), the revenue generation aspect may not be relevant because companies do not generate revenues through outsourcing. The benefit of the e-commerce system is derived from its cost reduction. In this case, the cost model becomes the only model for supply-side e-commerce. (Radovilsky, 2015)

Examples of revenue models may include:

- **Direct or Indirect Material/ Resource Cost**: Reduction of direct/indirect material costs through lower unit price, less inventory stock, on-time delivery, etc.
- **Cost Due to Paperless Environment**: Reduction or elimination of paper transactions
- **Administrative Expenses**: Reduction of human resources due to e-commerce solutions
- **Quality Cost**: Reduction or elimination of costs associated with incorrect design, rework, repair, excessive warranty payments, etc.

## 3.5. Value Creation

***Value creation*** represents the potential/expected monetary and nonmonetary results of utilizing an e-commerce business model, i.e., an output of the e-commerce model development. (Radovilsky, 2015)

The main ***monetary value creation*** includes:

- *Revenue enhancement* through volume growth and price differentiation

- *Cost reduction* related to cost of goods sold, operating costs, and asset intensity reduction through reducing the cost of working capital and/or fixed assets.

The ***non-monetary value creation*** may incorporate a variety of tangible and intangible results relevant to e-commerce development such as:

- Improved quality of products and services
- Faster delivery schedules
- Improved customer satisfaction
- Global outreach of products, services, and information
- Permanent access to information

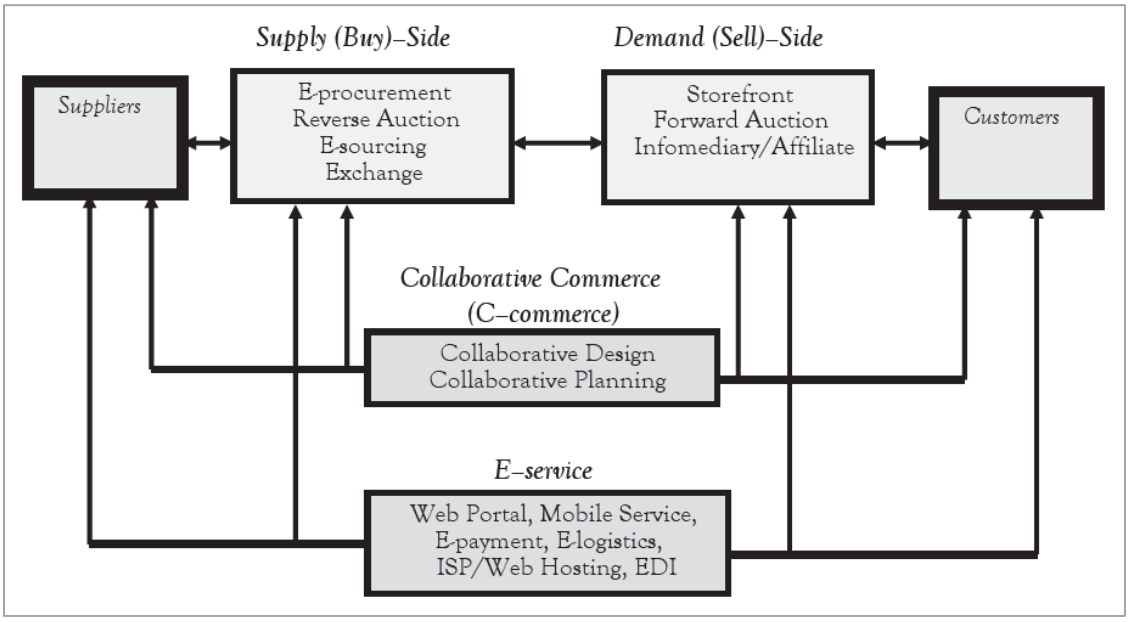
## 4. Classification of E-Commerce Models

The classification of e-commerce models can be based upon clustering them into four classification groups, depending on their association with customers and suppliers, and on their service/ support role in e-commerce (Figure 3.2). These four groups contain the following definition: (Radovilsky, 2015)

### 4.1. Demand (sell)-side models

***Demand (sell)-side models*** provide e-commerce solutions to the organization's customers. They include: (Radovilsky, 2015)

- **Storefront**: A seller opens an electronic marketplace to sell its products/services to the business customers or end consumers (Example: Dell.com)
- **Forward Auction**: A seller opens a seller-centric auction online to sell new, used, overstocked, obsolete products or hard to move commodities (Example: Auctions.yahoo.com)
- **Infomediary/Affiliate**: Selling aggregated information on products, services and research reports/ papers online. This model may also provide purchase opportunities from other affiliatedSites (Example: Google.com)




*(Radovilsky, 2015)*

**Figure 3.2 Classification of E-commerce Business Models**

## 4.2. Supply (buy)-side models

***Supply (buy)-side models*** that are concerned with online outsourcing and supplier relationships. They include: (Radovilsky, 2015)

- **Reverse Auction**: A buyer opens an electronic marketplace and invites potential suppliers to bid on the announced request for quotation (RFQ) (Example: Procure.com)
- **E-procurement with Catalog**: A buyer utilizes an electronic marketplace to do purchasing/outsourcing online (example: Oracle iProcurement)
- **E-sourcing**: Strategic sourcing online; locating and selecting appropriate suppliers, and negotiating contracts with them (example: Ariba.com)
- **Exchange**: A company creates an electronic marketplace where buyers and sellers can meet online to do business (Example: Insure.com)

## 4.3. Collaborative commerce

***Collaborative commerce (c-commerce)*** models that establish online collaboration between an organization and its customers, or an organization and its suppliers. They include: (Radovilsky, 2015)

- **Collaborative Design**: E-design/ Collaborative Product Commerce (CPC)-Provides online capabilities for design partners to sharing information, drawing, and other data on new

product design and development (Example: Dassault Systems for collaborative e-design and CPC).

- **Collaborative Planning**: Collaborative Planning, Forecasting, and Replenishment (CPFR)-Suppliers and retailers collaborate in their planning and demand forecasting to optimize flow of materials along the supply chain (Example: Logility.com for CPFR).

### 4.4. E-service models

***E-service models***–a variety of models that provide different kinds of online services to its customers to support and enhance the previous three groups of e-commerce models. They include: (Radovilsky, 2015)

- **Web Portal**: A web site that provides a starting point (gateway) to other resources on the Internet or an intranet (example: Yahoo.com)
- **Mobile Service/M-commerce**: Provides wireless service to conduct any type of e-commerce (B2B, B2C, etc.) through wireless Internet (Example: Wireless trading at Charles Schwab Financial).
- **E-payment**: Allows payments and money transactions using any e-commerce business model (Example: Verisign.com).
- **E-logistics**: Provides logistics/transportation capabilities for online businesses (Example: UPS.com).
- **ISP/ Web Hosting**: Internet Service Provider (ISP) provides companies with access to the Internet. They also enable web hosting–A service that provides Internet users with online systems for storing information, images, video, or any content accessible via the web (Example: Hostway.com).
- **EDI**: Electronic Data Interchange (EDI)–Third parties provide EDI services that enable organizations with different computer equipment and software to connect for business transactions, for example, orders and invoices (Example:EDI-Service.com)

## 5. Major E-Commerce Trends

As digital transformation has accelerated, the e-commerce landscape has become increasingly dynamic. New players have emerged at the same time that established actors have taken on new roles; some barriers to e-commerce at the firm, individual and country levels have been overcome, while new barriers have emerged; and new opportunities have emerged to unlock the potential of

e-commerce to potentially boost growth and consumer welfare. (OECD, 2019)

E-commerce developed primarily as a means to facilitate repeated transactions between large firms, and it relied on custom networks for the electronic exchange of data. With the expansion of open networks like the Internet, e-commerce is now spreading to smaller firms and it is increasingly used for transactions between firms and consumers. While transactions between firms still dominate the e-commerce landscape in absolute terms, the current speed of uptake is on average faster in sectors like accommodation or retail where consumers are a major player. Ubiquitous access to the Internet via mobile devices as well as new payment methods are supporting these dynamics.

The major tends of e-commerce in the near future include:

- B2B transactions dominate the e-commerce landscape, but B2C is on the rise.
- B2C sectors are not much behind in terms of e-commerce intensity, and tend to be more dynamic in terms of e-commerce uptake.
- Mobile e-commerce and alternative payment methods are increasing in importance.
- A rise in alternative payment methods is accompanying the rise in mobile e-commerce. (OECD, 2019)

## 5.1. E-commerce trends: A firm perspective

- Firms increasingly participate in e-commerce, with large variations across countries and by firm size.
- Large firms participate in e-commerce more than small firms, and the absolute gap is widening.
- Small e-commerce firms are significantly more likely than large firms to participate in web sales.
- The Internet has enabled B2C transactions in all sectors and provides business opportunities for SMEs in some classical B2B sectors. (OECD, 2019)

## 5.2. Factors that influence firms' participation in e-commerce

- Product suitability is a major e-commerce challenge, particularly for large firms and B2B sectors.
- Entry barriers appear to have fallen, but challenges related to high costs of delivery and returns persist.

- Cross-border disputes, language skills, tax rules and other regulations create additional cross-border e-commerce challenges.
- High delivery and return costs particularly affect SMEs, while product labelling and restrictions from business partners are more important for large firms. (OECD, 2019)

## 5.3. E-commerce trends: A consumer perspective

- Consumer participation is rising, but varies by age, gender, income and education.
- Older people are significantly less likely to participate in e-commerce and the gender gap persists in some countries.
- E-commerce participation varies substantially by levels of income and education.
- A range of factors contribute to the urban-rural e-commerce divide.
- What consumer are buying online is changing, with clothing, footwear and sporting goods in high demand.
- Consumption patterns are shifting towards new types of products, reflecting new business models and a larger consumer base.
- Convenience, price and availability explain why many individuals participate in e-commerce, but certain impediments persist.
- Preferences, habits and skills are important barriers to individuals' participation in e-commerce. (OECD, 2019)

## 5.4. Cross-border e-commerce trends

- B2C e-commerce is essential for SME exports and has spurred the rise of the Chinese market for e-commerce.
- Many European e-commerce firms export, but the share has been decreasing in some countries and large gaps remain between large firms and small firms.
- Sectoral differences drive exports from European e-commerce firms.
- EU consumers increasingly purchase online from abroad, but it has become more difficult to determine the origin of online goods and services.
- The products most frequently purchased across borders tend to be physical goods. (OECD, 2019)

* * *

## Review

**True/False Questions**

1. E-commerc enable telecommuting, facilitate work at home, and generate less traffic, pollution.

   ☒ True

   ☐ Fulse

2. A basic technical knowledge is not required of both computing equipment and navigation of the Internet and the World Wide Web

   ☐ True

   ☒ Fulse

3. The value proposition represents the way an organization attains competitive advantage through e-commerce

   ☒ True

   ☐ Fulse

**Multiple Choices Questions**

1. What choice does not present a benefit of e-commerce to organizations?
   *a. Self-configuration*
   b. Global reach
   c. Cost reduction
   d. Facilitate problem-solving
2. What choice does not present a limitation of e-commerce?
   a. Credit card security is a serious issue if vulnerable
   b. Costs involved with bandwidth and other computer and server costs
   c. Extensive database and technical knowledge and experience required
   *d. Emerging of social business and economy*
3. What e-commerce business model is treats How does the company generate revenue and reduce costs through its e-commerce?
   a. Value proposition
   *b. Revenue and Cost Models*

c. Value Creation

d. Supporting Resources

**Essay Questions**

1. Discuss the major benefits and driver of e-commerce.
2. What are the main limitation of e-commerce to organizations an to customers and to society?
3. List and explain the main business model of e-commerc.
4. Classify e-commerce models and briefly explain each one.

* * *

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# *Chapter 04: Mobile Business and Commerce*

Businesses are becoming digital. In addition, many enterprises are going multi-locationally and globally, and the need for mobile communication is increasing rapidly. The mobile industry is already a major contributor to the global economy. More than 75% of the world's population already own mobile phones, most of which are smartphones. Obviously, all the above are drivers of mobile commerce. Mobile commerce has its own framework, attributes, landscape, concepts, and terminology. These provide many benefits. One of the clearest trends in computing and e-commerce is that mobile computing is increasing exponentially. (Turban, 2018)

## 1. Mobile Commerce Defined

**Mobile commerce** (**m-commerce**), also known as **m-business**, refers to conducting e-commerce by using mobile devices and wireless networks. Activities include B2C, B2B, m-government, CRM and m-learning transactions, as well as the transfer of information and money. Like regular EC applications, m-commerce involves electronic transaction conducted by using mobile devices via the Internet, corporate intranets, private communication lines, or over other wireless networks.

For example, paying for an item in a vending machine or paying taxes with a smartphone is considered m-commerce. M-commerce provides an opportunity to deliver new services to existing customers and to attract new customers to EC anytime, anywhere. (Turban, 2018)

### The Landscape of M-Commerce

The overall landscape of m-commerce is summarized in Figure 4.1. Note that, in the figure, the enabling technologies (e.g., devices, networks) are on the left side and the resulting capabilities and attributes are in the middle. These provide the foundation for the applications that are shown on the right side of the figure. (Turban, 2018)

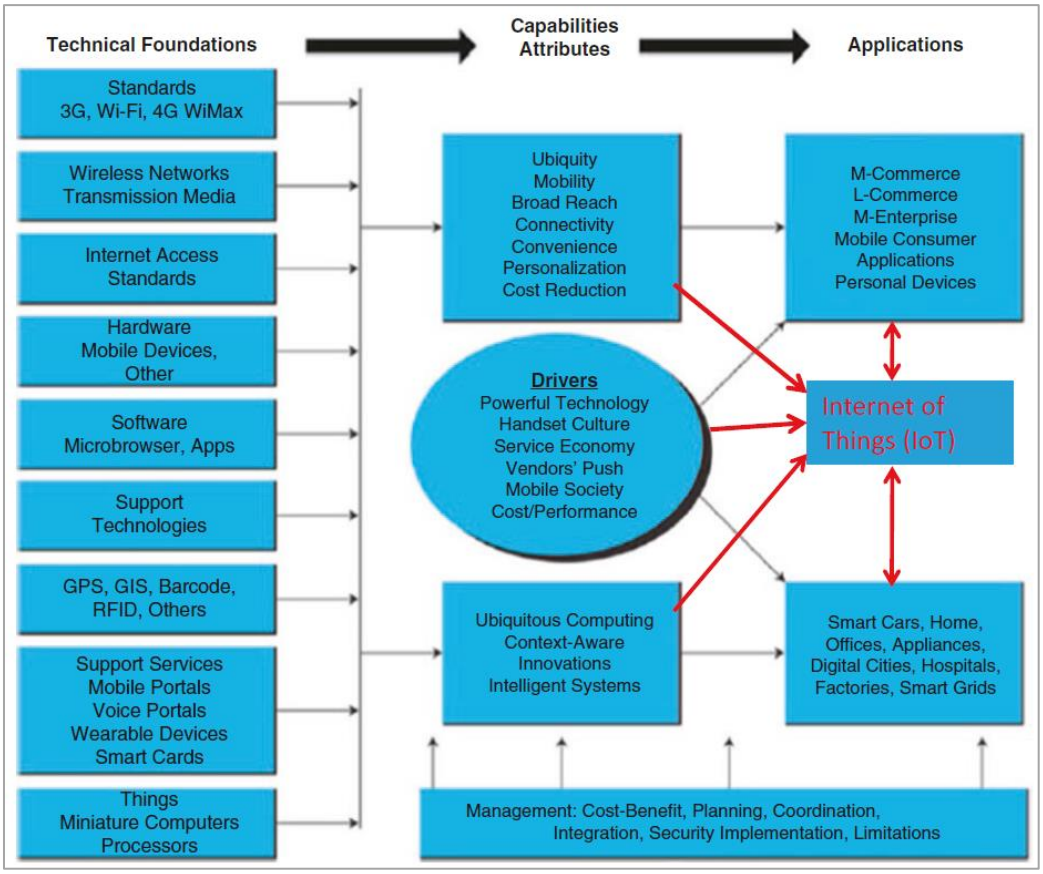


**Figure 4.1 The landscape of mobile computing and m-commerce**

## 2. Benefits of Mobile Commerce

The main advantage of mobile commerce is that it provides instant connectivity to the mobile user, irrespective of his/her geographical location and time of the day. The mobile user can stay connected with his/her business network and gather information even if he/she is in transit and remotely located away from the business installation. (Aithal, 2016)

The same light weight mobile device can be used for making business transactions or making online payments round-the-clock in a costeffective way. Highly personalized information can be delivered in the mobile device in an efficient manner to satisfy numerous needs of a large number of customers. The major benefits of mobile commerce are as follows:

### 2.1. Anytime Anywhere

Mobile commerce together with wireless communication technology and wireless broadband internet access, keeps the mobile user connected with the internet while travelling across the globe.

The business information is available to the mobile user any time of the day and anywhere around the globe. This anytime/anywhere internet access makes business transactions more flexible and customer communications more efficient, which in turn improves the productivity of the company and increases customer satisfaction. The valuable market information, stock/share prices, inventory position, delivery schedule, etc. are instantly available at the fingertips.

Handheld devices, such as Blackberry, etc. work on internet mode and allow users to continuously send/receive electronic mail, download news alerts, stock prices and receive weather updates. The round the clock (24 x 7) internet availability benefits many users to conduct business transactions from their homes or from any other place while on the move and at any convenient time. Thus m-commerce offers greater mobility and flexibility to mobile users in performing business transactions using their handheld mobile devices. (Aithal, 2016)

## 2.2. Cost-effective

The costs of transactions using mobile devices are relatively low. The time-critical business data, such as reports, photographs, etc. can be captured and transmitted easily from the mobile devices without involving any bulky expensive equipment. The customer queries can be attended and support provided instantly from the mobile device, thus making customer support more comprehensive. The SMS-based micro payments facilitate bank account transfer within a few seconds and at the cost of an SMS. Contact less smartcard based mobile payments provide a low cost alternative for toll tax payments in mass transit systems. In case of mobile billing, users can pay for electricity bills, telephone bills, petrol, grocery, etc. through their mobile phones. The payments made in the mobile phones for such items will appear as part of their mobile phone bills, thus eliminating the need' for a third party payment mechanism such as, credit cards. This reduces the cost of payment to a large extent. (Aithal, 2016)

## 2.3. Personalized Service

Mobile commerce offers a number of personalized services to the mobile users depending on their various requirements and purposes. The digital cellular technology can monitor the location of user performing mobile transactions. Knowledge of the user's location may be used to deliver timely and useful contents such as product availability and discount information to the potential customer. Timely information, such as flight schedules and flight availability can be delivered to the user at the last minute. Delivery of time critical as well as emergency information, SMSbased notifications

and alerts can be easily made if the location of the user is tracked. The location tracking is also utilized in offering customized services to the user, such as delivery of discount coupons that can be cashed in and around of the location of the customer. Delivery of regional maps, driving directions and online directories are also possible if the location of the mobile user is known. Another major advantage-of location tracking is that, in criminal investigation, the location of the mobile user can be monitored and recorded as part of the investigation process. (Aithal, 2016)

## 3. Mobile Commerce Features

### 3.1. Ubiquity

Ubiquity of both mobile devices and Internet offers significant advantages. Mobile handheld devices of today are lightweight and portable, and are in close proximity to users during entire day. High-speed affordable Internet access is increasingly common in many regions across the world and instantaneous access to real-time information leads to use of m-commerce in time-critical applications such as stock quotes, and traffic updates, etc. Communication thus takes place irrespective of the user's location, and hence mobile devices offer the capability of sending and receiving information on an anywhere, anytime basis. (Duhan, 2019)

### 3.2. Convenience

The flexibility provided by mobile devices offers greater advantages for m-commerce than other forms of e-commerce. Using mobile applications, consumers can avail services at a time and place of their choice. Instantaneous access to a variety of options to choose from adds to this convenience. (Duhan, 2019)

### 3.3. Localization

With the advent of GPS technology and the fact that handheld devices are always in close proximity to its user, the location of smartphone users can be determined with high accuracy. Knowledge of user location is a big advantage in m-commerce over wired e-commerce. Location-based services such as information on nearby ATMs, restaurants, hospitals, or turn-by-turn navigation services are possible using location data. Thus, information on a number of applications relevant to the consumer's position can be provided in real time. (Duhan, 2019)

### 3.4. Personalization

Mobile devices have emerged as an effective marketing tool using which businesses are able to administer push-based strategies driven by personalization of content/services, complementing pull-based strategies. High smartphone penetration combined with location data and tracking of consumer behavior online makes mobile devices ideal for target marketing. Businesses can use location data to personalize messages to different regions by modifying the advertisement visually or auditorily, thus catering to individual preferences. (Duhan, 2019)

### 3.5. Identifiability

M-commerce has the ability to identify user of a service, as mobile devices are typically used by an individual, as opposed to a Personal Computer (PC) where the identity of the user is ambiguous. A mobile phone also has an inbuilt identifier to facilitate secure transactions, whereas a desktop is anonymous. Using GPS technology, it is possible to identify and locate a customer to provide personalized content and/or services. (Duhan, 2019)

### 3.6. Immediacy

It is the ubiquitous availability of m-commerce services that facilitate an instant action and reaction to changing demand. (Duhan, 2019)

### 3.7. Currentness

M-commerce can provide real-time information to clients anywhere, regardless of their location.

### 3.8. Accessibility

M-commerce enables one to be contacted anywhere at any time. Moreover, there is an ability to limit accessibility to m-commerce to particular people or times. (Duhan, 2019)

## 4. M-COMMERCE BUSINESS MODELS

While in e-commerce there are variety of business models involving combinations of Business, Consumers, and Government, in m-commerce only four combinations are deemed significant enough. While Businessto-Consumer (B2C) remains the most predominant model, we will also explain three important models: G2C, B2B, and C2C. Other models will be summarized, as their impact and existence remains very limited. (Kadry, 2016)

## 4.1. Government-to-Consumer (G2C)

M-commerce is growing nowa-days and the governments are keenly aware of expanding the use of mobile use. Several governments have moved several of their services and payments to accommodate such model. Some of the G2C models that have been adopted include council tax, service payments, traffic penalty payments, and tax calculators.

## 4.2. Business-to-Business (B2B)

M-commerce is also expanding slowly as the business move to capitalize on existing and new supply chain management systems that connects them better to their business partners. Dedicated apps are designed to partly replace some of the web features that would accelerate order processing, track delivery, and keep business partners informed of their latest news, services, and products.

## 4.3. Consumer-to-Consumer (C2C)

C2C represents a significant portion of m-commerce as more independent consumers are able to sell to each other using mobile devices. Here, the traditional models in e-commerce copied into apps have proven to be as successful. Auction apps and consumer selling outlets such as eBay, gumtree, Graiglist, and even some social media apps such as Instagram have been use to facilitate C2C m-commerce.

B2C represent the most significant portion of successful m-commerce models. Businesses selling to consumers via m-commerce has also introduced rather new areas of business which may have not been possible traditionally online. Having apps that sell goods would represent the traditional e-commerce model in the form of an app. However, m-commerce introduced a rather surprising explosion of digital goods that were traditionally not as successful on desktops. M-commerce has open new prospects in games, music, videos, productivity, entertaining, and educational apps bring in new business models. Opportunities to utilize a rather very different device that has much higher communication value to consumers.

Also a device that has a much higher portability as an entertaining and socializing tool that laptops and desktops. B2C apps are also able to make use of integrated cameras, GPS, and instance notification (or push messages) which otherwise would not have been possible before. (Kadry, 2016)

# 5. Apps and App Stores

## 5.1. Definition

The term apps is used to describe small applications which users use to download on mobile devices from specific App Stores associated with the operating system or phone devices they have purchased. Traditionally, applications required large storage and the installation had to undergo several stages and authorizations from the system administrations. Risks have traditionally been associated with application downloads, especially when downloaded from the Internet with trust in the source of these applications always a concern. App stores have come about to limit and create an environment of trust. Apps tend to be compact, requiring less Internet traffic, requiring less processing power, and checked by the App stores to be legitimate. App stores check Apps for any unauthorized contains such as viruses, spyware or codes allowing unauthorized access otherwise known as hacking. Applications that pass these checks get the App store certifications and are authorized to appear on the App store. The App store certification allows that specific operating system to authorize the opening of the App without asking for further authorization of the user.

There has been incidents, however, where computer viruses and hackers have been successful in getting unauthorized codes through legitimate App Store apps. However, these incidents remain significantly rare. Some of the most popular App stores are Apple App Store, Google Play Store, Samsung Apps Store, and Windows Store. (Kadry, 2016)

## 5.2. Categories of Apps

Apps are categorized by what they provide in digital services.

### Game Apps

Game Apps are games using mobile devices in which user interacts with the device in response to graphics on the screen. It may come as a surprise to many people that while Game Apps represent the biggest category of Apps; overall Game Apps represent less than 23% of the most popular Apps. (Kadry, 2016)

### Business Apps

Business Apps are second most popular and represent apps created by businesses to sell, buy, advertise, and maintain business operations. Examples of business apps would be supermarkets, shops and stores, restaurant chains, estate agents, suppliers' apps, companies providing comparison

services, and more. (Kadry, 2016)

### Educational Apps

Educational Apps represent around 10% and include academic tools such as dictionaries, translators, language learning, programming, calculators, word processors, spreadsheets, schooling, kids educational apps, academic establishment apps associated with schools and universities. (Kadry, 2016)

### Lifestyle apps

Lifestyle apps include clothing apps, make up apps, food and cooking apps, dieting apps, dating apps, time management apps, and more. (Kadry, 2016)

### Entertainment Apps

Entertainment Apps would include movies, TV, videos, podcast, digital radio and more. Traditionally, the process involved making a payment to acquire the entertainment package and the user would have access unlimited access to a copy. A recent trend is a move from buying to streaming. Streaming involves watching or listening to that content only once or for a short period of time. This is the same business model associated with renting movies. Big names are found here like YouTube, Netflex, and Sony. (Kadry, 2016)

### Other Categories

Utilities for managing the running of mobile devices; Travel for flights, hotels, car rentals, and more; Books for digital reading; Health and fitness; Music for buying or streaming; Productivity for personal and business; Food and Drinks; Sports; Photo and Video recording and editing; Finance which includes banking, credit card, and financial management; News; Referencing; Social Media; Medical; and finally Navigation. (Kadry, 2016)

## 5.3. App M-Commerce Model

While some apps require an upfront payment to purchase them, the majority of apps are available for download free of charge. However, the ‘In-app purchases’ are increasing and are behind a significant portion of the sales reported by App stores. In-app purchases have two popular options: subscriptions or digital purchases. (Kadry, 2016)

### Subscriptions

After the free download of the app, the user finds some of the most essential or interesting features are locked. To unlock these features they would need to subscribe. Subscriptions could be either unlimited, set number of days or set number of uses. For example, News app that only allows access to breaking news headlines for subscribed users. Some game apps have also used the subscription features but with limited success. (Kadry, 2016)

### Digital Purchases

The most popular means of payments for Game Apps are via digital purchases whereby to be able to win, get advantage tool, continue to play or the avatar the user is playing looks good, the player would needs to pay. The business model for digital in-app purchases is very similar to arcade machines where to continue playing the user has to 'insert a coin'. This proved to be successful in highly competitive games. In-app purchases have also been utilized in all the app categorized listed earlier. Giving users the chance to try the application or try some of the useful features proved to be an inducing technique to encourage users to make digital purchases. (Kadry, 2016)

## 6. Mobile Commerce Technology

### 6.1. Mobile Computing

In the traditional computing environment, users were confined to desktop computers in fixed locations. In **wireless mobile computing** (**mobile computing**), computing is done by using mobile devices at any place connected wirelessly to networks.

Wireless mobile computing, also known as nomadic computing, is the use of portable computing devices (such as tablets and smartphones) in conjunction with mobile communications technologies to enable users' access to the Internet and to data from anywhere with Internet access. (Turban, 2018)

### 6.2. Mobile Devices

**Mobile devices** come in all shapes and sizes—laptops, thin-and-light notebooks, tablet computers, smartphones, ultraportables, wearables, and ultra-mobile PCs (UMPCs). What distinguishes one type of mobile computer from another are its different capabilities, such as physical dimensions, shape, and the executions of the capabilities. Most of the major computer manufacturers (HP,

Apple, Dell, ASUS, Toshiba, Acer, and Lenovo) produce thin laptops and ultraportables.

A few years ago, portable computers, cell phones, and other mobile devices were different from each other and had unique features. Today, all of these devices are converging so that it is sometimes difficult to tell them apart (from a functional perspective). Mobile devices can be large. Several manufacturers offer special handheld devices, and 23″ laptops or mobile workstations are available (e.g., Dell, HP, and Lenovo). Tablets are available in a 7″ to 15″ screen. Smartphones also come in a variety of sizes. (Turban, 2018)

### Smartphones

A **smartphone** is a mobile phone (such as an iPhone) with Internet access and PC-like functionality. There is a wide range and variety of smartphone manufacturers. Note that smartphones get "smarter" with time and add features and capabilities. There is also a wide variety of operating systems, including Android, Windows Mobile, and Apple IOS. Like PDAs, smartphones have small screens, keyboards, memory, and storage. Most smartphones have built-in cameras and many are GPS-enabled. (Turban, 2018)

### Tablets

A fast-growing category of mobile devices is the tablet computer. Tablet computers received a major boost in 2010 with the introduction of the Apple iPad and its competitors, all with a virtual keyboard (but a portable physical keyboard can be attached). Since then, many companies are manufacturing tablets. Notable are Apple, Samsung, HP, Dell, Microsoft, HTC, and Google. Like laptops, tablets can access the Web via Wi-Fi hotspots. The weight of a tablet is in between a smartphone and a small laptop. Tablets are replacing PCs and laptops in enterprises and schools. Tablets are also replacing hardcover textbooks in many schools. Tablets can be used as e-readers and can be used to access the Internet. Tablets are becoming popular in enterprises as well. A major use of a tablet is to facilitate communication and collaboration. However, they are increasingly used in entertainment, learning, and shopping. (Turban, 2018)

### Wearable Devices

The smallest mobile devices are wearable. Notable are many devices used in the enterprise (e.g., mounted on the arm, head, or body and carried by employees). Examples include Samsung's Galaxy Gear smartwatch and Gear Fit device, Fitbit and Apple Watch. (Turban, 2018)

### Radio-Frequency Identification (RFID)

Radio-frequency identification (RFID) enables the transfer of data wirelessly, usually for the purpose of automatically identifying and tracking tags attached to objects. RFID does this by employing radio-frequency electromagnetic fields. Most of the enterprise applications relate to logistics and inventory control. Also related to EC is the use of RFID to improve security and enable mobile payments (e.g., in paying for toll roads). (Turban, 2018)

## 6.3. Mobile Communication Technology

### Wireless Application Protocol (WAP)

WAp is a technical standard for accessing information over a mobile wireless network. A **WAP browser** is a web browser for mobile devices such as mobile phones that use the protocol. (Wikipedia)

### 3G, 4G, and 5G Mobile Communication

**3G** is the third generation of wireless mobile telecommunications technology. This is based on a set of standards used for mobile devices and mobile telecommunications use services and networks that comply with the International Mobile Telecommunications-2000 (IMT-2000) specifications by the International Telecommunication Union (ITU). 3G finds application in wireless voice telephony, mobile Internet access, fixed wireless Internet access, video calls and mobile TV. (Wikipedia)

**4G** is the fourth generation of broadband cellular network technology, succeeding 3G. A 4G system must provide capabilities defined by ITU in IMT Advanced. Potential and current applications include amended mobile web access, IP telephony, gaming services, high-definition mobile TV, video conferencing, and 3D television. (Wikipedia)

**5G** is the fifth generation technology standard for broadband cellular networks, which cellular phone companies began deploying worldwide in 2019, and is the planned successor to the 4G networks which provide connectivity to most current cellphones. Like its predecessors, 5G networks are cellular networks, in which the service area is divided into small geographical areas called *cells*. All 5G wireless devices in a cell are connected to the Internet and telephone network by radio waves through a local antenna in the cell. The main advantage of the new networks is that they will have greater bandwidth, giving higher download speeds, eventually up to 10 gigabits per

second. (Wikipedia)

### Mobile IP Technology

Mobile IP technology can help realize mobile computer roaming seamlessly on the Internet by changing the IP protocol in the network layer. Mobile IP technology makes switching from one link to another possible without changing the IP address and without changing communication under way. Mobile IP technology can well support the application of m-commerce to a certain extent. (Qin, 2014)

### Bluetooth Technology

Bluetooth technology is a kind of short-range radio communication technology. Bluetooth technology can effectively simplify communication among PDAs, laptops, mobile phones, and other mobile communication terminals. It can also successfully facilitate the communication between the equipment above and the Internet, and make data transmission between modern communication equipment and the Internet quicker and more efficient. (Qin, 2014)

### Mobile Positioning System

One application domain of m-commerce is business based on the location. It can provide information for tourists and employees on business trips, such as local news, weather and hotel information, etc. This technology will bring great business opportunities to local tourism, the retail trade, entertainment and restaurants. (Qin, 2014)

## 6.4. M-commerce system

The previously mentioned software, hardware, and telecommunications are connected by a management system to support wireless electronic trading, as shown in Figure 4.2. The figure shows the flow of information from the user (Step 1) to the conclusion of the transaction (Step 9). (Turban, 2018)

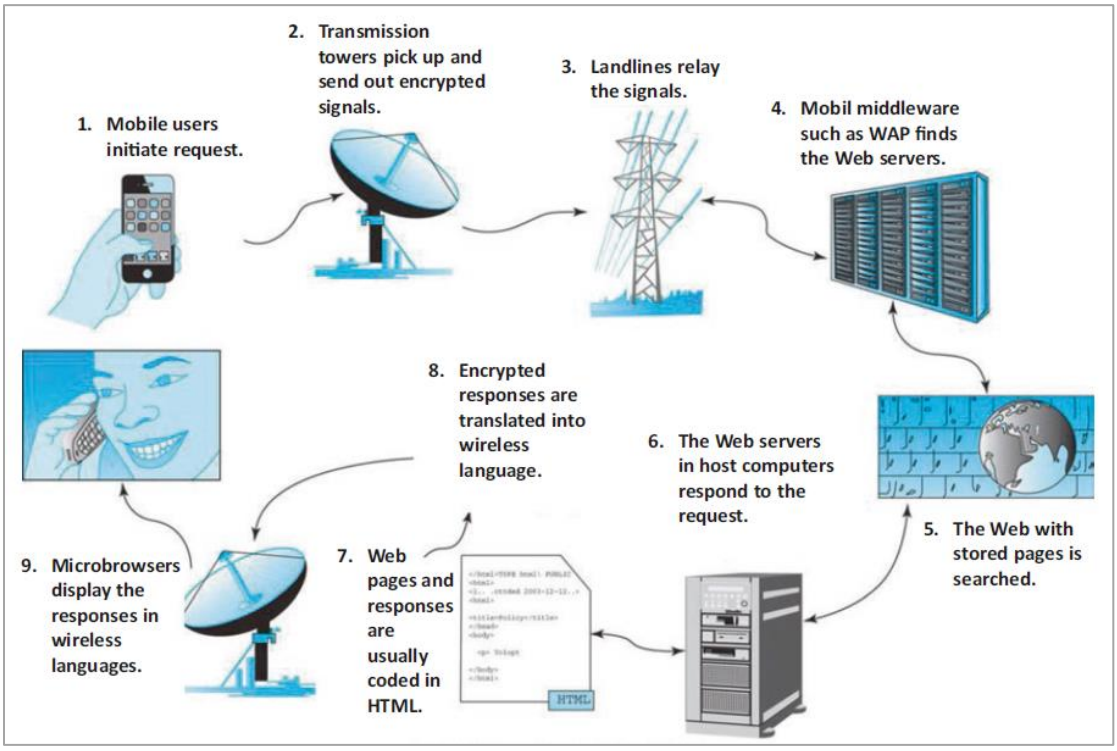


**Figure 4.2 An m-commerce system at work**

## 7. Mobile Commerce Services

Mobile devices offer some capabilities that desktops do not. These capabilities provide a foundation for new applications. (Turban, 2018)

### 7.1. Mobile Portals and Content Providers

A **mobile portal** is a gateway to the Internet from mobile devices. It combines content from several sources and can be personalized for mobile users. These portals offer services similar to those of desktop portals. The services provided by mobile portals are similar to those provided by desktop portals (e.g., news, health, sports, and downloading music). Mobile portals sometimes charge for their services. (Turban, 2018)

### 7.2. Short Message Service

Short message service (SMS) is frequently referred to as text messaging or simply texting; the technology supports the transmittal of short text messages (up to 140 or 160 characters) between wireless devices. The cost of texting is very low compared to the charge per minute to talk on cell phones. (Turban, 2018)

## 7.3. Multimedia Messaging Services (MMS)

Multimedia messaging service (MMS) is the new type of wireless messaging, delivering rich media content, such as videos, images, and audio to mobile devices. MMS is an extension of SMS. It allows for longer messages than with SMS. (Turban, 2018)

## 7.4. The Internet of Things (IoT)

A most discussed topic in EC lately is the IoT. This ecosystem views billions of computing devices connected to the Internet. Most of the connections are wireless. (Turban, 2018)

## 7.5. Location-Based Commerce

**Location-based commerce** (**l-commerce**), or **LBC**, refers to the use of location-finding systems such as GPS-enabled devices or similar technologies (e.g., triangulation of radio- or cell-based stations) to find where a customer with a mobile device or an object is located and provide relevant services, such as an advertisement or vehicle route optimization.

Retailers who use location-based services use the global positioning system (GPS) or other positioning techniques to find a customer's location and then deliver services, such as ads and coupons for products and services, in real time. GPS is also used in emergency services, traffic management, and other applications. (Turban, 2018)

## 7.6. Voice-Support Services

The most natural mode of human communication is voice. Voice recognition and voice synthesizing in m-commerce applications offer advantages such as hands- and eyes-free operation, better operation in dirty or moving environments, faster input (people talk about two and a half times faster than they type), and ease of use for disabled people. (Turban, 2018)

### IVR Systems

Voice-support applications, such as **interactive voice response (IVR) systems**, enable users to interact by telephones (of any kind) with a computerized system and to request and receive information. These systems have been around since the 1980s but are now becoming more capable and widespread as artificial intelligence-based voice recognition capabilities continue to improve.

### Intelligent Personal Assistants and Robo-advisors

Ccompanies use AI to understand spoken natural languages. It is the basis for the development of

chatbots and robots. This application is used for **intelligent personal assistants**, which are offered today by major corporations. Well known are Google Now, Microsoft's Cortana, Apple's Siri, and Amazon's Alexa. Note that these products are integrated with smartwatches, smart TVs, and cars.

### Voice Portals

A **voice portal** is a website with an audio interface that can be accessed through a telephone call. A user requests information by speaking, and the voice portal finds the information on the Web, transforms it into a computer-generated voice reply, and provides the answer by voice. For example, Bing Tell voice assistant allows callers to request information ranging from weather to current traffic conditions. (Turban, 2018)

## 8. Mobile Commerce Applications

There are many thousands of different m-commerce applications. Many of these are similar to those in a wireline environment. Others are available only for mobile devices. To simplify, we divided the applications into the following categories, adding consumer applications to the framework: (Turban, 2018)

- Banking and financial services
- Mobile enterprise applications
- Consumer services (including shopping and entertainment
- Ubiquitous computing
- Emerging applications: wearables, Google Glass, smart grid, and driverless cars
- Internet of things (IoT) applications
- Mobile shopping
- Mobile marketing and advertising
- Mobile payment

Enterprise applications are created to meet specific business needs. These needs have some generic aspects as well as industry-specific aspects (see Figure 4.3). The four needs are:

1) **Field mobility**—the support of the mobile workforce.
2) **Fleet mobility**—the support of vehicles in order to minimize downtime and increase effectiveness, efficiency, and utilization.
3) **Warehouse management**—the improvement of the operations inside warehouses.

4) **Direct store delivery (DSD) route accounting**—the increased usefulness by conducting predelivery activities (e.g., by texting information about a new shipment from the shipper to the receiver).

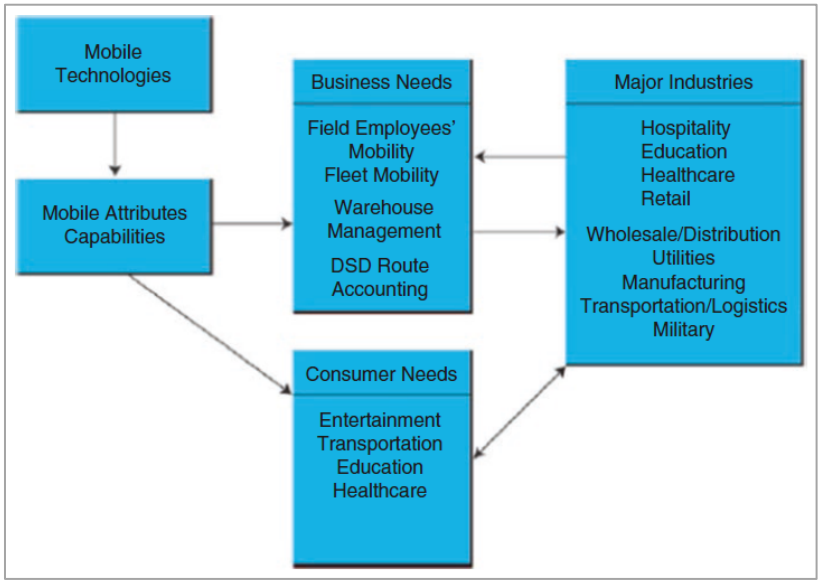


**Figure 4.3 M-commerce applications and their classifications**

The main categories of mobile commerce appllications are as follows: (Aithal, 2016)

- **M-Health**: Mobile Health or M-Health provides various health related information, such as patient records, patient monitoring and reporting, medical updates and alerts through mobile devices.
- **M-Education**: Mobile education provides training and learning related materials, such as course content, exam schedule, class schedule, tutorials, etc. from educational institutions to students through SMS or WAP technology.
- **M-Banking**: Mobile banking services allow retail banking transactions (such as checking of account balance, fund transfer, bill payment, tax payment, new checkbook request, etc.) through mobile devices using , USSD or WAP technology. providing valuable information to farmers that help them take proper decisions to aid their farming process.
- **M-Governance**: Mobile governance services ensure proper delivery of important government services, such as tax payment, birth/ death/ marriage registration, land registration, etc., through mobile devices.
- **M-Social-Networking**: Mobile social networking services integrate various social networking sites, such as Facebook, Twitter, LinkedIn, etc., to mobile networks so that

users get connected with their friends through their mobile devices.

- **M-Entertainment**: Mobile entertainment services offer various entertainment contents such as music, TV shows, video games, digital books delivered to the mobile devices either through SMS/WAP or by direct downloads.

All above mobile commerce applications serve the common purpose of offering some additional benefits to innumerable mobile users across the world and have become part of their daily activities and enhancing their lives to a great extent. (Aithal, 2016)

*  *  *

## Review

**True/False Questions**

1. M-business, refers to conducting e-commerce by using mobile devices and wireless networks

   ☒ True

   ☐ Fulse

2. Ubiquity is the flexibility provided by mobile devices offers greater advantages for m-commerce than other forms of e-commerce

   ☐ True

   ☒ Fulse

3. Mobile commerce together with wireless communication technology and wireless broadband internet access, keeps the mobile user connected with the internet while travelling across the globe

   ☒ True

   ☐ Fulse

**Multiple Choices Questions**

1. What mobile commerce feature indicates ot the ability to identify user of a service, as mobile devices are typically used by an individual?
   a. *Identifiability*
   b. Personalization
   c. Localization
   d. Convenience
2. What M-commerce business is applied when business move to capitalize on existing and new supply chain management systems that connects them better to their business partners
   a. G2C
   *b. B2B*
   c. C2C
   d. B2C
3. ---------- represent apps created by businesses to sell, buy, advertise, and maintain

business operations

a. Apps store
b. Mobile Apps
c. Game Apps
*d. Business Apps*

**Essay Questions**

1. Define mobile commerce and discuss how it can expand the reach of e-commerce.
2. List and briefly describe the main features of mobile commerce.
3. What are the major mobile commerce business model? Compare between them.
4. Discuss mobile commerce technology, services, and applications.

*  *  *

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Wikipedia

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# *Chapter 05: Social Commerce*

## 1. Social Commerce: Definitions and Evolution

### 1.1. The Role of Social Media Today

Today it is almost unthinkable to live a life without smartphones and the internet. We are connected on a 24/7 basis and exchange information on a real time scale with people living almost anywhere in the world. Being online and available implies an opportunity not only to communicate with others, but also to indulge in consumption behaviour wherever we are.

Continued research and development activities into wireless technologies and electronic devices, as well as improvements made in the area of electronic commerce (e-commerce) have fostered the creation of mobile commerce (m-commerce). Consumers now have shopping platforms literally at the tip of their thumb, scroll through providers' apps, save their favourite products, add them to wish lists, and indulge further in a buy-now-see-now shopping culture. S-commerce goes even further in that it involves a variety of consumer tools to socialise and share commercial-related information. (Boardman, 2019)

Social media platforms, such as Facebook, Twitter, Instagram, and Pinterest, have further changed the business world Companies are no longer broadcasting their messages as a monologue, but are (ideally) actively engaging into a dialogue with their consumers.

Businesses can share their videos, blogs, and product information, or even pose questions and polls to encourage responses in an effective and efficient way, reaching a global audience, whilst consumers have the opportunity to share this content or create their own, comment on links, like pictures, or share their concerns instantaneously and in real time. (Boardman, 2019)

### 1.2. Social Commerce Defined

**Social commerce**, also known as social business, refers to e-commerce transactions delivered via social media. As it is a new field that involves several academic and professional disciplines, there is no agreed-upon definition or description of the content and boundaries of the social commerce field. Regardless of its definition, the field is growing rapidly. (Turban, 2018)

Broadly speaking, e-commerce refers to any economic activity that is transacted online and encompasses a wide variety of technologies, including, but not limited to e-mail, telephone, and mobile devices (e.g. tablets and mobile phones), and/or social media. Social media and Web 2.0 have led to the emergence of s-commerce, and facilitated a shift from product-oriented platforms, which are typical in e-commerce to platforms, to those that are strongly customer-oriented. In 2005 Yahoo firstly termed ‘social commerce’, when they created a feature on their online platform that allowed their end-consumers to create, share, and comment on product lists. (Boardman, 2019)

Social commerce is e-commerce that is enabled by social networks and online social relationships. It is sometimes also referred to as Facebook commerce, but in actuality is a much larger phenomenon that extends beyond just Facebook. The growth of social commerce is being driven by a number of factors, including the increasing popularity of social sign-on (signing onto Web sites using your Facebook or other social network ID), network notification (the sharing of approval or disapproval of products, services, and content via Facebook’s Like button or Twitter tweets), online collaborative shopping tools, and social search (recommendations from online trusted friends). (Laudon, 2017)

## 1.3. The Evolution of Social Commerce

Scocial commerce can be considered “an interdisciplinary subject that concerns business models and strategies, consumer and organization behavior, social networking technologies, analytical techniques, system designs, business practices, research methodologies, and prospective and retrospective assessment of business value. (Boardman, 2019)

Social commerce emerged from the integration of several fields, which are shown in Figure 5.1. (Turban, 2018)

A major origin of social commerce was the development of Web 2.0 technologies, as previously mentioned. With these came commercial applications, which included activities in social networks and the use of social software such as blogs and wikis. A major driver of SC is the globalization of business. This prompted the need for collaboration of employees, partners, and customers, sometimes worldwide. Web 2.0 applications created an efficient and effective platforms for such collaboration. Web 2.0 is a major contributor to social media, which is the major driver of social commerce. (Turban, 2017)

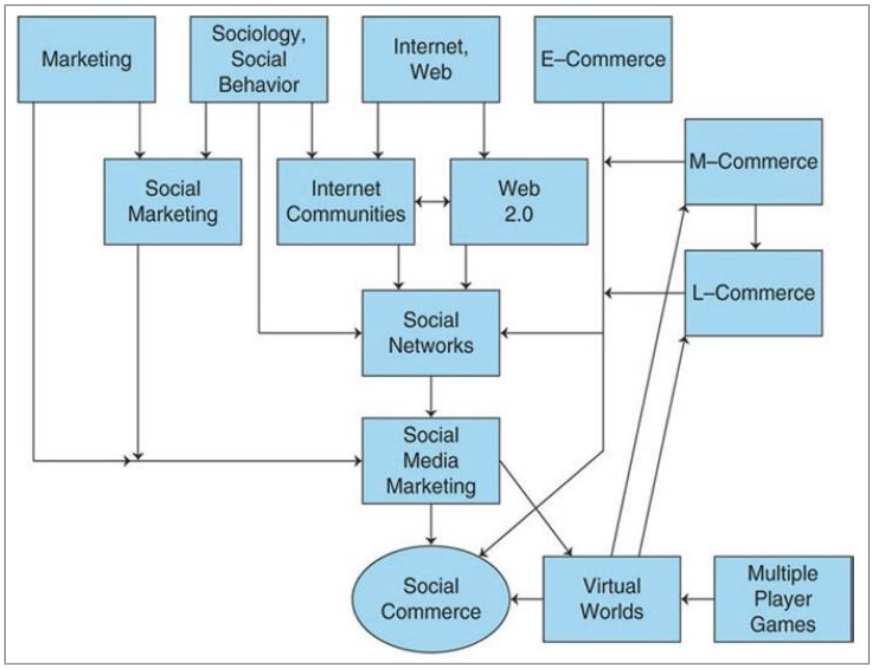


**Figure 5.1 The major roots of social commerce**

The development and rapid growth of mobile computing and smartphones have also facilitated social commerce. Mobile commerce is the basis for SC models such as location-based applications, social networks, and consumer/company networking.

A major emphasis of social commerce is its marketing orientation. Traditional marketing activities were applied to Internet marketing in the mid-1990s, when companies began building websites and using e-mail to advertise their products for sale offline.

As the Web developed, marketers applied the Internet to facilitate e-commerce transactions. Until that point, marketers controlled brand messages and continued their advertising and other communication monologues to customers and potential buyers (prospects). With the emergence of social media, marketing communication changed to a dialog with Internet users, and many marketing strategies evolved or completely transformed to support social commerce.

The major differences between social commerce and e-commerce are illustrated in Table 5.1. (Turban, 2018)

**Table 5.1 The major differences between e-commerce and social commerce**

| Property | E-commerce | Social commerce |
|---|---|---|
| Major objective | Transactions | Social interactions |
| Major activity | Publishing | Engagement |
| Content | Company generated | User generated |
| Problem solving | Company experts, consultants | Crowdsourcing |
| Collaboration | Traditional, unified communications | Web 2.0 tools |
| Product information | Product descriptions on websites | Peer product reviews |
| Marketplaces | E-tailers (e.g., Amazon.com) and direct from manufacturers' stores (Dell) | Social networks (f-commerce), collaborative markets |
| Targeting | Mass marketing, segmentation | Behavioral targeting, microsegmentation |
| CRM | Seller/manufacturer support | Social support by peers and by vendors and employees |
| Online marketing strategy | Website selling | Multichannel, direct at social network sites |
| Integration | System integration | Mashups and system integration |
| Data management | Reports and analytics | Analytics |

## 2. Social Media and Networking

Social media can be defined as 'a group of internet-based applications that build on the ideological and technical foundations of Web 2.0, and that allow the creation and exchange of user-generated content'. The most popular social media platforms are Facebook, YouTube, Instagram, Twitter, Pinterest and Snapchat. Due to the advent of smartphones, there has been a huge increase in social media usage over the last few years, with sites such as Facebook now being at people's fingertips on these handheld computers, facilitating instant and frequent access. The number of social media users worldwide in 2018 has reached more than 3 billion. This highlights the ubiquitous nature of social media and the potential marketing and sales power it harnesses for brands across the globe. (Boardman, 2019)

Consumers perceive social media sites to be more trustworthy sources of information, likely due to an erosion of confidence in the information received via traditional advertising. As a result, brands are retreating from one-way communications of their messages via non-targeted advertising in traditional media (e.g. TV, radio, magazine and direct mail) to use social media as an implicit advertising tool that shapes two-way communications between brands and customers, reaching large numbers of customers in a short time and for low cost. Hence, in order to boost profits, brands are focusing more of their efforts on social media and trying to improve their communication and relationships with consumers on these platforms. (Boardman, 2019)

Brands utilise social media to market their goods and services and to manage their relationship with consumers. They can build and maintain these stakeholder relationships through information

sharing and personalised recommendations, as well as by encouraging word-of-mouth about products and services. As a result, consumers are now using social media channels to search for products and source information about brands and products in place of traditional media. (Boardman, 2019)

## 2.1. Evolution of social networking sites

Most social networking sites allow individuals who are members of the social network to create and publish a profile, create a list of other users with whom they share a connection (or connections), control that list, and monitor similar lists made by other users. The general idea behind many of these sites is that people are invited to join by existing members who think they would be valuable additions to the community. The site provides a directory that lists members' locations, interests, and qualities; however, the directory does not disclose the name or contact information of members. A member can offer to communicate with any other member, but the communication does not occur until the intended recipient approves the contact (usually after reviewing the sender's directory information). (Schneider, 2017)

In addition to searching the directory of the community, members can make connections with new contacts through friends they have established in the community (perhaps starting with the person who invited them to join). By gradually building up a set of connections, members can develop contacts within the community that might prove valuable later. (Schneider, 2017)

We explore in the following some of the most popular social networks. (Schneider, 2017)

### Six Degrees

One of the first sites, Six Degrees, started in 1997. Six Degrees was based on the idea that no more than six persons separated anyone in the world from any other person. The site was unable to generate sufficient revenue to continue operations and closed in 2000. More successful social networking sites followed several years later.

### Friendster

Friendster was founded in 2002. Friendster was the first Web site to include most of the features found today in all social networking sites. The company's rapid growth outstripped its technological abilities and the company's management team was unable to agree on strategy for dealing with new competitors such as MySpace and Tribe.net. As Friendster faded, MySpace

became the leading U.S. social networking site.

### Facebook

In 2006, Mark Zuckerberg expanded a virtual community site that he had developed with a few friends at Harvard. By 2008, Facebook had overtaken MySpace as the leading social networking site in the world and by 2014 was reporting more than a billion regular users and annual revenue of more than $6 billion. Today, Facebook is the dominant general interest social networking site in North America, Europe, and parts of Africa. It is a significant presence in many other parts of the world as well.

### Google+

In 2011, Google introduced Google+ to compete with Facebook and, although Google+ has gained a substantial number of regular users, it remains well behind Facebook in every region of the world.

### LinkedIn

LinkedIn, a site devoted to facilitating business contacts, was founded in 2003 and allows users to create a list of trusted business contacts. Users then invite others to participate in several forms of relationships on the site, each of which is designed to help them either find jobs, find employees, or develop connections to business opportunities. LinkedIn has become the dominant business-focused social networking site in North America, Europe, and South Africa.

### YouTube

YouTube (owned by Google) is popularized the inclusion of videos in social networking sites.

### Twitter

Twitter offers users a way to send short messages to other uses who sign up to follow their messages (called tweets).

### Flickr, Instagram, and Pinterest

Flickr, Instagram, and Pinterest use photos and pictures as an organizing theme.

### Snapchat

Snapchat allows its users to send text- and drawing-annotated photos and videos that expire after a short amount of time.

Figure 5.2 shows the launch year for some of the more successful social networking sites. (Schneider, 2017)

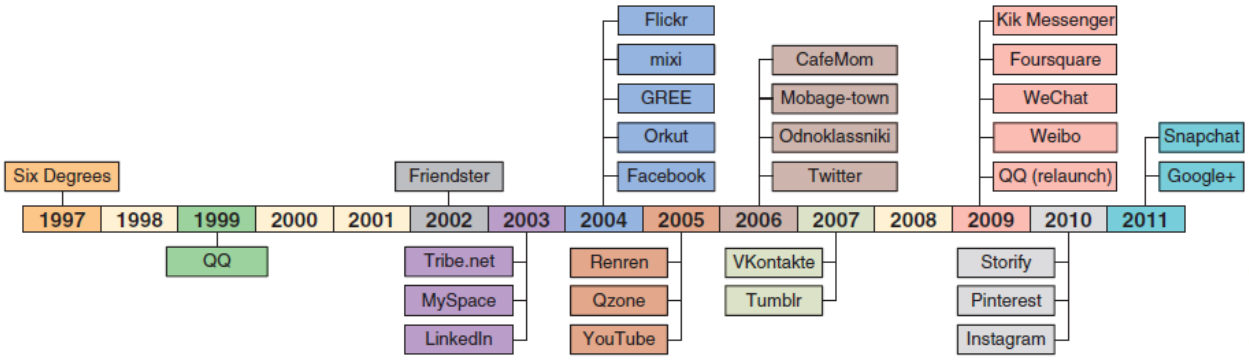


**Figure 5.2 Social networking Web sites**

## 3. Benefits and Limitations of Social Commerce

SC benefits fall, in general, into three categories: benefits to customers, benefits to retailers, and benefits to other types of enterprises. Some are described in the following section. (Turban, 2016)

### 3.1. Benefits to Customers

The success of social commerce depends on its benefits to customers. The major benefits appear in the following list: (Turban, 2016)

- It is easy to get recommendations from friends and other customers (e.g., via Twitter, in social network discussion groups, and on product review sites).
- Recommendations result in more confidence and trust helping customers decide about purchasing products and services.
- Added convenience in online shopping.
- Customers are exposed to special deals for large savings.
- Purchases are better matched with specific needs, wants, tastes, and wishes of customers; this increases satisfaction and reduces product choice decision time.
- It is easy for customers to use the SC technology.
- Social commerce fits the mobile device lifestyle well.
- Authentic interactions with vendors
- Increased trust in vendors is developed (via closer relationships).
- Social commerce allows customers to help other customers (social support).

- Customers can get better customer service from vendors.
- Customers can meet new friends (e.g., for travel) and socialize online.
- Customers can get rich social context and relevancy during their purchase decisions.
- Customers can connect with individuals and businesses who otherwise are inaccessible to them.

## 3.2. Benefits to Retailers

Retailers are major benefactors of social commerce. For example, about 50% of businesses globally find new customers via social networks. In addition, about 30% of companies invest in social networking in order to acquire and retain customers.

Retailers may benefit from social commerce in the following ways: (Turban, 2016)

- Consumers can provide feedback on market communication strategy and on product (service) design.
- Improved customer loyalty.
- Vendors get free word-of-mouth marketing.
- Increased website traffic which increases revenue and sales.
- Better search engine rankings.
- Increased sales as collaborative filtering and other social influence methods are used.
- Better data and metrics on customer preferences.

## 3.3. Benefits to Other Types of Enterprises

In addition to increased sales and revenue, enterprises can benefit from social commerce in several ways: (Turban, 2016)

- Conduct faster and less costly recruitment with a larger reach to large number of candidates.
- Reduce costs via innovative methods such as using the collective intelligence of employees and business partners.
- Foster better external relationships, for example, with partners and channel distribution members.
- Increase collaboration and improve communication within the enterprise and with business partners (e.g., by using blogs, microblogs, and wikis).
- Foster better internal relationships (e.g., by increasing employee productivity and satisfaction).

- Provide free advice to small enterprises by other enterprises and experts (e.g., via LinkedIn groups).
- Understand that it is usually not expensive to install and operate SC systems.
- Locate experts quickly, both internally and externally, whenever needed (e.g., see guru.com).
- Conduct market research quickly and inexpensively and get feedback from customers, employees, and business partners.
- Better understand customer needs.
- Increase market share and margins.
- Build brands through conversations and social media promotions.
- Microsegment for reaching very small markets with brand offerings at a low cost.
- Manage company and brand reputations online.
- Build brand communities for positive word of mouth online.
- Enhance customer service and support.
- Generate more authentic customer feedback.
- Increase traffic and sales at the company website and at physical retailers.
- Facilitate market research by monitoring conversations online.
- Increase company and brand rankings on search engine results pages.

## 3.4. Comparing business benefits between traditional e-commerce and social commerce

Table 5.1 below provides a summary comparison between business benefits achieved by e-commerce and how they have been enhanced further through the use of social media in social commerce. (Helal, 2017)

**Table 5.1 Comparing business benefits between traditional e-commerce and social commerce**

| Business Benefit | Traditional E-commerce | Social Commerce |
|---|---|---|
| Product promotion | - New marketing channels.<br>- Worldwide customer base. | -New advertising channels on various social media platforms.<br>-Utilising word-of-mouth. |
| New sales channels | -Around the clock selling channels. | -Selling where customers are already located on social media platforms. |
| Direct savings | -Lowering telecommunication and administrative costs. | -Substantially lowering costs of traditional advertising. |

| | | |
|---|---|---|
| Time to market | -Reduce the time between creating and distribution. | - Further reduce the time between creating and distribution. |
| Customer service | -Online support and maintenance. | -Join the conversation where customers are already talking.<br>-Improve the speed and volume of customer services. |
| Brand image building | -Establish and maintain a web presence. | -Wider mediums to popularise the brand and corporate image. |
| Technological and organisational learning | -Improve efficiency of business by learning and adapting faster.<br>-Increase productivity. | -Improve knowledge sharing internally amongst peers. |
| New business models | -Improve business processes. | -Further development of new business models and strategies. |
| New business-to-customer relationships | -Very limited through statistical calculations which impose what customers want. | -Build strong relationships with customers. |
| New products | -Very rare and limited. | - Gain competitive advantage by extracting valuable customers' needs, desires and expectations. |

### 3.5. Limitations of Social Commerce

Although social commerce presents many opportunities for organizations, its implementation may involve some potential risks and possibly complex issues such as integration of new and existing information systems. Representative risk factors are difficulties in justification of SC initiatives to upper management, security and privacy issues, possibilities of fraud, legal concerns, and time wasting by employees during work hours. Companies also risk loss of control over their brand images and reputations in social media conversations and product review sites, which can affect product sales (Pownall 2015). The major barriers to adoption of Enterprise 2.0 are resistance to change, difficulty in measuring return on investment, and difficulties of integration with existing IT systems and security. (Turban, 2016)

## 4. Social Shopping

Involvement in shopping is a natural area for social networks. Although shopping in social networks is only beginning to grow, it has enormous potential. Leading the movement of social shopping are Facebook and Google. (Turban, 2018)

Shopping is, by nature, a social activity. **Social shopping** (also known as sales 2.0) is online shopping with social media tools and platforms including five social networks. It is about sharing

shopping experiences with friends. Social shopping blends e-commerce and social media. Thus, social commerce takes the key features of social media (e.g., discussion groups, blogs, recommendations, reviews, etc.) and uses them before, during, and after shopping. (Turban, 2018)

## 4.1. Social Commerce Drivers

The following are the major drivers of social shopping:

- A large number of people visiting social networks attract advertisers.
- The increasing number of recommendations/suggestions made by friends and the ease and speed of accessing them.
- The need to compete (e.g., by differentiation) and to satisfy the social customer.
- The emergence of social customers with knowledge and competence in using the Internet (e.g., in finding reviews and comparing prices).
- The need to collaborate with business partners.
- The huge discounts provided by some of the new business models (e.g., flash sales).
- The socially oriented shopping models (e.g., group buying).
- The ease of shopping while you are inside some social networks (e.g., from Facebook's "Buy" button).
- The ease of communicating with friends in real time using Twitter and smartphones. (Turban, 2018)

## 4.2. Benefits of Social Shopping

Many of the benefits of social commerce apply to social shopping. Additional benefits are:

- You can socialize while shopping.
- You can quickly get honest feedback.
- You can discover products/services you never knew existed.
- You can interact with vendor (brand) representatives easily and quickly.
- Your confidence and trust in online shopping may increase due to engagement and interactions with friends.
- You can get super deals via group buying, daily specials, and more.
- You can exchange shopping tips with your friends, fans, and others. Thus, you can learn from experiences of others.
- You can build and share wish lists.

- You can shop together with people like you.

Note that social shopping sites may generate additional revenue from advertising, commissions on actual sales, sharing customer information with retailers, and affiliate marketing. The use of social media marketing is justified financially in many cases. (Turban, 2018)

## 4.3. Social Shopping Models

### Group buying

**Deal purchases** (**flash sales**), such as daily special offers. Short period deals are practiced offline usually to attract people who are already in a store, or vendors advertise a sale for a day, or for several days (in a newspaper, radio, and TV), or for "doorbuster" sales between certain hours on a certain day. There are several variations of this model when done online, and it is frequently offered together with other models.

**Shopping together in real time**. Shoppers on social networks can invite their friends to shop online at the same time, while in different locations. Using Facebook e-mail (or other networks) or Twitter, they interact to discuss shopping-related subjects and provide opinions.

**Communities and clubs**. The community platforms and forums connect people with each other, with businesses and with other communities.

**Marketplaces**. Social shopping marketplace combines bookmarking and product sharing. Members can follow others to find trendy shopping. (Turban, 2018)

### Innovative models

- Virtual gifts.
- Getting help from friends.
- Shopping without leaving Facebook.
- Social auctions.
- Crowdsourcing shopping advice.
- Helping sellers and bloggers sell products.
- Event shopping.
- Social donations.
- Shopping for virtual products and services
- Location-based shopping

- Shopping presentation sites (e.g., on YouTube) and gaming sites
- Peer-to-peer models (e.g., money lending)
- Private online clubs
- B2B shopping (Turban, 2018)

### 4.4. Social Shopping Aids

In addition to the typical e-commerce shopping aids such as comparison engines and recommendations, there are special aids for social commerce. (Turban, 2018)

#### Recommendations in Social Commerce

Online customers use shopping aids (e.g., price comparison), looking at product review, and researching other sources. Examining and participating in social networking forums is another way to compare prices and read product and service reviews. (Turban, 2018)

#### Ratings and Reviews

Ratings and reviews by friends, even by people that you do not know (e.g., experts or independent third-party evaluators), are usually available for social shoppers. In addition, any user has the opportunity to contribute reviews and participate in relevant discussions. (Turban, 2018)

#### Social Recommendations and Referrals

Recommendation engines allow shoppers to receive advice from other shoppers and to give advice to others. Social shopping may combine recommendations in a social network platform with actual sales. Social recommendationsband referrals are closely related to ratings and reviews and are sometimes integrated with them.

## 5. Social Advertising

The major current revenue source for many social commerce companies is advertising. The reason is that seeing the large number of members and visitors in the social networks, and the amount of time they spend there, has given advertisers the motivation and justification to pay a great deal for placing ads and running promotions in those networks. Like other SC activities, advertising is done both in public, as well as in private company-owned social networks. (Turban, 2017)

Many advertisers are placing ads on Facebook, YouTube, LinkedIn, Instagram, Pinterest, or Twitter. Although social media campaigns may have a small impact on actual online retail sales,

they may have huge benefits with regard to increasing brand awareness. Millions of companies have pages and a presence on all major social networks. The value of social media marketing is significant. (Turban, 2017)

## 5.1. Social ads and Social Apps

Most ads in social commerce are branded content paid for by advertisers. These come in two major categories: social ads and social apps.

1) **Social ads**. These display ads and banners are placed in social games and discussion boards in social networks.
2) **Social apps**. These applications support social interactions and user contributions. These are more complex to implement than social ads. (Turban, 2017)

## 5.2. Viral (Word-of-Mouth) Marketing

**Viral marketing** refers to electronic word-of-mouth (WOM) method by which people tell others (frequently their friends) about a product they like or dislike. Young adults are especially good at viral marketing. If members like a certain product or service, word-of-mouth advertising will spread rapidly sometimes to millions of people at a minimal cost to companies' advertisers. (Turban, 2017)

### Viral Blogging

Many retailers are capitalizing on WOM marketing by using bloggers. When viral marketing is done by bloggers, it is referred to as viral blogging. Viral blogging can be very effective with the use of tools such as Twitter. Note that paid bloggers may be biased in favor of those that hire them. This could be a concern for the blogs' readers. Viral marketing is done in most social networks through internal e-mail, text messages, and forwarding of videos, stories, and special offers. In addition, there are other innovative ways to go viral. (Turban, 2017)

### Viral Videos

A **viral video** is any video that is forwarded rapidly from one person to others, sometimes with a recommendation to watch it. Social networks are an ideal place to disseminate such videos, which became popular due to Internet sharing (mostly through video sharing websites, e-mail, texting, blogs, etc.). This method is inexpensive. Social media can be most powerful when a video goes viral, because it is an attention grabber (e.g., funny). People forward videos or their URLs to their

friends and acquaintances, and as a result, many watch a video that may contain an ad or show a brand logo. (Turban, 2017)

*  *  *

## Review

**True/False Questions**

1. Social networking sites allow individuals who are members of the social network to create and publish a profile, create a list of other users with whom they share a connection.

   ☒ True

   ☐ Fulse

2. "A large number of people visiting social networks attract advertisers" represents a driver for social commerce.

   ☒ True

   ☐ Fulse

3. Shoppers on social networks can not invite their friends to shop online at the same time, while in different locations

   ☐ True

   ☒ Fulse

**Multiple Choices Questions**

1. ---------- refers to e-commerce transactions delivered via social media
   a. *Social commerce*
   b. Social platforme
   c. E-business
   d. Social Media
2. What choice does not represent a benefit of social commerce to customer?
   a. It is easy to get recommendations from friends and other customers
   b. Added convenience in online shopping
   c. Purchases are better matched with specific needs, wants, tastes, and wishes of customers
   d. *Vendors get free word-of-mouth marketing*
3. ---------- online shopping with social media tools and platforms including five social networks
   a. Social marketing

*b. Social shopping*

c. Social commerc

d. Social buiness

**Essay Questions**

1. What is social commerce? Compare it between social computing to traditional computing.
2. Discuss the importance of social element in social media and networking for the development of e-commerce.
3. Discuss the major benefits and limitations of social commerce.
4. What is social shopping and advertising? How they are different from other online shopping and advertising?

*  *  *

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* * *

# *Chapter 06: E-business infrastructure*

## 1. E-business infrastructure

Defining an adequate technology infrastructure is vital to all companies adopting e-business. The infrastructure directly affects the quality of service experienced by users of the systems in terms of speed and responsiveness. (Chaffey, 2009)

### 1.1. E-business infrastructure definition

**E-business infrastructure** refers to the combination of hardware such as servers and client PCs in an organization, the network used to link this hardware and the software applications used to deliver services to workers within the e-business and also to its partners and customers. Infrastructure also includes the architecture of the networks, hardware and software and where it is located. Finally, infrastructure can also be considered to include the methods for publishing data and documents accessed through e-business applications. A key decision with managing this infrastructure is which elements are located within the company and which are managed externally as third-party managed applications, data servers and networks.

It is also important that the e-business infrastructure and the process of reviewing new technology investments be flexible enough to support changes required by the business to compete effectively.

While it is important to be able to understand some of the technical jargon and concepts when talking to third-party suppliers of hardware, software and services, what is of crucial importance is to be aware of some of the limitations (and also the business potential) of the infrastructure. Through being aware of these problems, managers of an organization can work with their partners to ensure a good level of service is delivered to everyone, internal and external, who is using the e-business infrastructure. (Chaffey, 2009)

### 1.2. E-business infrastructure components

Figure 6.1 summarizes how the different components of e-business architecture which need to be managed relate to each other. The different components can be conceived of as different layers

with defined interfaces between each layer. The different layers can best be understood in relation to a typical task performed by a user of an e-business system.

For example, an employee who needs to book a holiday will access a specific human resources application or program that has been created to enable the holiday to be booked (Level I in Figure 6.1). This application will enable a holiday request to be entered and will forward the application to their manager and human resources department for approval. To access the application, the employee will use a web browser such as Microsoft Internet Explorer, Mozilla Firefox or Google Chrome using an operating system such as Microsoft Windows XP or Apple OS X (Level II in Figure 6.1). This systems software will then request transfer of the information about the holiday request across a network or transport layer (Level III in Figure 6.1). The information will then be stored in computer memory (RAM) or in longterm magnetic storage on a web server (Level IV in Figure 6.1). The information itself which makes up the web pages or content viewed by the employee and the data about their holiday request are shown as a separate layer (Level V in Figure 6.1), although it could be argued that this is the first or second level in an e-business architecture. (Chaffey, 2009)

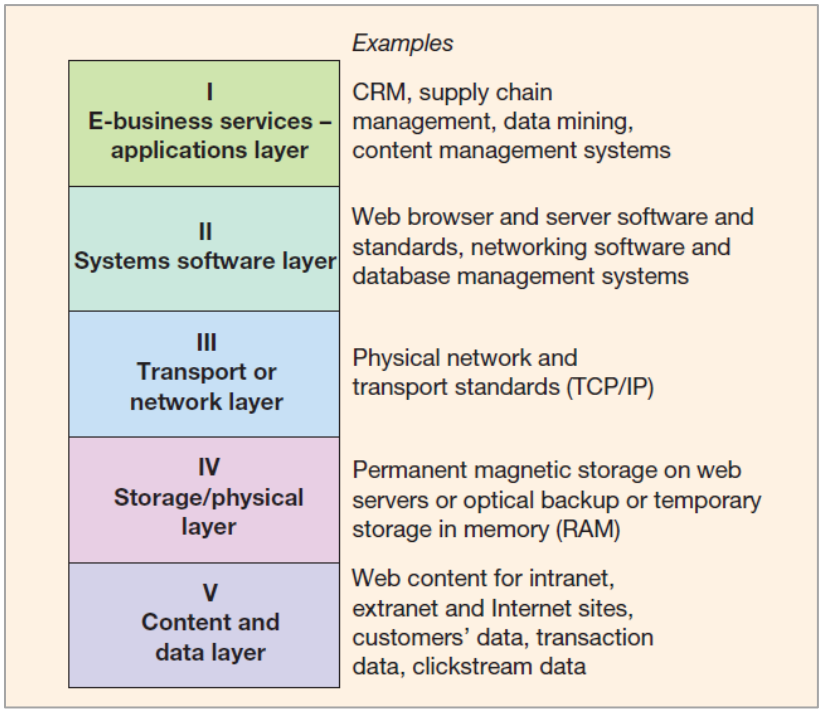


**Figure 6.1 A five-layer model of e-business infrastructure**

# 2. Internet technology

## 2.1. Internet

The **Internet** is an interconnected network of thousands of networks and millions of computers linking businesses, educational institutions, government agencies, and individuals. The Internet provides approximately 3.1 billion people around the world with services such as e-mail, apps, newsgroups, shopping, research, instant messaging, music, videos, and news. No single organization controls the Internet or how it functions, nor is it owned by anybody, yet it has provided the infrastructure for a transformation in commerce, scientific research, and culture. The word *Internet* is derived from the word *internetwork*, or the connecting together of two or more computer networks. (Laudon, 2017)

## 2.2. The Web

The **Web** is one of the Internet's most popular services, providing access to billions, perhaps trillions, of Web pages, which are documents created in a programming language called HTML that can contain text, graphics, audio, video, and other objects, as well as "hyperlinks" that permit users to jump easily from one page to another. Web pages are navigated using browser software. (Laudon, 2017)

### Web 2.0

The term **Web 2.0** was introduced the term in 2004. It is viewed as describing a seconds generation of Internet-based tools and services. Some properties of Web 2.0 are: user-generated content, online collaboration and information, and sharing data interactively. Web 2.0 is considered a platform for running social media. (Turban, 2016)

The major characteristics of Web 2.0 are:

- User-created content (self-publishing)
- The ability to tap into the collective intelligence of users. The more users who contribute, the more popular and valuable a Web 2.0 site becomes
- Unique communication and collaborative environment
- Making data available in new and innovative ways
- Web 2.0 data that can be remixed or "mashed up," often through Web services interfaces
- The presence of lightweight programming techniques and tools that lets nearly anyone act

as a developer (e.g., wikis, blogs, RSS, and podcasting)

- The virtual elimination of software-upgrade cycles that makes everything a perpetual beta, or work in progress, and allows rapid prototyping using the Web as a platform
- Unique sharing of content of all types
- Networks as platforms, delivering and allowing users to use applications entirely through a browser
- Open source architecture, which makes connectivity to computing resources simple
- Users own the data on the site and exercise control over that data
- An architecture of participation and digital democracy that encourages users to add value to the application as they use it
- Creation of new business models
- A major emphasis on social networks
- A rich, interactive, and user-friendly interface
- More productive organization communication due to improved search, links, user authority
- Global spread of innovation (Turban, 2016)

## Advantages of the Web

- It helps in faster communication
- Millions of people have a access to the WWW with more and more added everyday.
- Provides Busniess information
- Customerservice
- Opportunity to conduct business access 24*7
- Provide files to download
- Helps in E- Commerce and Advertising (Susheela, 2015)

## Disadvantages of the Web

- Websites may be unreliable
- A website crashes is no good to anyone
- Difficulty in reaching the right people
- Creates Bad Publicity
- Theft of personal information (insecurity)
- Spamming
- Virus Threat

- Social Disconnect (Susheela, 2015)

## 2.3. Internet Tools

### E-mail

E-mail or electronic mails is an electronic message sent from one computer to another. You can send or receive personal and business-related messages with attachments like pictures or other documents. It saves time and money, is fast, easy to use and less expensive than the post. You can send e-mail practically to anyone with an e-mail address, anywhere in the world. E-mails can be of two type:

- Inbound e-mail: E-mail received from outside the organization such as customer and supplier enquiries.
- Outbound e-mail: E-mail sent from the company to other organizations. (Khuranamc, 2018)

### Search Engine

Search engines are Web sites that help you search the Internet for other Web sites based on keywords you provide. Databases of web sites that use spiders or robots to search the web and catalog web pages and make it convenient for you to search. Popular search engines include: Google, Yahoo, Bing. (Khuranamc, 2018)

### Newsgroups

Discussion groups on the Internet. Newsgroups are classified by subject matter and do not necessarily deal with journalism or "news." Health, hobbies, celebrities, and cultural events are the subjects of many newsgroups. Participants in a newsgroup conduct discussions by posting messages for others to read, and responding to the messages posted by others. (Khuranamc, 2018)

### Internet Relay Chat (IRC)

IRC works because a series of IRC servers band together in a network to share channels of communication, like communicating with someone or a group on a single radio frequency. If you connect to one server in such a network, you have access to all the channels and all the users connected to any of the servers on that network. (Khuranamc, 2018)

### Video Conferencing

Video conferencing can be easily described as a telephone conversation that allows you to be face-

to-face with one another. This technology will never replace the person-to-person meeting completely, but it does offer an incredible tool for better telecommunication & can save companies hundreds of thousands of dollars in travel costs; and these applications are just scratching the surface. (Khuranamc, 2018)

## 2.4. Web Technologies

### Web Page

A web page is a single unit of information, often called a document that is available via the World Wide Web (www). A web page can be longer than one computer screen and can use more than one piece of paper when it is printed out. A web page is created using HTML. It consists of standardized codes or "tags", that are used to define the structure of information on a web page. These codes enable web pages to have many features including bold text, italic text, headings, paragraph break and numbered or bulleted lists. (Khuranamc, 2018)

Web pages usually contain hyperlinks. A **Hyperlink** allow users to move readily from one document or web site to another.

A **Web Site** is compound of several connected web pages. It can contain two types of web pages: static and dynamic.

- Static web page is a page on the web server that is invariant.
- Dynamically created web page is a page that is created in real time, often with reference to a database query, in response to a user request.

### Web Browser

Web browsers are applications that retrieve content in the form of HTML from web servers. Browsers keep track of the users input actions, for example; clicking buttons or selecting links-and executing those actions. The most popular web browsers are: Microsoft Internet Explorer, Mozilla Firefox, Apple Safari and Google Chrome. (Khuranamc, 2018)

### Hypertext Markup language (HTML)

HTML defines several aspects of a web page including heading levels, bold, italics, images, paragraph breaks and hypertext links to other resources. HTML is a way to define the formats of text in a web page. However, it goes further by also being able to define placement of graphics and hypertext links. (Khuranamc, 2018)

## Uniform resource locators (URLs)

Web addresses refer to particular pages on a web server which is hosted by a company or organization. The technical name for web address is uniform (or universal) resource locator (URL). URLs can be thought of as a standard method of addressing that make it straightforward to find the name of a site. (Chaffey, 2009)

Web addresses always start with 'http://', and the vast majority of sites start with 'www'. Web addresses are structured in a standard way as follows:

http://www.domain-name.extension/filename.html

## Domain names

The domain name refers to the name of the web server and is usually selected to be the same as the name of the company, and the extension will indicate its type. The extension is also commonly known as the generic top-level domain as:

- .com for commercial companies.
- .org for not-for-profit organizations.
- .mobi for sites configured for mobile phones.
- .net for network provider.
- .sy, .fr, .ca, etc. represent countries. (Chaffey, 2009)

## Graphical images (GIF, JPEG and PNG files)

Graphics produced by graphic designers or captured using digital cameras can be readily incorporated into web pages as images. **GIF** (Graphics Interchange Format), **JPEG** (Joint Photographics Experts Group), and **PNG** (Portable Network Graphics) refer to the three standard file formats most commonly used to present images on web pages. (Chaffey, 2009)

## Audio and video

Traditionally sound and video, or 'rich media', have been stored as the Microsoft standards **.wav** and **.avi**. A newer sound format for music is **mp3** and **mp4**. These formats are used on some web sites, but limited because the user would have to wait until the whole clip downloads before hearing or viewing it. **Streaming media** are now used for many multimedia sites since they enable video or audio to start playing within a few seconds. (Chaffey, 2009)

### Semantic web

Semantics is the study of the meaning of words and linguistic expressions. The semantic web is about how to define meaning for the content of the web to make it easier to locate relevant information and services rapidly. It concerns interrelated content including data with defined meaning, enabling better exchange of information between computers and between people and computers. (Chaffey, 2009)

### Plug-ins

Plug-ins are additional programs, sometimes referred to as 'helper applications', that work in association with the web browser to provide features not present in the basic web browser. The best-known plug-ins are probably the one for Adobe Acrobat that is used to display documents in .pdf format. (Chaffey, 2009)

## 3. Wireless Technology

Wireless technology has been the catalyst for structural change in the internet economy since it first emerged as a viable e-business channel in the 1990s. The lack of mobility is a shortcoming of traditional e-business models. Wireless technology is driving the emergence of new business models that exploit opportunities beyond the e-business paradigm. (Combe, 2006)

### 3.1. WAP

Wireless Applications Protocol (WAP) is a standard that transfers data and information to wireless devices. The WAP rollout in 2000 was the first effective standard specifically aimed at mobile devices using a stripped down version of HTML called 'Wireless Markup Language' (WML). WML is designed for making data, information and limited graphics legible on small hand-held devices such as mobile phones. (Combe, 2006)

### 3.2. 3G / 4G / 5G

Generations of mobile phone technology thet provid high-speed data transfer enabling video calling and streaming. They are based on a set of standards used for mobile devices and mobile telecommunications use services and networks that comply with the International Mobile Telecommunications-2000 (IMT-2000) specifications by the International Telecommunication Union. They finds application in wireless voice telephony, mobile Internet access, fixed wireless

Internet access, video calls and mobile TV. The main difference between those generations is rate of wireless broadband. (Wikipedia)

## 3.3. Bluetooth

Bluetooth is a specification for short-range radio communications among mobile devices. Mobile devices operating Bluetooth can communicate when they come within range of each other and establish a network relationship. The Bluetooth initiative allows devices to be connected anywhere within the communications range without cables. Bluetooth also has built-in security features such as encryption and authentication functions, even though research has found that most users do not use these. (Combe, 2006)

## 3.4. Wi-Fi

Wireless-fidelity, or wi-fi, is a high-speed local-area network enabling wireless access to the internet for mobile, office and home users. Its main attribute is its flexibility since it can be used in built-up urban areas without the need for a fixed connection. Intel, the computerchip company, has been active in designing a chip that smoothes the way for wi-fi access on laptop computers. Wi-fi can be found in public places such as airports, restaurants, hotels and hospitals. These places provide so-called 'internet hotspots' where mobile devices can hook up to the internet without needing a fixed wire. However, there have been concerns expressed by some security professionals regarding the ease to which wi-fi can be hacked into by anyone within range and using the same wireless frequency. (Combe, 2006)

## 3.5. Wimax

Wimax is a broadband service that can support data transmission at speeds of up to 10 Mb a second, twenty times faster than conventional 512 kb/s available on copper wires. The higher data rates will allow firms to transmit large amounts of information faster as well as making it easier to use services that rely on video. The Wimax initiative offers greater reach than wi-fi broadband technology. (Combe, 2006)

# 4. Internet Communication Technology

## 4.1. Communication Protocols

### IP address

Some addressing information goes at the beginning of your message; this information gives the network enough information to deliver the packet of data. The IP address of a receiving server is usually in the form 207.68.156.58 which is a numerical representation of a better-known form such as www.microsoft.com. Each IP address is unique to a given organization, server or client. The first number refers to the top-level domain in the network, in this case .com. The remaining numbers are used to refer to a particular organization. (Chaffey, 2009)

### Transmission Control Protocol / Internet Protocol (TCP/IP)

Transmission Control Protocol and Internet Protocol ( TCP/IP ) are most commonly used protocol in the Internet. They mainly deal with slicing the data into small sized packets and routing them along the communication channel. These packets are routed to their destination and passed through from node to node and are assembled in order to form the data at the destination computer. (Khuranamc, 2018)

### Hyper Text Transfer Protocol (HTTP)

A web page is transferred to a user's computer via the hypertext transfer protocol (HTTP). HTTP is the method through which hypertext files such as web pages, are transferred over the internet. HTTP is a client/server based internet protocol. Web pages generally reside on HTTP servers. A user requests a web page from an HTTP server through his or her web browser client software. Either by clicking on a hypertext link or designating a particular URL (uniform resource locator). The server then sends the requested information to the user's computer. The browser software interprets the HTML codes and presents the information contained in the web page in a readable format on the user's computer. (Khuranamc, 2018)

### File Transfer Protocol (FTP)

FTP is part of the TCP /IP protocol suite. It is a protocol or set of rules, which enables files to be transferred between computers. Ftp works on the client/ server principle. A client programme enables the user to interact with a server in order to access information and services on the server computer. Files that can be transferred are stored on computers called FTP servers. To access these

files, an FTP client programme is used. This is an interface that allows the user to locate the file(s) to be transferred and initiate the transfer process. (Khuranamc, 2018)

### Simple Mail Transfer Protocol (SMTP)

This protocol is used for the delivery of E Mail. When an E mail is to be sent, then the Mail Transfer Program contacts the remote machine and forms a TCP connection over which to e-mail is transferred. Once the connection is established, then Simple Mail Transfer Protocol (SMTP) identifies the sender itself, specifies the recipient of mail and then transfers the E mail message. Other features included in the SMTP are that it allows the sender to ask whether the mailbox to which the mail is directed, does exist on the remote computer or not. It also enables the sender to keep a copy of the mail until it removed or deleted. (Khuranamc, 2018)

### XML (eXtensible Markup Language)

**XML** or **eXtensible Markup Language** is a standard for transferring structured data, unlike HTML which is purely presentational. The key word describing XML is 'extensible'. This means that new markup tags can be created that facilitate the searching and exchange of information. (Chaffey, 2009)

### Voice over IP [VoIP]

Voice over Internet Protocol [VoIP] is simply the transmission of voice traffic over IP based networks. The internet Protocol (IP) was originally designed for data networking. The success of IP in becoming a world standard for data networking has led to its adaption to voice networking. Thus, Voice over Internet Protocol (VoIP) is a technology that allows to make voice calls using a broadband Internet connection instead of a regular phone line. (Susheela, 2015)

## 4.2. Intranets and extranets

### Intranet

**Intranet** is a private network within a single company using Internet standards to enable employees to access and share information using web publishing technology.

The majority of Internet services are available to any business or consumer that has access to the Internet. However, many e-business applications that access sensitive company information require access to be limited to qualified individuals or partners. If information is restricted to employees inside an organization, this is an **intranet.**

The main benefits of Intranets are:

- Improved information sharing (customer service),
- Enhanced communications and information sharing (communications),
- Increased consistency of information (customer service),
- Increased accuracy of information (customer service),
- Reduced or eliminated processing,
- Easier organizational publishing. (Chaffey, 2009)

## Extranet

**Extranet** is a service provided through Internet and web technology delivered by extending an intranet beyond a company to customers, suppliers and collaborators.

If access to an organization's web services is extended to some others, but not everyone beyond the organization, this is an **extranet**. Whenever you log on to an Internet service such as that for an e-retailer or online news site, this is effectively an extranet arrangement, although the term is most often used to mean a business-to-business application where certain customers or suppliers are given shared access. (Chaffey, 2009)

The main benefits of Extranets are:

- Information sharing in secure environment. Information needed to support business through a range of business partners can be shared using an extranet.
- Cost reduction. Operating processes can be made more efficient through an extranet.
- Order processing and distribution. An extranet can connect a retailer's point of sales terminals to a supplier's delivery system, ensuring prompt replenishment of goods sold.
- Customer service. Distributors or agents of companies can find information such as customized pricing or advertising materials. (Chaffey, 2009)

Figure 6.2. shows the relationship between intranets, extranets and the Internet.

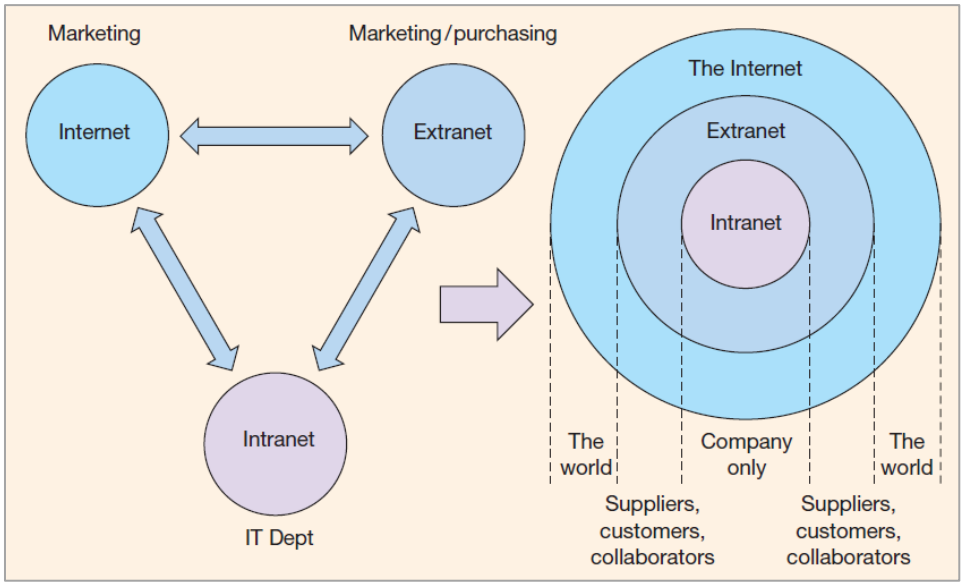


**Figure 6.2 The relationship between intranets, extranets and the Internet**

*  *  *

## Review

**True/False Questions**

1. E-business infrastructure refers to the combination of hardware in an organization, the network and the software applications used to deliver services to workers within the e-business and also to its partners and customers.

   ☒ True

   ☐ Fulse

2. Search engine is an electronic message sent from one computer to another.

   ☐ True

   ☒ Fulse

3. The Web provids access to web pages that can contain text, graphics, audio, video, and hyperlinks

   ☒ True

   ☐ Fulse

**Multiple Choices Questions**

1. ---------- are discussion groups on the Internet classified by subject matter and do not necessarily deal with journalism or news.
   a. *Newsgroups*
   b. Internet relay chats
   c. Vedio conferencing
   d. E-mails
2. ---------- allow users to move readily from one document or web site to another
   a. Website
   *b. Hyperlink*
   c. Java
   d. E-mail
3. ---------- is a specification for short-range radio communications among mobile devices
   a. 4G

b. WAP

c. Bluetooth

*d. Wi-Fi*

**Essay Questions**

1. Define e-businss infrastructure and present its main componenents.
2. Distinguish between intranets, extranets and the Internet.
3. What is the difference between the Internet and the World Wide Web?
4. Describe wireless technology and communication technology.

*  *  *

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Wikipedia

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# *Chapter 07: Electronic Payment*

## 1. Electronic Payment

Electronic payment systems are central to on-line business process as companies look for ways to serve customers faster and at lower cost. Emerging innovations in the payment for goods and services in electronic commerce promise to offer a wide range of new business opportunities. (Khuranamc, 2018)

Electronic payment systems and e-commerce are highly linked given that on-line consumers must pay for products and services. Clearly, payment is an integral part of the mercantile process and prompt payment is crucial. If the claims and debits of the various participants (consumers, companies and banks) are not balanced because of payment delay, then the entire business chain is disrupted. Hence an important aspect of e-commerce is prompt and secure payment, clearing, and settlement of credit or debit claims. (Khuranamc, 2018)

Everyone agrees that the payment and settlement process is a potential bottleneck in the fast-moving electronic commerce environment if we rely on conventional payment methods such as cash, checks, bank drafts, or bills of exchange. Electronic replicas of these conventional instruments are not well suited for the speed required in e-commerce purchase processing. Conventional instruments are too slow for micropayments and the high transaction costs involved in processing them add greatly to the overhead. Therefore new methods of payment are needed to meet the emerging demands of e-commerce. These neo-payment instruments must be secure, have a low processing cost, and be accepted widely as global currency tender. (Khuranamc, 2018)

## 2. E-payment defined

E-payment is defined as follows: the parties of e-transaction, including customers, vendors and financial institutions, use secure and electronic means to make payment or money circulation. Compared with traditional payment means, e-payment has the following features: (Qin, 2009)

(1) E-payment introduces digital circulation to realize information transmission, so all means of e-payment are all digitalized; but traditional payment is realized through physical circulation such as cash circulation, bill transfer and bank exchange.

(2) The working environment of e-payment is based on an open system platform (the Internet); while traditional payment is operated in a relatively closed system.

(3) E-payment uses the most advanced communication means, such as the Internet and extranet, while traditional payment uses traditional communication media. E-payment has a very high requirement for both software and hardware facilities, generally including online terminals, relevant software and some other supporting facilities; while traditional payment does not have such a high requirement.

(4) E-payment enjoys advantages for it is convenient, fast, efficient and economic. As long as the user has a computer connecting to the Internet, he will be able to stay indoors and complete the whole payment within a very short time. The cost is even less than one percent of that of the traditional way. (Qin, 2009)

E-payment is based on electronic financial network, and uses various apparatus and cards as media, computer and communication technologies as means to realize circulation and payment by making use of binary data stored in the bank computer systems.

## 2.1. E-payment Features

From the definition above we can conclude that e-payment has the following features:

1. Supported by computer technologies, it realizes storage, payment and circulation.
2. Multiple functions are integrated together, including deposit, loan and non-cash settlement.
3. It is widely applied to such areas as production, exchange, distribution and consumption.
4. It is simple, secure, fast and reliable.
5. E-payment is usually accomplished through exclusive network for banks. (Qin, 2009)

## 2.2. Phases in the development of e-payment

There are five forms to carry out e-payment, representing the five different phases in the development of e-payment.

1. The bank uses computers to process the business and settlement between banks;
2. The computers of the bank make settlement with other organizations, such as paying

salaries;

3. Network terminals are used to provide banking services for clients, for example, clients could withdraw and deposit money on ATM;
4. POS terminals are used to provide automatic deduction services for clients, which are the principal means of e-payment nowadays;
5. It is the latest phase, in which e-payment enables direct transfer and settlement through network at any place and any time, thus bringing into existence of e-commerce environment. This is a developing phase, which will also be the principal means of e-payment. E-payment in this phase is also called online payment, and the online payment tools include credit card, digital cash, e-check and intelligent card. (Qin, 2009)

## 3. Characteristics of E-Payment

When business and individual consumers use a payment system online, they seek a payment environment that enables a quick, easy, and secure transaction. They also want to be sure that the payment system is inexpensive and may be used for different types of payments. In order to be successful, the value-added offerings (characteristics) of an e-payment system need to be the following: (Radovilsky, 2015)

1. **Applicability** represents the availability of an e-payment system at the online point of sale (POS) for various payment sizes including large sums or micropayments, and for different destinations like merchants or private persons.
2. **Ease to obtain** defines the ability to register quickly to an e-payment system, and ease of the navigation in this system.
3. **Reliability/ease of use** necessitates simplicity, ease of making payments, and transparency of use by customers and merchants.
4. **Cost of transaction** should be based on a fixed transaction fee or proportion/percentage of the sales value. In either case, the transaction cost should be relatively small to allow payments of any size (large and micropayments).
5. **Security** represents a transmission mechanism from customer (buyer) to merchant (seller) with minimum risk; it also defines customer confidence in storing proprietary information online.
6. **Liability** should be based on protecting customers from potential monetary losses.

7. **Anonymity** requires protection of personal information by an e-payment system. (Radovilsky, 2015)

## 4. E-Payment Models

A wide range of models has been developed for online payments. However, they may be divided into two main groups: account-based and electronic currency models (see Figure 7.1). (Radovilsky, 2015)

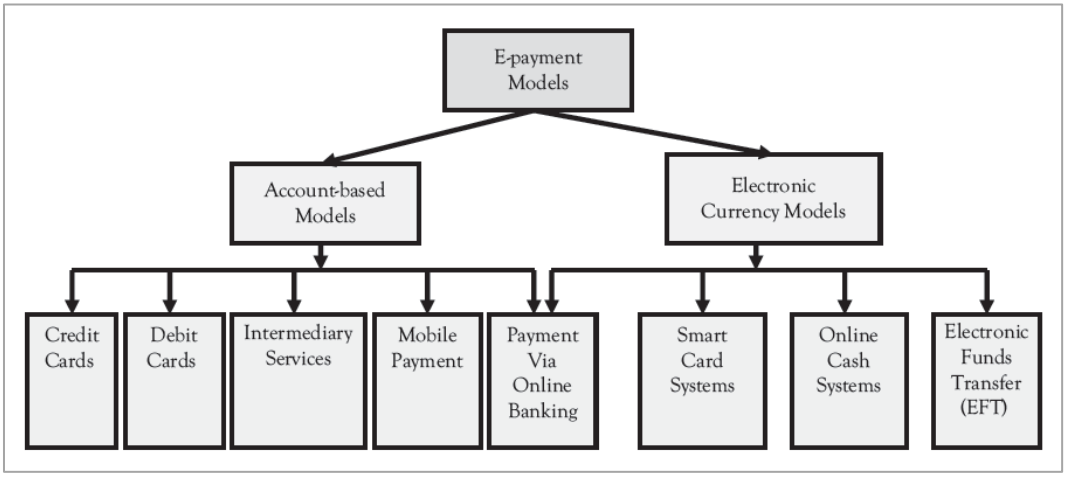


**Figure 7.1 E-Payment models**

### 4.1. Account-based Models

**Account-based Models** allow for payments via an existing personalized account, which is usually a bank account or intermediary account. The account-based models are based on online utilization of credit and debit cards, intermediary services, mobile/wireless payments, and payment via online banking. (Radovilsky, 2015)

### 4.2. Electronic Currency Models

**Electronic Currency Models** allow for payments if the payer has an appropriate amount of electronic currency. These systems can be divided into three main categories of payments based on smart cards, online cash systems, and electronic transfer of funds. (Radovilsky, 2015)

## 5. E-Payment Methods

Cash, checks, credit cards, and debit cards are the four most common methods used in the world by consumers to pay for purchases overall (that is, including both online and in physical stores).

These four payment methods account for more than 90 percent of all consumer payments. Only a small percentage of consumer payments are made by electronic transfer of any kind, with most of those being automated payments for auto loans, insurance, and home mortgages that are made from consumers' checking accounts. (Schneider, 2017)

Cash and checks are difficult to use online, so the most of B2C online payments are made using credit or debit cards, with alternative payment systems (predominantly PayPal) accounting for most of the remainder. Most industry analysts expect that the use of credit and debit cards will continue to decrease as the use of alternative payment systems grows. An increasing proportion of all of these payments are made using mobile devices. Online payments can be convenient for customers and can save companies money. (Schneider, 2017)

## 5.1. Payment Cards

Payment card describes all types of plastic cards that consumers (and many businesses) use to make purchases. The main categories of payment cards are credit cards, debit cards, charge cards, prepaid cards, and gift cards. (Schneider, 2017)

### Credit Card

A credit card, such as a Visa or MasterCard, has a spending limit based on the user's credit history; a user can pay off the entire credit card balance or pay a minimum amount each billing period. Credit card issuers charge interest on any unpaid balance. Credit cards are widely accepted by merchants around the world and provide assurances for both the consumer and the merchant. A consumer is protected by an automatic 30-day period in which he or she can dispute an online credit card purchase. Online credit card purchases are similar to telephone purchases in that the card holder is not present and cannot provide proof of identity as easily as he can when standing at the cash register. Online and telephone purchases are often called card not present transactions and both include an extra degree of risk for merchants and banks. (Schneider, 2017)

### Debit Card

A debit card looks like a credit card, but it works quite differently. Instead of charging purchases against a credit line, a debit card removes the amount of the sale from the cardholder's bank account and transfers it to the seller's bank account. Debit cards are also called electronic funds transfer at point of sale (EFTPOS) cards. Debit cards are issued by the cardholder's bank and usually carry

the name of a major credit card issuer, such as Visa or MasterCard, by agreement between the issuing bank and the credit card issuer. By branding their debit cards (with the Visa or MasterCard name), banks ensure that their debit cards will be accepted by merchants who recognize the credit card brand names. (Schneider, 2017)

### Charge Card

A charge card, offered by companies such as American Express, carries no spending limit, and the entire amount charged to the card is due at the end of the billing period. Charge cards do not involve lines of credit and do not accumulate interest charges. Many retailers, such as stores and oil companies that own gas stations, issue their own charge cards. (Schneider, 2017)

### Purchasing card

The purchasing cards (or p-cards) can be either credit cards or charge cards. Many retailers offer cards that can be redeemed by anyone for future purchases. They can also be used to make small purchases that would be expensive for a merchant to process as credit card sales. More often, they are given to third parties as gifts. (Schneider, 2017)

### Gift Card

Prepaid cards sold with the intention that they be given as gifts are called gift cards. Gift cards are available for a range of merchants. These prepaid cards are sometimes used by people who do not want to be tempted by a credit card to purchase more than they can afford. (Schneider, 2017)

### Single-use Card

To address consumer concerns about providing their payment card numbers online, several payment card companies have offered cards with disposable numbers. These cards, sometimes called single-use cards, gave consumers a unique card number that was valid for one transaction only. (Schneider, 2017)

## 5.2. Digital Cash

Although credit cards dominate online payments today, digital cash shows promise for the future. Digital cash (also called e-cash or electronic cash) is a general term that describes any value storage and exchange system created by a private (nongovernmental) entity that does not use paper documents or coins and that can serve as a substitute for government-issued physical currency.

A successful electronic cash system will need common standards so that one issuer's digital cash can be accepted by another issuer. To date, every digital cash issuer has created its own standards; thus none of them has become widely accepted. (Schneider, 2017)

## Bitcoin

One current example of a digital cash provider that has created its own standards and has, therefore, found its currency to be not widely accepted is **Bitcoin**. In 2008, a person who remains anonymous created Bitcoin as a digital currency that was independent of banks and government control of any kind. Bitcoin is an online ledger book in which each participant's balance is public information and transactions are recorded between anonymous individuals. Participants' network addresses are confirmed using public-key cryptography, which maintains their anonymity.

Although some merchants accept Bitcoins as payment for purchases, a large proportion of Bitcoin transactions are used to make illegal purchases (such as drugs), or to engage in currency speculation. As a currency that lacks stability and has no country's legal system to back it, Bitcoin is of limited use in everyday transactions. Experts disagree on the future viability of Bitcoin, however some believe it has great potential for adoption around the world.

Concerns about electronic payment methods include privacy and security, independence, portability, and convenience. Consumers want to know whether transactions are vulnerable and whether the electronic currency can be copied, reused, or forged.

Two characteristics of physical currency are important to have in any digital cash implementation:

- It must be impossible to spend digital cash more than once, just as with traditional currency.
- digital cash ought to be anonymous, just as currency is. Anonymous digital cash is digital cash that, like bills and coins, cannot be traced back to the person who spent it.

The digital cash transaction must occur between the two parties only, and the recipient must know that the electronic currency is not counterfeit or being used in two different transactions at the same time.

Perhaps the most important characteristic of cash is convenience. If digital cash requires special hardware or software, it is not convenient for people to use. Chances are good that people will not adopt a digital cash system that is difficult to use. (Schneider, 2017)

### Digital Cash Storage

Digital cash can be held in online storage or offline storage.

- **Online cash storage** means that the consumer does not personally possess digital cash. Instead, a trusted third party, such as an online bank, coordinates all transfers of digital cash and holds the consumers' cash accounts. In an online storage system, the merchant must contact the consumer's bank to receive payment for a purchase. This helps prevent fraud by confirming that the consumer's cash is valid.
- **Offline cash storage** is similar to money kept in a wallet. One company that provides offline digital cash in the form of a prepaid card is InternetCash. In an offline system, the customer holds the digital cash and no other party is involved in the transaction. (Schneider, 2017)

## 5.3. Digital Wallets

Many consumers have begun to tire of repeatedly entering detailed shipping and payment information each time they make online purchases. To simplify the online checkout process, many electronic commerce sites include a feature that allows a customer to store their name, address, and credit card information on the site. However, consumers must enter their information at each site with which they want to do business.

A **digital wallet** (sometimes called an electronic wallet or an e-wallet), serving a function similar to a physical wallet, is an electronic device or software that can store credit card numbers, digital cash, owner identification, and owner contact information and provide that information to an online business at checkout. Digital wallets give consumers the benefit of entering their information just once, instead of having to enter their information at every site with which they want to do business. (Schneider, 2017)

## 5.4. Stored-Value Cards

Today, most people carry a number of plastic cards—credit cards, debit cards, subway card, charge cards, driver's license, health insurance card, employee or student identification card, and others. Most of these cards can store information electronically using either a magnetic strip or a microchip that is embedded into the card. (Schneider, 2017)

### Magnetic Strip Cards

Most magnetic strip cards hold value that can be recharged by inserting them into the appropriate machines, inserting currency into the machine, and withdrawing the card; the card's strip stores the increased cash value. Magnetic strip cards are passive; that is, they cannot send or receive information, nor can they increment or decrement the value of cash stored on the card. The processing must be done on a device into which the card is inserted. (Schneider, 2017)

### Smart Cards

A smart card is a plastic card with an embedded microchip that can store information. Smart cards are also called stored-value cards. The microchip can also include a tiny computer processor that can perform calculations and storage operations right on the card.

Most credit, debit, and charge cards currently store limited information on a magnetic strip. A smart card can store more than 100 times the amount of information that a magnetic strip plastic card can store. A smart card can hold private user data, such as financial facts, encryption keys, account information, credit card numbers, health insurance information, medical records, and so on.

Smart cards are safer than magnetic strip credit cards because the information stored on a smart card can be encrypted. For example, conventional credit cards show your account number on the face of the card and your signature on the back. The card number and a forged signature are all that a thief needs to purchase items and charge them against your card. With a smart card, credit theft is much more difficult because the key to unlock the encrypted information is a PIN; there is no visible information on the card that a thief can identify, nor is there a physical signature on the card that a thief can see and use as an example for a forgery.

Smart cards have been in use since the late 1990s. (Schneider, 2017)

## 5.5. Payment Cards Fraud/Theft

Theft of credit card data is one of the most feared occurrences on the Internet. Fear that credit card information will be stolen prevents users from making online purchases in many cases. Interestingly, this fear appears to be largely unfounded. Incidences of stolen credit card information are actually much lower than users think, around 0.9% of all online card transactions. Online merchants use a variety of techniques to combat credit card fraud, including using automated fraud detection tools, manually reviewing orders, and rejection of suspect orders.

Banks recoup the cost of credit card fraud by charging higher interest rates on unpaid balances, and by merchants who raise prices to cover the losses.

Smart cards have a computer chip instead of a magnetic strip that can be easily copied by hackers and sold as dump data. While smart card technology cannot prevent data breaches from occurring, the hope is that it will make it harder for criminals to profit from stolen cards.

In the past, the most common cause of credit card fraud was a lost or stolen card that was used by someone else, followed by employee theft of customer numbers and stolen identities (criminals applying for credit cards using false identities).

Today, the most frequent cause of stolen cards and card information is the systematic hacking and looting of a corporate server where the information on millions of credit card purchases is stored.

International orders have a much higher risk of being fraudulent, with fraud losses twice that of domestic orders. If an international customer places an order and then later disputes it, online merchants often have no way to verify that the package was actually delivered and that the credit card holder is the person who placed the order. As a result, most online merchants will not process international orders.

A central security issue of e-commerce is the difficulty of establishing the customer's identity. Currently there is no technology that can identify a person with absolute certainty. Until a customer's identity can be guaranteed, online companies are at a higher risk of loss than traditional offline companies. (Laudon, 2017)

## 5.6. Electronic Micropayment

**Micropayments** or **e-micropayments** are small payments made online, usually under $10. From the viewpoint of many vendors, credit cards are too expensive for processing small payments. The same is true for debit cards, where the fixed transaction fees are greater, even though there are no percentage charges. These fees are relatively small (in percentage) only for card purchases over $10. Regardless of the vendor's point of view, there is substantial evidence, at least in the offline world, that consumers are willing to use their credit or debit cards for small-value purchases. In the online world, the evidence suggests that consumers are interested in making small-value purchases, but not with credit or debit card payments.

Areas where consumers have shown a willingness to purchase items under $5 using a credit card

are cell phone ringtones, ringback tones, and o nline games. The annual market for ringtones and ringback tones is in the billions of dollars. The download of both types of tones is charged to the consumer's cell phone bill. Similarly, the annual market for online games is in the billions of dollars. Like songs and tones, downloading a game is usually charged to the consumer's account, which is paid by a credit or debit card. Consumers also pay parking fees, fees for renting carts in airports, and fees for other services. (Turban, 2018)

### Micropayment Models

Currently, there are five basic micropayment models that do not depend solely or directly on credit or debit cards. Some of these are better suited for offline payments than online payments, although there is nothing that precludes the application of any of the models to the online world. The models include: (Turban, 2017)

- **Aggregation.** Payments from a single consumer are accumulated and processed periodically (e.g., once a month), or as a certain level is reached (e.g., $100). This model fits vendors with a high volume of repeat business. The transportation card used in many places is of this nature.
- **Direct payment.** In this case, an aggregation is used, but the micropayments are processed with an existing monthly bill (e.g., a mobile phone bill).
- **Stored-value.** Funds are loaded into a debit account from which the money value of purchases is deducted when purchases are made. This system is being used by several online gaming companies and social media sites.
- **Subscriptions.** A single payment (e.g., monthly) provides access to content. Online gaming companies and a number of online newspapers and journals have used this model.
- **A la carte.** Payments are made for transactions as they occur; volume discounts may be negotiated. This model is used in stock trading. (Turban, 2017)

## 5.7. PayPal and other Third-Party Payment Gateways

An alternative to credit cards is third-party payment gateways. Some are very popular in person-to-person payments such as on eBay and Craigslist. The pioneer and most well-known gateway is PayPal. (Turban, 2018)

### PayPal

While credit and debit cards dominate e-commerce payments, one alternative that has succeeded

is PayPal (and its clones). PayPal was formed in the late 1990s from the merger of two small start-up companies, Confinity and X.com. Their initial success came from providing a payment system that was used for eBay transactions (PayPal is now an eBay company).

How did the system work? Essentially, eBay sellers and buyers opened up PayPal accounts that were secured by a bank or credit card account. At the completion of an auction, the payment transactions were conducted via the seller's and buyer's PayPal accounts.

In this way, the bank or credit card accounts remained confidential. It is important to remember that in those days, buyers were often wary of revealing their credit card numbers online. For the seller, it also eliminated the transaction fees charged by the credit card companies, although PayPal eventually began charging similar, though somewhat lower, transaction fees.

Because of their ongoing success and the percentage of their non-eBay business, PayPal was spun off from eBay in July 2015.

While PayPal provides a number of services, at their core they are a full-service third-party payment gateway. Basically, they eliminate the need for a merchant to deal with the intricacies and complexities of authorization and settlement in online payment. They also eliminate the need for merchants to handle card information and for customers to provide their financial information with every transaction. (Turban, 2018)

### Other Third-Party Gateways

Several global competitors entered the market, competing both with smart cards and PayPal as:

- Apple Pay in
- Google's Android Pay
- Amazon Payments
- Sofort in Germany.
- Wirecard AG in Germany
- Yandex.Money and Qiwi in Russia.
- Alipay and Tenpay in China.
- iDEAL in the Netherlands. (Turban, 2018)

# 6. Mobile Payments

Mobile payment is an alternative payment system where the mobile user makes payment using the mobile device for a wide range of services or goods. Depending on the mode of payments, mobile payments can be broadly classified in the following categories: (Aithal, 2016)

## 6.1. Mobile Phone Based Payments

In this mode, the customer makes payment using the mobile device.

### SMS-based payment

In SMS-based payment, the payment is made by sending an SMS to the retailer. Both the customer and the retailer must have a regular credit/debit account in a partner bank. After selecting an item for purchase, the customer sends an SMS from his mobile device to the retailer requesting the purchase. The retailer responds by sending a payment request through SMS to the customer. The customer keys in the bank PIN number to approve the payment. The bank verifies the PIN and the amount is automatically debited from the customer bank account to the retailer's account. Both the retailer and the customer get SMS from the bank indicating the details of the transaction and the entire process takes only 10-15 seconds. (Aithal, 2016)

### SIM card based payment

In SIM card based payment, the customer uses the mobile phone for purchase of digitized items such as mobile ringtones, MP3 music, video games, wallpapers, etc. that can be downloaded in the mobile device itself. The purchase amount is added to the monthly mobile bill of the customer.

This offers an alternate cashless payment option that does not require use of credit/debit cards or any other online payment service provider, such as PayPal and thus bypass bank and credit card companies altogether. The payment is either debited from the subscriber's prepaid account or added to the standard post-paid invoice of the subscriber as the case may be. (Aithal, 2016)

## 6.2. Card based Mobile Payments

### Credit card based mobile payments

In credit card based mobile payments, the mobile handset is used as a credit card for making payments. The credit card issuing bank gives a PIN number to the mobile handset user. At the time of making payments, the mobile user initiates the transaction by entering the PIN from his mobile

handset. The issuing bank verifies the PIN and authorizes the payment. Next, the customer enters the amount to be paid and the transaction, is completed. The amount is automatically deducted from the credit card account of the mobile user and credited to the bank account of the payee business partner, such as the shop owner. (Aithal, 2016)

### Smart card based mobile payments

In smartcard based mobile payments, the SIM card of a mobile handset are equipped with smart card capabilities. Smart cards are plastic cards with embedded integrated circuits containing microprocessor and memory to store personal data such as credit card number, PIN,· driving license number, etc. The information stored in a smartcard can be read by a card reader in either contact or contact less mode. The SIM card of a mobile device is also a processor card containing programmable memory to store user information for authentication purpose. If the smartcard capabilities are combined with the SIM card of a mobile device, it can be used as a contactless smartcard, and can be used effectively in making mobile payments. (Aithal, 2016)

## 6.3. Mobile Web Payments through WAP

In this mode of mobile payment, the payment is made through the web pages displayed in the micro browser of the mobile phone. The web page is displayed following Wireless Application Protocol (WAP) and associated technology. At the time of making a purchase, the mobile user types the URL of the website of a merchant in the mobile device. The website containing various product information is displayed in the micro browser of the mobile handset. The user selects a product that he intends to buy and places order for the product through the website. The merchant then sends an invoice to the user. If the user intends to pay through a credit card, he enters the credit card number, which is transmitted to the partner bank through a secured channel that employs encryption. The partner bank verifies the credit card number, and if found OK, informs the acquirer bank for making the payment. Alternatively, if the user wants to pay directly from the partner bank in the form of account transfer, he enters the PIN number, which is sent to the partner bank for verification. After successful verification of the PIN, the partner bank debits the amount from the user's account and credits to the merchant's account. In either case, an SMS is sent to both the user and the merchant confirming the payment. The entire payment process is simple, quick and user-friendly as they have a similarity to the familiar online payment systems. (Aithal, 2016)

Above mobile payment systems are emerging as a potential payment mechanism that ensures fast,

smooth and transparent micro payment solutions to mobile users. The mobile phones tend to replace the pocket money and provide a low cost alternative to credit/debit cards for cashless payments anytime, anywhere and for anything. However, like all other online payment systems, special care should be taken to secure such mobile payments. Stringent security arrangements in the form of encryption and/or password authentication should be adopted to ensure that the financial transaction performed through the mobile device cannot be duplicated, re-used or counterfeited. (Aithal, 2016)

# 7. E-Payment Security

## 7.1. Security issues on E-payment System

Before the introduction of computers, people manage payment systems directly and valuable information of business organisations was kept safely in paper records and files. However, in ecommerce environment, information related to payments is transmitted through computers and as such it can easily be accessible to any number of people including outsiders.

Hence, the data in computers are more liable to destruction, fraud, error, and misuse. Since payment information is so valuable its security is all the more important than other kinds of tangible assets in the organisational context.

Therefore it is highly essential to protect this valuable information against loss, damage or disclosure. Though only the positive change brought about by the e-payment systems is highlighted, we cannot ignore the disadvantages of e-payment systems. One must be aware of the privacy and security concerns raised by e-payment systems. (Susheela, 2015)

Security refers to the policies, procedures and technical measures and to prevent unauthorized access, alteration, theft or physical damage to information systems. The basic objective of information security is the protection of interests of those involved in online business. All electronic information processing systems are vulnerable to denial of service attacks where the attacker employs any one of a variety of methods to prevent a client using a service a provider offers. Such attacks can have the effect of closing down a business. Some of the attacks were as follows:

- Development of a method of obtaining the goods or services without making the appropriate payment

- Compromise of clients' financial details credit card number, etc, which may result in the unauthorized transfer of funds and or political embarrassment by their publication.
- Illicit modification of the electronic goods offered by the merchant or of the descriptions of the other goods or services on the merchant server. (Susheela, 2015)

Other methods permitting the unauthorized transfer of funds.

The concern regarding e-payment is **Information Security**: The basic objective of information security is the protection of interest of those involved in online business. Thus the main objectives of information security can be stated as follows:

1. **Availability**: Information should be available and usable whenever it is required.
2. **Confidentiality**: Information should be available to only those who have the right to access it.
3. **Integrity**: Information should be protected from unthorised alteration and modification and misuse. (Susheela, 2015)

## 7.2. Main security requirements for e-payment

### Authorization

- a payment must always be authorized by the payer
- needs payer authentication (physical, PIN, or digital signature)
- a payment may also need to be authorized by the bank data confidentiality and authenticity
- transaction data should be authentic
- external parties should not have access to data
- some data need to be hidden even from participants of the transaction
    - the merchant does not need to know customer account information
    - the bank doesn't need to know what the customer bought

### Availability and Reliability

- payment infrastructure should always be available
- centralized systems should be designed with care
    - critical components need replication and higher level of protection

### Atomicity of transactions

- all or nothing principle: either the whole transaction is executed successfully or the state of the system doesn't change

- in practice, transactions can be interrupted (e.g., due to communication failure)
- it must be possible to detect and recover from interruptions (e.g., to undo already executed steps)

### Privacy (anonymity and untraceability)

- customers should be able to control how their personal data is used by the other parties
- sometimes, the best way to ensure that personal data will not be misused is to hide it
  - anonymity means that the customer hides her identity from the merchant
  - untraceability means that not even the bank can keep track of which transactions the customer is engaged in. (Susheela, 2015)

## 7.3. Solutions to Security Issues

There are numerous threats that appear on the Internet or are spread through the Internet. Such threats include viruses, worms, Trojans, hackers, Denial of Service, sniffers and information theft. There are also internal threats from staff and backdoors. The software technologies that can be used to face such threats include the following:

1. Digital certificates for web servers, to provide authentication, privacy and data integrity through encryption.
2. A secure online payment management system, to allow e-commerce web sited to securely and automatically accept, process, and manage payments online.

The various methods generally used for managing the security issues are the following:

- Anti-Virus Programs
- Firewalls
- Secure Socket Layer (SSL)
- Secure Electronic Transaction (SET)
- Public Key Software Infrastructure (PKI) (Susheela, 2015)

*  *  *

## Review

**True/False Questions**

1. E-payment introduces digital circulation to realize information transmission, so all means of e-payment are all digitalized.

   ☒ True

   ☐ Fulse

2. Electronic Currency Models allow for payments via an existing personalized account, which is usually a bank account or intermediary account

   ☐ True

   ☒ Fulse

3. A digital wallet is an electronic device or software that can store credit card numbers, digital cash, owner identification, and owner contact information and provide that information to an online business at checkout.

   ☒ True

   ☐ Fulse

**Multiple Choices Questions**

1. Which choice is not a feature of e-payment?
   a. Supported by computer technologies, it realizes storage, payment and circulation
   b. Multiple functions are integrated together, including deposit, loan and non-cash settlement
   c. It is widely applied to such areas as production, exchange, distribution and consumption
   *d. It is complex, unsecure, slow and not reliable*
2. ---------- represents the availability of an e-payment system at the online point of sale for various payment sizes including large sums or micropayments, and for different destinations like merchants or private persons
   *a. Applicability*
   b. Ease to obtain
   c. Reliability

d. Security

3. A ---------- has a spending limit based on the user's credit history; a user can pay off the entire credit card balance or pay a minimum amount each billing period
    a. debit card
    *b. credit card*
    c. charge card
    d. purchasing card

**Essay Questions**

1. Define e-payment and discuss its main features.
2. What are the main characteristics of e-payments?
3. List and describe the main e-payment models and methods.
4. Explain mobile payments and show its main methods.

*  *  *

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# *Chapter 08: E-business Strategy*

Developing an e-business strategy requires a fusion of existing approaches to business, marketing, supply chain management, and information systems strategy development. In addition to traditional strategy approaches, commentators have exhorted companies to apply innovative techniques to achieve competitive advantage.

In this chapter we seek to show how an e-business strategy can be created through following established principles, but also through careful consideration of how to best identify and exploit the differences introduced by new electronic channels. In a nutshell, e-business isn't just about defining 'how to do business online', it defines 'how to do business differently online'. The e-business strategy defines how.

## 1. Strategy

### 1.1. Strategy defined

A **Strategy** is the direction and scope of an organisation over the long-term, which achieves advantage for the organisation through its configuration of resources within a changing environment to theneeds of markets and to fulfil stakeholder expectations. (Jelassi, 2014)

Aspects that are crucial for strategy formulation:

- Strategy is concerned with the *long-term direction* of the firm.
- Strategy deals with the *overall plan for deploying the resources* that a firm possesses.
- Strategy entails the willingness to make *trade-offs,* to choose between different directions and between different ways of deploying resources.
- Strategy is about achieving *unique positioning* vis-à-vis competitors.
- The central goal of strategy is to achieve sustainable *competitive advantage* over rivals and thereby to ensure lasting profitability. (Jelassi, 2014)

### 1.2. Tactic

Tactics are schemes for individual and specific actions that are not necessarily related to one another. In general, specific actions can be planned intuitively because of their limited complexity.

(Jelassi, 2014)

Strategy, on the other hand, deals with a more overarching formulation that affects not just one activity at one point in time but all activities of a firm over an extended time horizon. To achieve consistency between different activities over time, intuition is generally not sufficient; it also requires logical thinking. Drawing an analogy with warfare, we could say that while tactics are about winning a battle, strategy is concerned primarily with winning the war. Formulating long-term strategies has become more difficult due to the continuously changing business environment.

## 1.3. Strategy Levels

Within organisations, we typically recognise the following three different levels of strategy (Figure 8.1). They are (Chaffey, 2009) *corporate-level strategy*, (2) *business unit strategy* and (3) *operational strategy*. It is important to note here that most of the cases featured in this text deal primarily with issues related to the first two levels of strategy. (Jelassi, 2014)

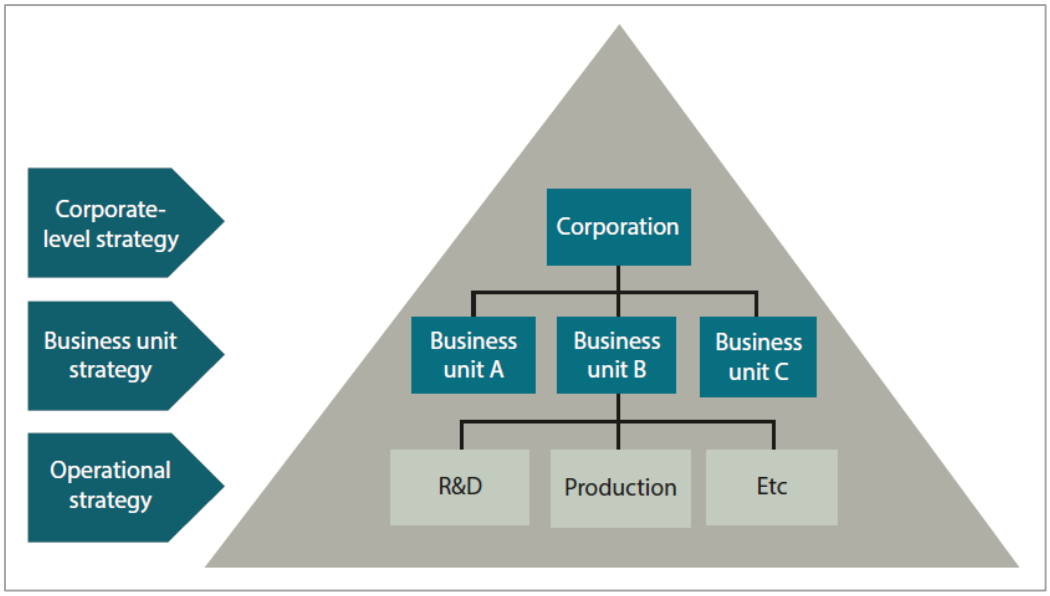


**Figure 8.1 Levels of strategy**

### Corporate-level strategy

The highest strategy level, i.e. the corporate-level strategy, is concerned with the overall purpose and scope of the firm. It typically involves the chief executive officer (CEO) and top-level managers. Corporate strategy addresses issues such as how to allocate resources between different business units, mergers, acquisitions, partnerships and alliances. (Jelassi, 2014)

### Business unit strategy

Business unit strategy is concerned primarily with how to compete within individual markets. It typically involves middle-level management of a firm who deal with issues such as industry analysis, market positioning, unique competitive advantage, and value creation for customers. When formulating a business unit strategy, the desired scale and scope of operations are considered. Each business unit would typically have a different budget and performance targets that align to the corporate level strategy. Business units typically have a degree of autonomy and agility to respond to changes in customer demand. (Jelassi, 2020)

### Operational strategy

Operational strategy, also known as functional-level strategy, concerns the implementation of the business unit strategy with regard to resources, processes, and people. In the context of e-business, this includes issues such as optimal website design, hardware and software requirements, and the management of the logistics process. It aims to optimize operational effectiveness and minimize costs. Operational strategies use techniques that include business process re-engineering (BPR), value stream mapping (VSM), and total quality management (TQM). (Jelassi, 2020)

## 1.4. Generic Business Strategies

A **business strategy** is a set of plans for achieving superior long-term returns on the capital invested in a business firm. A business strategy is therefore a plan for making profits in a competitive environment over the long term. **Profit** is simply the difference between the price a firm is able to charge for its products and the cost of producing and distributing goods. Profit represents economic value. Economic value is created anytime customers are willing to pay more for a product than it costs to produce. (Laudon, 2017)

Why would anyone pay more for a product than it costs to produce? There are multiple answers. The product may be unique (there are no other suppliers), it may be the least costly product of its type available, consumers may be able to purchase the product anywhere in the world, or it may satisfy some unique needs that other products do not. Each of these sources of economic value defines a firm’s strategy for positioning its products in the marketplace.

There are four generic strategies for achieving a profitable business: differentiation, cost, scope, and focus. We describe each of these below. The specific strategies that a firm follows will depend

on the product, the industry, and the marketplace where competition is encountered.

Although the Internet is a unique marketplace, the same principles of strategy and business apply. Successful e-commerce strategies involve using the Internet and mobile platform to leverage and strengthen existing business (rather than destroy your business), and to provide products and services your competitors cannot copy (in the short term anyway). That means developing unique products, proprietary content, distinguishing processes (such as Amazon's one-click shopping), and personalized or customized services and products. There are five generic business strategies: product/service differentiation, cost competition, scope, focus, and customer/supplier intimacy. Let's examine these ideas more closely. (Laudon, 2017)

## Differentiation Strategy

**Differentiation** refers to all the ways producers can make their products or services unique and distinguish them from those of competitors. The opposite of differentiation is **commoditization**—a situation where there are no differences among products or services, and the only basis of choosing is price.

There are many ways businesses differentiate their products or services. A business may start with a core generic product or service, but then create expectations among users about the "experience" of consuming the product or using the service. Businesses may also augment products and services by adding features to make them different from those of competitors.

And businesses can differentiate their products and services further by enhancing their abilities to solve related consumer problems.

The purpose of marketing is to create these differentiation features and to make the consumer aware of the unique qualities of products and services, creating in the process a "brand" that stands for these features.

E-commerce offers some unique ways to differentiate products and services, such as the ability to personalize the shopping experience and to customize the product or service to the particular demands of each consumer.

E-commerce businesses can also differentiate products and services by making it possible to purchase the product from home, work, or on the road (ubiquity); by making it possible to purchase anywhere in the world (global reach); by creating unique interactive content, videos, stories about

users, and reviews by users (richness and interactivity); and by storing and processing information for consumers of the product or service, such as warranty information on all products purchased through a site or income tax information online (information density). (Laudon, 2017)

## Strategy of cost competition

Adopting a **strategy of cost competition** means a business has discovered some unique set of business processes or resources that other firms cannot obtain in the marketplace. Business processes are the set of steps or procedures required to perform the various elements of the value chain.

When a firm discovers a new, more efficient set of business processes, it can obtain a cost advantage over competitors. Then it can attract customers by charging a lower price, while still making a handsome profit. Eventually, its competitors go out of business as the market decisively tilts toward the lowest-cost provider. Or, when a business discovers a unique resource, or lower-cost supplier, it can also compete effectively on cost. For instance, switching production to low-wage-cost areas of the world is one way to lower costs.

E-commerce offers some ways to compete on cost, at least in the short term. Firms can leverage ubiquity by lowering the costs of order entry (the customer fills out all the forms, so there is no order entry department); leverage global reach and universal standards by having a single order entry system worldwide; and leverage richness, interactivity, and personalization by creating customer profiles online and treating each individual consumer differently—without the use of an expensive sales force that performed these functions in the past. Finally, firms can leverage information intensity by providing consumers with detailed information on products, without maintaining either expensive catalogs or a sales force. (Laudon, 2017)

## Scope Strategy

A **scope strategy** is a strategy to compete in all markets around the globe, rather than merely in local, regional, or national markets. The Internet's global reach, universal standards, and ubiquity can certainly be leveraged to assist businesses in becoming global competitors. (Laudon, 2017)

## Focus/market niche strategy

A **focus/market niche strategy** is a strategy to compete within a narrow market segment or product segment. This is a specialization strategy with the goal of becoming the premier provider in a

narrow market.

E-commerce offers some obvious capabilities that enable a focus strategy. Firms can leverage richness and interactivity to create highly focused messages to different market segments; information intensity makes it possible to focus e-mail and other marketing campaigns on small market segments; personalization— and related customization—means the same product can be customized and personalized to fulfill the very focused needs of specific market segments and consumers. (Laudon, 2017)

### Customer intimacy

Another generic strategy is **customer intimacy**, which focuses on developing strong ties with customers. Strong linkages with customers increase *switching costs* (the costs of switching from one product or service to a competing product or service) and thereby enhance a firm's competitive advantage.

For example, Amazon's one-click shopping that retains customer details and recommendation services based on previous purchases makes it more likely that customers will return to make subsequent purchases. (Laudon, 2017)

Table 8.1 summarizes the five basic business strategies.

**Table 8.1 Generic business strategies**

| STRATEGY | DESCRIPTION | EXAMPLE |
|---|---|---|
| Differentiation | Making products and services unique and different in order to distinguish them from those of competitors | Warby Parker (Vintage-inspired prescription eyeglasses) |
| Cost competition | Offering products and services at a lower cost than competitors | Walmart |
| Scope | Competing in all markets around the globe, rather than merely in local, regional, or national markets | Apple iDevices |
| Focus/market niche | Competing within a narrow market or product segment | Bonobos (Men's clothing) |
| Customer intimacy | Developing strong ties with customers | Amazon; Netflix |

## 2. Strategic Planning Process

Developing an e-business requires extensive research and planning in order to be successful in

cyberspace. This planning involves the development of a solid and concise business plan, and a focused marketing plan well before a website is created. An ebusiness plan must have clearly defined goals as it is difficult for any business organization to stay on track if there are no goals in place for guidance. (MahaVidya, 2010)

Strategic planning determines where an organization is headed over the next year or more, how it's going to get there and how it will know if the results are successful. There are a variety of perspectives, models and approaches used in strategic planning. The way that a strategic plan is developed is dependent on the nature of the organization's leadership, culture of the organization, size of the organization, complexity of the organization's environment and expertise of planners. Goals-based planning is perhaps the most common strategic planning model and begins with focus on the organization's mission and vision and strategies to achieve these goals.

Figure 8.2 shows the different steps in the strategic planning process for Business. (MahaVidya, 2010)

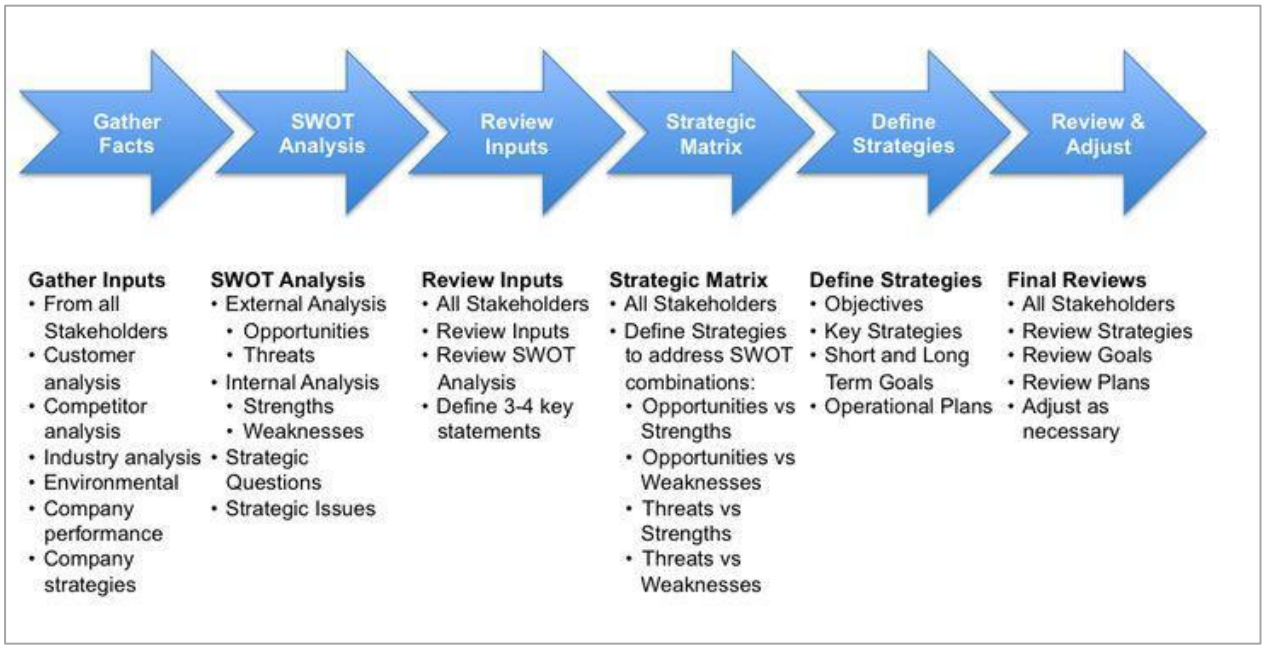


**Figure 8.2 Strategic Planning Process**

## 2.1. Vision and Mission Statements

A successful organization understands that it takes more than a good plan to succeed in business. It takes an empowered organization with impassioned leadership, focused on realistic goals. It takes vision, consensus and a sense of purpose. (MahaVidya, 2010)

### The Vision

The vision statement describes what the leaders of an organization want it to look like in ideal terms in the future - the results they seek to achieve and characteristics needed to possess in order to achieve those results. The strategic vision statement provides direction and motivation for organizational goal setting.

### The Mission

A mission statement is an organization's declaration of its principles, purposes, and objectives that can be used to initiate, evaluate, and refine all life activities. It is an enduring statement of purpose for an organization that identifies the scope of its operations in product and market terms, and reflects its values and priorities.

Every company no matter how big or small, needs a mission statement as a source of direction, a kind of compass, that lets its employees, its customers, and even its stockholders know what it stands for and where it's headed. A mission statement gives everyone the opportunity to know what the organization is about.

## 2.2. Environmental Analysis

Environmental analysis plays a central role in strategic management. For a company to gain or maintain a sustainable competitive advantage in the e-commerce marketplace, it must be ever attentive, watching and preparing for shifts in the business environment and must be prepared to alter its strategies and plans when the need arises.

Companies conduct environmental analysis to identify market opportunities and threats and also to anticipate changes in highly complex and dynamic environments. By anticipating changes accurately, companies can gain competitive advantage through quick action.

Environmental analysis assesses current environmental circumstances and projects, forecasts, and monitors their future situation.

Environmental analysis also helps the firm to position itself in a continually evolving environment by matching its characteristics to the environment's demands. (MahaVidya, 2010)

## 2.3. Competitive Factors

In formulating an e-business strategy, a company must consider the strategies of their competitors.

A competitive analysis allows them to identify the competition within the same market in order to analyze their strengths and weaknesses. This will help a company develop strategies that will provide them with a definite advantage and barriers that can be established in order to prevent competition from taking over the market. A competitive analysis can also identify any weaknesses that can be improved within the business development cycle. (MahaVidya, 2010)

## 2.4. Economic Factors

The economic environment consists of factors that affect consumer purchasing power and spending patterns. The environment in which an organization operates is very much determined by macro-economic factors. A recession can dramatically reduce total income and expenditure levels in the economy, in turn affecting consumer demand. Higher taxes, internet rates and inflation similarly serve as disincentives to consumer confidence (and therefore spending), while economic growth and prosperity can generate spending and an overall "feel-good factor."

The importance of the economic environment - the broad trends in employment, inflation and growth that shape regions, nations and the world – to the growth of e-business should not be underestimated. (MahaVidya, 2010)

## 2.5. Social / Demographic Factors

Demography is the study of human populations in terms of size, density, location, age, ethnicity, income, occupation and other statistics, as well as those variables bringing about change in that population. The demographic environment consists of the customers who form the marketplace. These customers may be demographic environment shifts as customers enter the market, mature, and leave the market. As the consumer's level of comfort with online functions such as e-mail and research continues to increase, so too will their level of participation in e-commerce. A growing online consumer base, increases in new product categories, and efforts by online retailers to optimize online shopping experiences will spark significant growth in e-commerce in years to come. (MahaVidya, 2010)

## 2.6. Long Term Objectives

One of the key purposes of a comprehensive planning process is to establish a set of longterm objectives and recommend a series of strategies and policies to ensure that these goals are attained in the most effective way.

The established goals combined represent an organization's vision or desire for a future condition that will enhance its overall image and quality of life. It is important to understand that these objectives serve as the backbone of the strategic plan. That means that any planning element included in this plan should function as reinforcement to these objectives.

The achievements of an organization are based on the combined efforts of each individual within the organization working toward common objectives. These objectives should be practical, should be clearly understood by everyone within the organization and should mirror the organization's basic personality and character. (MahaVidya, 2010)

## 3. E-business Strategy

E-business strategy is the definition of the approach by which applications of internal and external electronic communications can support and influence business strategy.

Success of an e-business firm starts from its business strategy and as such a firm’s commitment towards e-business strategy needs to be strong and clear. This e-business strategy should clearly define the roles and responsibilities of people, interdependencies, and the management structure. A sound business strategy is the first step in defining e-business strategy. E-business strategy development goes through three typical stages: experimentation, integration, and transformation. (Kadry, 2016)

Businesses start by doing experiments and gradually integrate their e-business strategy with their business strategy. Finally, the e-business strategy is transformed in a way that it drives the overall business strategy. This development of e-business strategy requires understanding of business processes, the customers, suppliers, and competitors. Top management plays a crucial role in developing e-business strategy because top management provides the strategic thinking and vision. The linking of this vision with e-business transformation is crucial for e-business success. Some important components of e-business strategy include policies for talent acquisition and management, alliances and partnerships, and allocation of resources (i.e., human, financial, and technical). E-business strategy should be flexible enough to make a radical shift in strategy, if needed. (Kadry, 2016)

### 3.1. E-business Strategy Framework

An E-business strategy framework that can serve as a comprehensive basis for e-business strategy

formulation. This framework should help you address the following:

- Understand the external macro-environment and industry structure of e-business companies.
- Understand internal e-business competencies.
- Choose a specific type of Internet-enabled competitive advantage.
- Sustain the Internet-enabled competitive advantage against imitation and disruptive innovations.
- Create new market spaces through e-business initiatives.
- Link the external and internal perspectives of e-business strategies using the value process framework.
- Make decisions regarding the internal organization of e-business initiatives.
- Interact with e-business customers, suppliers, and users.
- Understand specific issues and applications of mobile e-commerce and ubiquitous commerce (or u-commerce).
- Implement e-business strategies. (Jelassi, 2020)

## 3.2. E-Business Strategy Formulation

The goal of e-business strategic analysis and formulation lies in identifying and understanding different strategic options and their implications and then iteratively evaluating arguments in favor or against these options. This process does not revolve around finding the one right answer, but focuses more on making trade-offs apparent, making decision-makers aware of the implications of different options and helping them make decisions regarding the future based on past and current developments.

This raises the question of how to go, in a systematic way, about e-business strategy development. E-business strategy framework consisting of three parts:

- Strategic analysis
- Strategy formulation
- Strategy implementation (see Figure. 8.3).

The three parts of this framework are dynamically interconnected, that is, they should be regarded as having a feedback loop during the process offering inputs for adjustment and further refinement. (Jelassi, 2020)

The strategic analysis, consists of two different perspectives: (Chaffey, 2009) the external analysis and (2) the internal analysis.

## 3.3. External Analysis

The goal of the external analysis is to gain an understanding of developments in the external environment that might have an impact on the e-business strategy of your business. On an aggregate level, the external analysis refers to developments in the broad macro-environment. The acronym PESTEL can frame the external analysis; it stands for changes in political, economic, social, technological, environmental, and legal factors that are potentially influential. On a more detailed level, it also entails an analysis of the different players within an industry, including competitors and collaborators, new entrants to the industry, suppliers, and substitutes. This is often referred to as Michael Porter's five forces model. The outcome of this analysis should help you gain an improved understanding of the opportunities and threats that your business might face in the future. (Jelassi, 2020)

## 3.4. Internal analysis

The goal of the internal analysis is to understand the key resources and capabilities that a business possesses to implement or sustain a specific e-business strategy. Resources might, for instance, refer to a large installed user base (e.g., eBay), large financial capacity for strategic acquisitions (e.g., Google), or a strong brand (e.g., Tesco.com). e-Capabilities refer to a firm's ability through technologies and the Internet to turn resources into valuable products or services.

Based on the insights gained from the internal and external analyses, you should be able to gain an understanding of the strengths and weaknesses that your company possesses vis-à-vis competitors. The overall insights from these two analyses can then be integrated into a SWOT matrix (strengths, weaknesses, opportunities, threats matrix).

Having gained a clear understanding of a company's characteristics and the key environmental and industry developments, we come to the crucial decision of choosing a strategic direction. The choice typically aims to achieve (1) a cost leadership position where a company competes primarily on the basis of low prices and (2) a differentiated position where a company competes on the basis of superior products and services.

Obviously, a competitive advantage that a business possesses today is not necessarily sustainable

over time. In the e-business world in particular, there is constant pressure from new Internet startups or incumbent bricks-and-mortar businesses trying to imitate or otherwise outperform existing e-business companies.

The sustaining a competitive advantage, over time and the dangers that threaten to erode such advantage, deals with the threats of imitation and disruptive innovations.

In addition to defending their competitive advantage against imitators, companies can also build up new sources of competitive differentiation by developing new e-business innovations, thereby creating new market spaces. The value innovation framework provides a systematic approach for developing these types of innovations that aim at making the competition irrelevant.

The concept of value creation and value capture illustrates how a business and customers create value jointly and the causal pathways of value creation and capture. (Jelassi, 2020)

## 3.5. Strategy process models for e-business

Before developing any type of strategy, a management team needs to agree the process they will follow for generating and then implementing the strategy. A strategy process model provides a framework that gives a logical sequence to follow to ensure inclusion of all key activities of e-business strategy development. It also ensures that e-business strategy can be evolved as part of a process of continuous improvement.

The common elements of strategy process models are:

1) Internal and external environment scanning or analysis is needed. Scanning occurs both during strategy development and as a continuous process in order to respond to competitors.
2) A clear statement of vision and objectives is required. Clarity is required to communicate the strategic intention to both employees and the marketplace. Objectives are also vital to act as a check as to whether the strategy is successful!
3) Strategy development can be broken down into strategy option generation, evaluation and selection. An effective strategy will usually be based on reviewing a range of alternatives and selecting the best on its merits.
4) After strategy development, enactment of the strategy occurs as strategy implementation.
5) Control is required to monitor operational and strategy effectiveness problems and adjust the operations or strategy accordingly.

Additionally, the models suggest that these elements, although generally sequential, are also iterative and require reference back to previous stages. In reality, there is overlap between these stages.

To what extent, then, can this traditional strategy approach be applied to e-business? (Chaffey, 2009)

### 3.6. The imperative for e-business strategy

Think about the implications if e-business strategy is not clearly defined. The following may result:

- Missed opportunities from lack of evaluation of opportunities or insufficient resourcing of e-business initiatives. These will result in more savvy competitors gaining a competitive advantage;
- Inappropriate direction of e-business strategy (poorly defined objectives, for example, with the wrong emphasis on buy-side, sell-side or internal process support);
- Limited integration of e-business at a technical level resulting in silos (separate organizational team with distinct responsibilities which does not work in an integrated manner with other teams) of information in different systems;
- Resource wastage through duplication of e-business development in different functions and limited sharing of best practice. For instance, each business unit or region may develop a separate web site with different suppliers without achieving economies of scale. (Chaffey, 2009)

## 4. Strategic Analysis

Strategic analysis is the collection and review of information about an organisation's internal processes and resources and external marketplace factors in order to inform strategy definition. (Chaffey, 2015)

Strategic analysis or situation analysis involves review of:

- The internal resources and processes of the company to assess its digital business capabilities and results to date in the context of a review of its activity in the marketplace.
- The immediate competitive environment (micro-environment), including customer demand and behaviour, competitor activity, marketplace structure and relationships with suppliers, partners and intermediaries.

- The wider environment (macro-environment) in which a company operates. This includes the social, legal, economic and political factors.

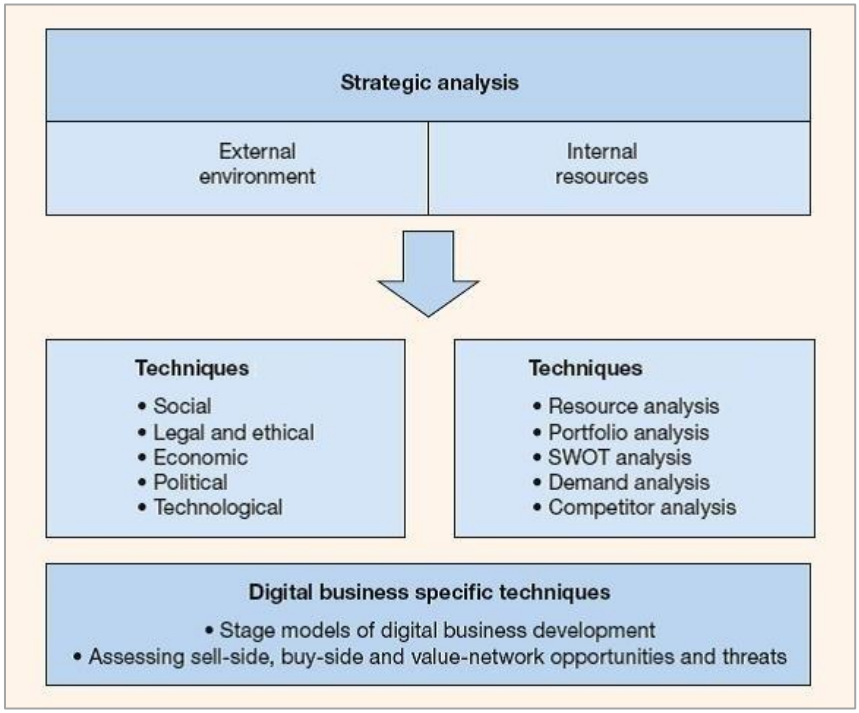


**Figure 8.3 Elements of strategic situation analysis for the digital business**

These are summarised in Figure 8.3. For the effective, responsive digital business, it is essential that situation analysis or environmental scanning be a continuous process with clearly identified responsibilities for performing the scanning and acting on the knowledge acquired. (Chaffey, 2015)

## 4.1. Resource Analysis

Resource analysis the review of the technological, financial and human resources of an organisation and how they are utilised in business processes.

Resource analysis for e-business is primarily concerned with its e-business capabilities, i.e. the degree to which a company has in place the appropriate technological and applications infrastructure and financial and human resources to support it. These resources must be harnessed together to give efficient business processes.

We should distinguish between analysis of resources and capabilities (Jelassi and Enders 2008):

**Resources** are the tangible (IT infrastructure, bricks and mortar and financial capital) and intangible assets (brand and credibility, employee knowledge, licences and patents) which can be

used in value creation.

**Capabilities** represent the ability of a firm to use resources effectively to support value creation. They are dependent on the structure and processes used to manage e-busines. (Chaffey, 2015)

## 4.2. Portfolio analysis

Analysis of the current portfolio of business applications within a business is used to assess current information systems capability and also to inform future strategies. Portfolio analysis is also often used to select the most appropriate future Internet projects.

Figure 8.4 illustrates the results of a portfolio analysis for a B2B company applied within a digital business context. It can be seen that current applications such as human resources, financial management and production-line management systems will continue to support the operations of the business and will not be a priority for future investment. In contrast, to achieve competitive advantage, applications for maintaining a dynamic customer catalogue online, online sales and collecting marketing intelligence about customer buying behaviour will become more important. Applications such as procurement and logistics will continue to be of importance in a digital business context. (Chaffey, 2015)

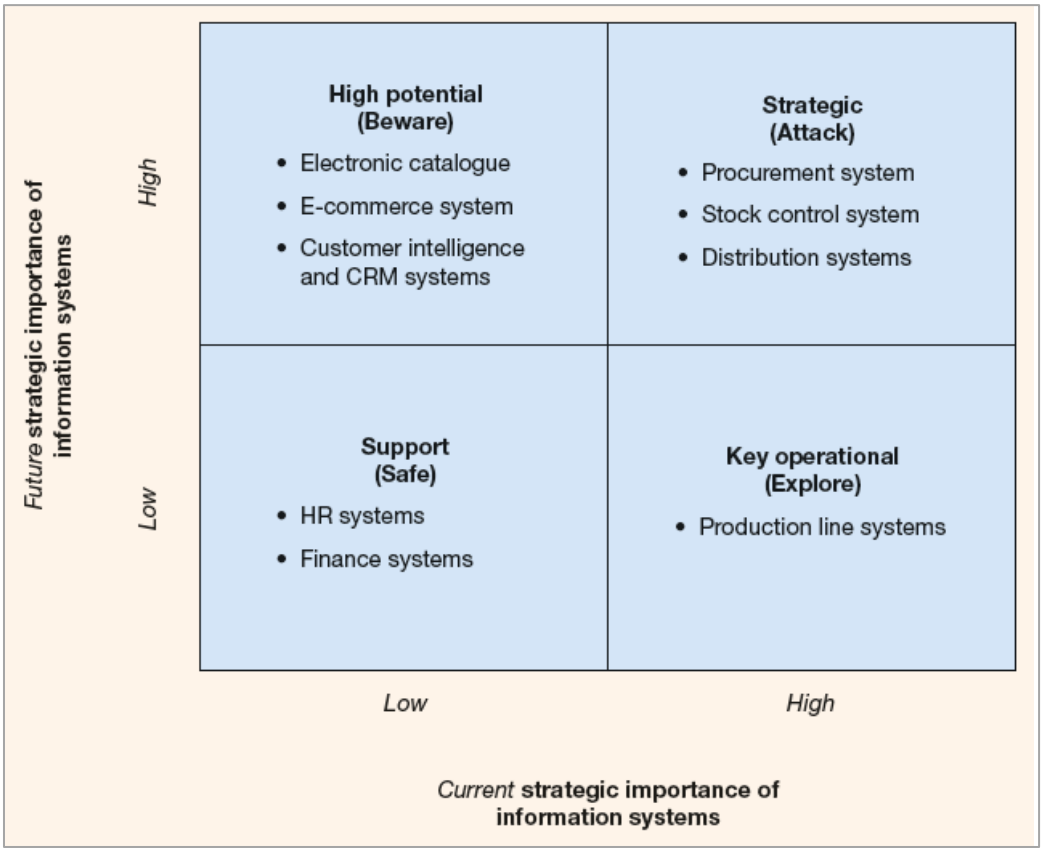


**Figure 8.4 Summary applications of a portfolio analysis for an example B2B company**

## 4.3. SWOT analysis

SWOT analysis is a relatively simple yet powerful tool that can help organisations analyse their internal resources in terms of strengths and weaknesses and match them against the external environment in terms of opportunities and threats.

SWOT analysis is used not only to analyse the current situation, but also as a tool to formulate strategies. To achieve this it is useful once the strengths, weaknesses, opportunities and threats have been listed to combine them, as shown in Figure 8.5. This can be used to develop strategies to counter the threats and take advantage of the opportunities and can then be built into the digital business strategy. (Chaffey, 2015)

| The organisation | Stengths – S<br>1 Existing brand<br>2 Existing customer base<br>3 Existing distribution | Weaknesses – W<br>1 Brand perception<br>2 Intermediary use<br>3 Technology/skills<br>4 Cross-channel support |
|---|---|---|
| Opportunities – O<br>1 Cross-selling<br>2 New markets<br>3 New services<br>4 Alliances/co-branding | SO strategies<br>Leverage strengths to maximise opportunities<br>= Attacking strategy | WO strategies<br>Counter weaknesses through exploiting opportunities<br>= Build strengths for attacking strategy |
| Threats – T<br>1 Customer choice<br>2 New entrants<br>3 New competitive products<br>4 Channel conflicts | ST strategies<br>Leverage strengths to minimise threats<br>= Defensive strategy | WT strategies<br>Counter weaknesses and threats<br>= Build strengths for defensive strategy |

**Figure 8.5 SWOT Analysis**

## 4.4. Demand analysis

A key factor driving e-business strategy objectives is the current level and future projections of customer, partner and internal access and usage of different types of e-commerce services, demand analysis.

Demand analysis is the assessment of the demand for e‑commerce services amongst existing and potential customer segments. For buy-side e-commerce a company also needs to consider the e-commerce services its suppliers offer: how many offer services for e-commerce and where they are located (e.g. direct with suppliers, in customer solutions or marketplaces. (Chaffey, 2015)

## 4.5. Competitor analysis

Competitor analysis for digital business is the review of digital business services offered by existing and new competitors and adoption by their customers. (Chaffey, 2015)

*  *  *

## Review

**True/False Questions**

1. Strategy of cost competition refers to all the ways producers can make their products or services unique and distinguish them from those of competitors

   ☐ True

   ☒ Fulse

2. Vision statement describes what the leaders of an organization want it to look like in ideal terms in the future - the results they seek to achieve and characteristics needed to possess in order to achieve those results

   ☒ True

   ☐ Fulse

3. E-business strategy framework consisting of three parts: strategic analysis, strategy formulation, and strategy implementation

   ☒ True

   ☐ Fulse

**Multiple Choices Questions**

1. Which choice in incorrect regarding strategy formulation?
   a. Strategy is concerned with the long-term direction of the firm
   b. Strategy deals with the overall plan for deploying the resources that a firm possesses
   c. Strategy entails the willingness to make trade-offs, to choose between different directions and between different ways of deploying resources
   *d. Strategy is about achieving multiple positioning vis-à-vis competitors*
2. What strategy is concerned with the overall purpose and scope of the firm?
   a. Business unit strategy
   *b. Corporate-level strategy*
   c. Operational strategy
   d. Overall strategy
3. ---------- is the definition of the approach by which applications of internal and external electronic communications can support and influence business strategy

a. *E-business strategy*
b. E-commerce strategy
c. Business strategy
d. M-business strategy

**Essay Questions**

1. What is a strategy? What are the main concepts related to the strategy?
2. Describe the strategic planning process.
3. Define e-businss strategy. Explain the strategy process models for e-business.
4. How to flormulate e-business strategy using SWOT analysis?

* * *

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# *Chapter 09: E-Marketing – Part I*

## 1. Introduction

The Internet, the web and digital media have transformed marketing and business since the first website ( http://info.cern.ch ) went live in 1991. With over 3 billion people around the world regularly using the web to find products, entertainment and friends, consumer behaviour and the way companies market to both consumers and businesses have changed dramatically. (Chaffey, 2016)

To succeed in the future, organisations will need marketers, strategists and agencies with up-to-date knowledge of how to apply digital media such as the web, email, mobile and interactive TV. Digital marketing poses many new opportunities and challenges, with the continuous introduction of new technologies, new business models and new communications approaches. The challenge for marketers is to assess which innovations are most relevant to their organisation and to seek to gain advantage through introducing them to a company such that the digital marketing techniques integrate effectively with traditional marketing communications. (Chaffey, 2016)

## 2. E-Marketing Defined

E-marketing is the result of information technology applied to traditional marketing. It contains processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large. E-marketing is only one part of an organization's e-business activities. E-marketing is also called Internet marketing, Web marketing, online marketing, or digital marketing. (Turban, 2016)

E-marketing affects traditional marketing in two ways. First, it increases efficiency and effectiveness in traditional marketing functions. Seconds, the technology of e-marketing transforms many marketing strategies. This transformation also results in new business models that add customer value and/or increase company profitability, such as the highly successful Craigslist, Facebook, Twitter, and Google Ad Sense advertising models. (Turban, 2016)

### 2.1. E-Marketing and the Web

E-marketing reaches far beyond the Web. First, many e-marketing technologies exist without the Web, including software and hardware used in customer relationship management, supply chain management, and electronic data interchange arrangements pre-dating the Web. For example, when you call a company to complain about a product, the information might be stored in a database and automatically sent over the Internet to marketing managers and product development teams.

Seconds, non-Web Internet communications such as e-mail, Internet telephony like Skype, social media like Facebook, and text messaging are effective avenues for marketing communication.

Third, the Internet delivers text, video, audio, and graphics to many more information-receiving appliances than simply personal computers. These forms of digital content also go over the Internet infrastructure to the television, smartphones, tablets and even the refrigerator or automobile.

Finally, offline electronic data-collection devices, such as bar code scanners and databases, receive and send data about customers and products over a secure internal network, called an Intranet.

Content providers create digital text, video, audio, and graphics to send over the Internet infrastructure to users who receive it as information, entertainment, or communication on many types of appliances. As marketers think outside of the Web, they find many new possibilities for creating products that provide value and communicate in ways that build relationships with customers. (Turban, 2016)

## 3. E-Marketing Strategy

Armed with data about an organization's customers, competitors, and market conditions, marketing managers write objectives and strategies for achieving them. Marketing objectives generally include goals for acquiring new customers and increasing revenue or market share. An objective usually includes a measurable task and time frame. For example: "Increase sales on our website by 15 % within 12 months."

Next, the company designs strategies to achieve its objectives. **E-marketing strategy** is the design of marketing strategy that capitalizes on the organization's electronic or information technology capabilities to reach specifi ed objectives.

In essence, e-marketing strategy is where technology strategy and marketing strategy wed. For example, a hotel chain maintains a sophisticated large customer database. It is able to send customized e-mails by customer segments, such as, customers who are high value, recent visitors, or who booked through a travel agent. By targeting special offers to relevant customers, it has increased hotel bookings and profits. This relevant targeting keeps customers happy and supports the company's customer relationship management e-marketing strategy—ultimately supporting the corporate growth strategy. In this example, the objectives were to increase hotel bookings and profits; the strategy was to target high value recent hotel visitors and the key e-marketing tactic was to send special e-mails to these visitors. (Turban, 2016)

## 3.1. E-Marketing Contributes to Business Models

A **business model** is a method by which the organization sustains itself in the long term and includes its value proposition for partners and customers as well as its revenue streams.

Organizations deliver stakeholder value through e-business models by using digital products and processes. Whether online or offline, the value proposition involves knowing what is important to the customer or partner and delivering it better than other organizations.

Value encompasses the customer's perceptions of the product's benefits, specifically its attributes, brand name, and support services. Subtracted from benefits are the customer costs involved in acquiring the product, such as monetary, time, energy, and psychic costs.

Information technology usually increases benefits and lowers costs to stakeholders. For example, consumers can search for the lowest price product online without leaving home. Conversely, it can decrease value when websites are complex, information is hard to locate, and technical difficulties interrupt data access or shopping transactions. The following points show how e-marketing activities contribute to a company's e-business models: (Turban, 2016)

- E-marketing increases benefits
    - Online mass customization (different products and messages to different stakeholders)
    - Personalization (giving stakeholders relevant information)
    - 24/7 convenience
    - Self-service ordering and tracking
    - One-stop shopping

    - Learning, engaging, and communicating with customers on social networking sites
- E-marketing decreases costs
    - Low-cost distribution of communication messages (e.g., e-mail)
    - Low-cost distribution channel for digital products
    - Lowers costs for transaction processing
    - Lowers costs for knowledge acquisition (e.g., research and customer feedback)
    - Creates efficiencies in supply chain (through communication and inventory optimization)
    - Decreases the cost of customer service
- E-marketing increases revenues
    - Online transaction revenues such as product, information, advertising, and subscription fees; or commission/fee on a transaction or referral
    - Adds value to products/services and increases prices (e.g., online FAQ and customer support)
    - Increases the customer base by reaching new markets
    - Builds customer relationships and, thus, increases current customer spending (share of wallet) (Turban, 2016)

## 3.2. E-Marketing Strategies and Tools

The objective of e-marketing - as in all marketing - is to build customer relationships so that the firm can achieve above-average returns (both by offering superior products or services and by communicating the brand's features to the consumer). These relationships are a foundation for the firm's brand.

But e-marketing is also very different from ordinary marketing because the nature of the medium and its capabilities are so different from anything that has come before.

There are four features of e-marketing that distinguish it from traditional marketing channels. Compared to traditional print and television marketing, e-marketing can be more personalized, participatory, peer-to-peer, and communal. Not all types of e-marketing have these four features. For instance, there's not much difference between a marketing video splashed on your computer screen without your consent and watching a television commercial. However, the same marketing video can be targeted to your personal interests, community memberships, and allow you to share

it with others using a Like or + tag. (Laudon, 2017)

**Table 9.1 The E-Marketing Roadmap**

| TYPE OF MARKETING | PLATFORMS | EXAMPLES | FUNCTION |
|---|---|---|---|
| **Web Site** | Traditional Web site | Ford.com | Anchor site |
| **Traditional Online Marketing** | Search engine marketing | Google; Bing; Yahoo | Query-based intention marketing |
| | Display advertising | Yahoo; Google; MSN | Interest- and context-based marketing; targeted marketing |
| | E-mail | Major retailers | Permission marketing |
| | Affiliates | Amazon | Brand extension |
| **Social Marketing** | Social networks | Facebook | Conversations; sharing |
| | Micro blogging sites | Twitter | News, quick updates |
| | Blogs/forums | Tumblr | Communities of interest; sharing |
| | Visual marketing | Pinterest/Instagram | Branding; sharing |
| | Video marketing | YouTube | Engage; inform |
| | Game marketing | Chipotle Scarecrow Game | Identification |
| **Mobile Marketing** | Mobile site | m.ford.com | Quick access; news; updates |
| | Apps | 2015 Ford Mustang Customizer | Visual engagement |
| | | My Ford | Visual engagement |
| **Offline Marketing** | Television | 2015 Ford F-150: This Changes Everything | Brand anchoring; inform |
| | Newspapers | Apple Shot on iPhone 6 campaign | Brand anchoring; inform |
| | Magazines | Apple Watch/Vogue Magazine | Brand anchoring; inform |

In the past, the first step in building an online brand was to build a Web site, and then try to attract an audience. The most common "traditional" marketing techniques for establishing a brand and attracting customers were search engine marketing, display ads, e-mail campaigns, and affiliate programs. But today, marketers need to take a much broader view of the e-marketing challenge, and to consider other media channels for attracting an audience such as social media and mobile devices, in concert with traditional Web sites. (Laudon, 2017)

The five main elements of a comprehensive multi-channel marketing plan are: Web site, traditional online marketing, social marketing, mobile marketing, and offline marketing. Table 9.1 illustrates these five main platforms, central elements within each type, some examples, and the primary function of marketing in each situation. (Laudon, 2017)

# 4. E-Marketing Plan

## 4.1. E-Marketing Planning Process

How can information technologies assist marketers in building revenues and market share or lowering costs? How can firms identify a sustainable competitive advantage with the internet when the landscape is constantly changing and filled with international competitors? The answer lies in determining how to apply digital data and information technologies both effectively and efficiently. The best firms have clear visions that they translate, through the marketing process, from e-business objectives and strategies into e-marketing goals and well-executed strategies and tactics for achieving those goals. This marketing process entails three steps: marketing plan creation, plan implementation, and plan evaluation/corrective action using performance metrics. (Strauss, 2014)

E-marketing plan is a plan to achieve the marketing objectives of the digital business strategy. A digital marketing plan is needed in addition to a broader digital business strategy to detail how the sell- side specific objectives of the digital business strategy will be achieved through marketing activities such as research and communications. Since a digital marketing plan is based on the objectives of the marketing strategy, there is overlap between the elements of each approach, particularly for environment analysis, objective setting and strategic analysis. Figure 9.1 shows how digital marketing activities will inform the digital business strategy which, in turn, will inform the digital marketing plan. (Chaffey, 2015)

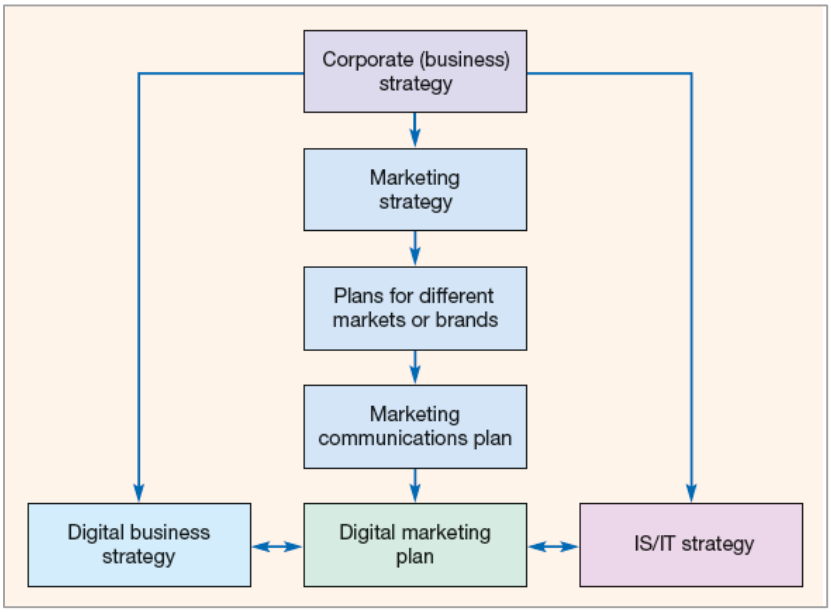
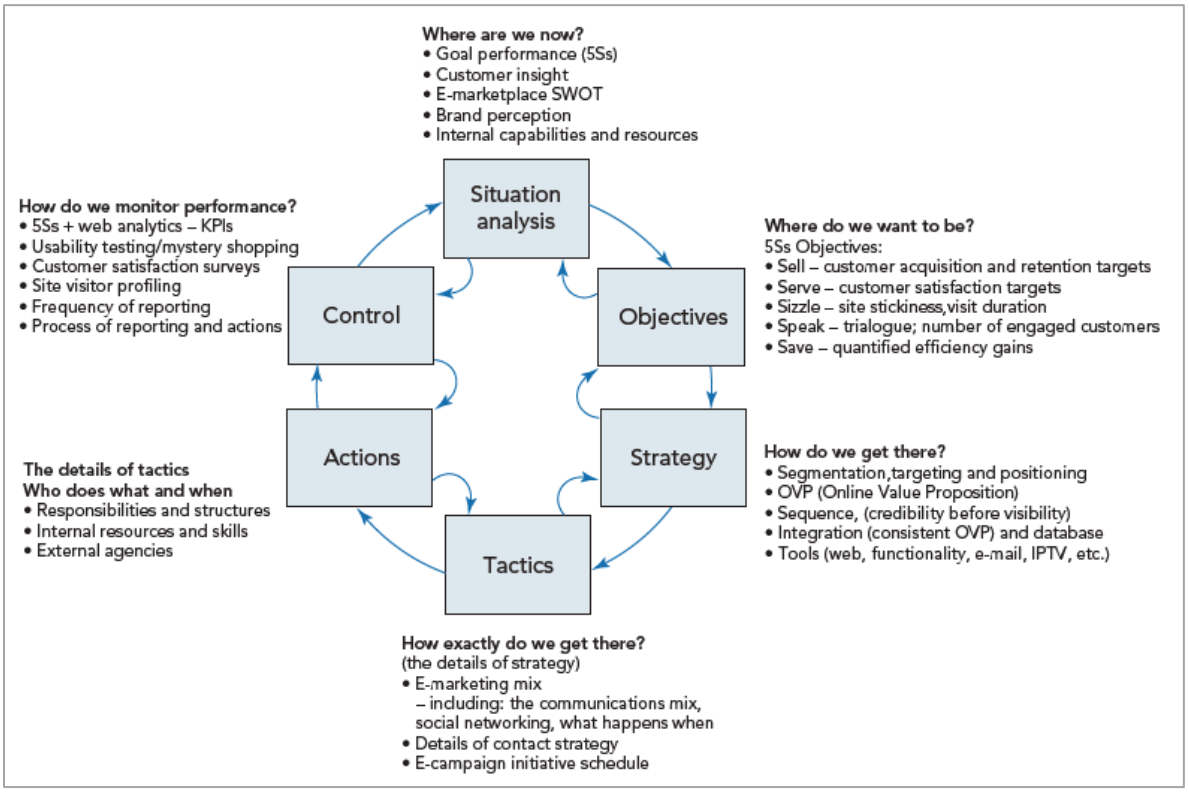



**Figure 9.1 The digital marketing plan in the context of other plans**

## 4.2. SOSTAC Framwork

SOSTAC® stands for Situation analysis, Objectives, Strategy, Tactics, Actions and Control (Figure 9.2). Each stage is not discrete, but there is some overlap during each stage of planning – previous stages may be revisited and refined, as indicated by the reverse arrows in Figure 9.2. For creating a digital marketing plan, the planning stages are as follows: (Smith, 2017)

- Situation analysis means ‘where are we now?’ This includes definition of digital strategy terms, growth in users and change in the marketplace, as well as examples of good and bad digital marketing.
- Objectives means ‘Where do we want to be?’ What do we want to achieve through online channels and how they combine with physical channels, what are the benefits?
- Strategy means ‘How do we get there?’ Strategy summarizes how to fulfil the objectives. What online value propositions should we create, and what positioning should drive the overall marketing mix and the promotional mix, right down to the different contact strategies for different segments, and which digital media channels should be selected?
- Tactics reviews the tactical tools and the details of the marketing mix and the communications mix.
- Actions refers to action plans and project management skills – essential skills.
- Control looks at how you know if your e-efforts are working, and what improvements can be made. (Smith, 2017)




***Source : www.sostac.org***

**Figure 9.2 SOSTAC® – a generic framework for digital marketing planning**

## 4.3. Creating an E-Marketing Plan

The e-marketing plan is a blueprint for e-marketing strategy formulation and implementation. It is a guiding, dynamic document that links the firm's e-business strategy (e-business models) with technology-driven marketing strategies and lays out details for plan implementation through marketing management. It is usually integrated with the firm's overall marketing plan. The marketing plan guides delivery of the desired results, measured by performance metrics, according to the specifications of the e-business model embedded in the firm's e-business strategy. The e-marketing plan serves as a road map to guide the firm in the direction it wishes to take and helps it allocate resources and makes adjustments as needed. (Strauss, 2014)

The seven key planning elements are a situation analysis, an e-marketing strategic planning, the plan objectives, an e-marketing strategy, an implementation plan, the budget, and a plan for evaluating success. The main tasks of each element are the following: (Strauss, 2014)

1. Situation analysis
    - Review the firm's environmental and SWOT analyses.

- Review the existing marketing plan and any other information that can be obtained about the company and its brands.
- Review the firm's e-business objectives, strategies, and performance metrics.

**2.** E-marketing strategic planning

- Determine the fit between the organization and its strategic planning changing market opportunities. Perform marketing opportunity analysis, demand and supply analyses, and segment analysis.
- Tier 1 Strategies
  - Segmentation
  - Targeting
  - Differentiation
  - Positioning

**3.** Objectives

- Identify general goals flowing from e-business strategy.

**4.** E-marketing strategy

- Identify revenue streams suggested by e-business models.
- Tier 2 Strategies
  - Design the basic offer, value, distribution, communication, and market/partner relationship management strategies to create a competitive edge.
  - Modify objectives as warranted.

**5.** Implementation plan

- Design e-marketing mix tactics:
  - Product/service offering
  - Pricing/valuation
  - Distribution/supply chain
  - Integrated communication mix
- Design relationship management tactics.
- Design information gathering tactics.
- Design organizational structures for implementing the plan.

**6.** Budget

- Forecast revenues.

- Evaluate costs to reach goals.

7. Evaluation plan
    - Identify appropriate performance metrics.

## 5. Online Presence

When assessing the relevance and potential of digital marketing for a business, remember that different business types offer different opportunities and challenges. There are five main types of online presence or components possible as part of a site: (Smith, 2017)

### 5.1. Transactional e-commerce site

Online retailers, travel, financial services providers or manufacturers make their products available for online purchase. The main business contribution is through sale of these products. The sites also support the business by providing information for consumers who prefer to purchase products offline. (Smith, 2017)

### 5.2. Services-oriented relationship building or lead-generation web site

Provides information to stimulate purchase and build relationships. Products are not typically available for purchase online. Information is provided through the web site, along with email marketing, to inform purchasing decisions. The main business contribution is through encouraging offline sales and generating enquiries or leads from potential customers. Such sites also help by adding value for existing customers by providing them with information of interest. Most car manufacturers' sites may be services-oriented rather than transactional. (Smith, 2017)

### 5.3. Brand-building site

Provides an experience to support the brand and current campaigns. Products are not typically available for online purchase, although merchandise may be. The main focus is to support the brand by developing an online experience of the brand through content marketing integrated with social media outposts. They are typical for low-value, high-volume, fast-moving consumer goods. (Smith, 2017)

### 5.4. Portal or media site

The main purpose of these types of intermediaries or publishers is to provide information and content. The term portal refers to a gateway to information or a range of services such as a search

engine, directories, news, blog content, shopping comparison, etc. This is information both on the site and via links through to other sites. Online publishers have a diversity of options for generating revenue, including advertising, commission-based sales (affiliate marketing) and selling access to content through subscription or pay-per-view. Example: Yahoo! (www.yahoo.com). (Smith, 2017)

### 5.5. Social network or community site

A site enabling community interactions between different consumers (C2C model). Typical interactions include posting comments and replies to comments, sending messages, rating content and tagging content in particular categories. Well-known examples include Facebook and LinkedIn, but there are many less well-known niche communities that may be important within a market. In addition to distinct social network sites, social interactions can be integrated into other site types through plugins or application programming interfaces (APIs). The Facebook APIs are very important in integrating Facebook 'Like' buttons and content into sites through services such as the Facebook social plug-in. (Smith, 2017)

Remember that these are not clear-cut categories of web sites, since many businesses will have sites which blend these elements, but with different emphasis depending on the markets in which they operate.

To engage their audience and so increase advertising revenue, social networking sites are also looking to provide many of these services through social network company brand pages.

## 6. Marketing Mix

Firms develop their marketing strategies by focusing on the marketing mix. The **Marketing Mix** is a combination of product, price, place and promotion that helps increase sales to the target market. The unique mix of the elements that comprise the marketing mix can help firms compete more effectively, ensure profitability and gain a competitive advantage. The internet influences the construction of the marketing mix and therefore e-businesses need to take that influence into account when developing and implementing their e-marketing strategies. (Combe, 2006)

Digital marketing has far-reaching implications for the relative importance of different elements of the mix for many markets, regardless of whether an organisation is involved directly in transactional e-commerce. Consequently, the marketing mix is a useful framework to inform strategy development. First, it gives a framework for comparing an organisation's existing services

with competitors' and can also be used as a mechanism for generating alternative strategic approaches. (Chaffey, 2016)

Digital marketing affects all aspects of the traditional marketing mix:

- ***Product*** – looking at opportunities for modifying the core or extended product for digital environments.
- ***Price*** – focussing on the implications for setting prices in digital markets; new pricing models and strategies.
- ***Place*** – considering the implications for distribution for digital marketing.
- ***Promotion*** – exploring promotional techniques for digital marketing. (Chaffey, 2016)

## 6.1. Product

**Product variable** is the element of the marketing mix that involves researching customers' needs and developing appropriate products. The product variable of the marketing mix refers to characteristics of a product, service or brand. Product decisions should be informed by market research where customers' needs are assessed and the feedback is used to modify existing products or develop new products. There are many alternatives for varying the product in the online context when a company is developing its online strategy. Internet-related product decisions can be usefully divided into decisions affecting the core product and the extended product . The **Core Product** refers to the main product purchased by the consumer to fulfil their needs, while the **Extended** or **Augmented Product** refers to additional services and benefits that are built around the core of the product. The main implications of the Internet for the product element of the mix are:

- options for varying the core product;
- options for offering digital products;
- options for changing the extended product;
- conducting research online;
- speed of new product development;
- speed of new product diffusion. (Chaffey, 2016)

## 6.2. Price

**Price variable** is the element of the marketing mix that involves defining product prices and pricing models. It refers to an organisation's pricing policies which are used to define pricing models and, of course, to set prices for products and services. The **Pricing models** describe the

form of payment such as outright purchase, auction, rental, volume purchases and credit terms.

The Internet has dramatic implications for pricing in many sectors.

Initially, There ware two approaches have been commonly adopted for pricing on the Internet: startup companies have tended to use low prices to gain a customer base, while many existing companies have transferred their existing prices to the web.

However, as organisations are increasingly developing multichannel strategies in order to give their customers more opportunities to interact with brands, it becomes more difficult to justify online and offline pricing policies, especially in consumer markets.

Low-cost airlines sell the majority of their products online and penalise consumers with higher prices if they do not buy online. However, for companies selling tangible goods, it is becoming harder to legitimise differential online pricing.

The Pricing element mix invariably relates to the Product element (even when the offer is a service), since online pricing depends on the range of products offered and the point at which a product is in its lifecycle. Extending the product range may allow these products to be discounted online. Some organisations have launched new products online which have a lower Price element.

The main implications of the Internet for the price aspect of the mix are:

- Increased price transparency and its implications on differential pricing;
- Downward pressure on price (including commoditisation);
- New pricing approaches (including dynamic pricing, price testing and auctions);
- Alternative pricing structure or policies. (Chaffey, 2016)

## 6.3. Place

**Place variable** is the element of the marketing mix that involves distributing products to customers in line with demand and minimising cost of inventory, transport and storage.

The Place variable of the marketing mix refers to how the product is distributed to customers. Typically, for offline channels, the aim of Place is to maximise the reach of distribution to achieve widespread availability of products while minimising the costs of inventory, transport and storage. In an online context, thanks to ease of navigating from one site to another, the scope of Place is less clear since Place also relates to Promotion and Partnerships.

Successful retailers are those that maximize their representation or visibility on third-party sites

which are used by their target audiences. These third-party sites will include search engines, online portals and product comparison sites.

Across all Internet sites, there are a small number of sites including portals such as Google, MSN and Yahoo! and a much larger number of sites that are less popular individually, but still collectively important.

When considering Place and Promotion, it is important to target both the head and the tail to maximise reach and to attract quality visitors to the destination site. The main implications of the Internet for the Place aspect of the mix, which we will review in this section, are:

- Place of purchase;
- New channel structures;
- Channel conflicts;
- Virtual organisations. (Chaffey, 2016)

## 6.4. Promotion

**Promotion variable** is the element of the marketing mix that involve communication with customers and other stakeholders to inform them about the product and the organisation.

The Promotion variable of the marketing mix refers to how marketing communications are used to inform customers and other stakeholders about an organisation and its products. The Internet and digital marketing techniques are highly important and have significant implications for marketing communication planning. Creating good communications presents many challenges. Digital technology is changing the way individuals and business communicate, the channels through which they communicate and the number of touchpoints encountered. Modern businesses are developing more integrated approaches towards the use of communications tools in order to maximise the opportunities to deliver messages to their target audiences.

The main elements of the promotional mix a business might use to communicate and their online equivalents are shown in Table 9.2.

**Table 9.2 The main elements of the promotional mix**

| Communications tool | Online implementation |
|---|---|
| Advertising | Interactive display ads, pay-per-click search advertising |
| Selling | Virtual sales staff, site merchandising, chat and affiliate marketing |
| Sales promotion | Incentives such as coupons, rewards, online loyalty schemes |
| Public relations | Online editorial, blogs, feeds, e-newsletters, newsletters, social networks, links and viral campaigns |
| Sponsorship | Sponsoring an online event, site or service |
| Direct mail | Opt-in email using e-newsletters and e-blasts (solus emails) |
| Exhibitions | Virtual exhibitions and white-paper distribution |
| Merchandising | Promotional ad-serving on retail sites, personalised recommendations and e-alerts |
| Packaging | Virtual tours, real packaging is displayed online |
| Word-of-mouth | Social, viral, affiliate marketing, email a friend, links |

Specification of the Promotion element of the mix is usually part of a communications strategy. This will include selection of target markets, positioning and integration of different communications tools. The Internet offers a new, additional marketing communications channel to inform customers of the benefits of a product and assist in the buying decision. These are different approaches for looking at how the Internet can be used to vary the Promotion element of the mix:

- Reviewing new ways of applying each of the elements of the communications mix – such as advertising, sales promotions, public relations, and direct marketing;
- Assessing how the Internet can be used at different stages of the buying process;
- Using promotional tools to assist in different stages of customer relationship management from customer acquisition to retention. In a web context this includes gaining initial visitors to the site and gaining repeat visits through communications techniques.

*  *  *

## Review

**True/False Questions**

1. E-marketing is the result of information technology applied to traditional marketing

   ☒ True

   ☐ Fulse

2. In Implementation plan, we review the existing marketing plan and any other information that can be obtained about the company and its brands

   ☐ True

   ☒ Fulse

3. The Marketing Mix is a combination of product, price, place and promotion that helps increase sales to the target market

   ☒ True

   ☐ Fulse

**Multiple Choices Questions**

1. ---------- is the design of marketing strategy that capitalizes on the organization's electronic or information technology capabilities to reach specifi ed objectives
   a. Marketing strategy
   b. E-business strategy
   c. E-commerce strategy
   *d. E-marketing strategy*
2. What is the correct sequence of the elements of a digital marketing plan?
   a. objectives - strategy - situation analysis - tactics - actions - control
   *b. situation analysis - objectives - strategy - tactics - actions - control*
   c. strategy - situation analysis - objectives - tactics - actions - control
   d. situation analysis - objectives - strategy - actions - tactics - control
3. Which element of e-marketing mix considers the implications for distribution for digital marketing?
   a. Product

b. Price

*c. Place*

d. Promotion

**Essay Questions**

1. Define e-marketing and explain the link between e-marketing and e-business and why they may be considered separately.
2. What is e-marketing strategy? How can e-marketing contribute to business models?
3. What is e-marketing plan? Describe its conponents.
4. Discuss the four elements of marketing mix in the context of e-business and e-commerce

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# *Chapter 10: E-Marketing – Part II*

## 1. Email marketing

Email plays an important role in digital marketing because it helps move customers from one stage of the customer journey to the next in a way that yields high return on investment. Because email is both cost effective and time effective, not to mention one of the first channels that most customers turn to, this channel often yields the best results. (Deiss, 2017)

Direct e-mail marketing (e-mail marketing messages sent directly to interested users) was one of the first and most effective forms of online marketing communications. Direct e-mail marketing messages are sent to an opt-in audience of Internet users who, at one time or another, have expressed an interest in receiving messages from the advertiser. By sending e-mail to an opt-in audience, advertisers are targeting interested consumers. By far, in-house e-mail lists are more effective than purchased e-mail lists. Because of the comparatively high response rates and low cost, direct e-mail marketing remains a common form of online marketing communications. Other benefits of e-mail marketing include its mass reach, the ability to track and measure response, the ability to personalize content and tailor offers, the ability to drive traffic to Web sites for more interaction, the ability to test and optimize content and offers, and the ability to target by region, demographic, time of day, or other criteria. Although companies spend a relatively small amount on e-mail marketing when compared to search and display ad marketing, e-mail marketing still packs a punch with solid customer response. (Laudon, 2017)

Mobile devices have become the predominant method for accessing e-mail. E-mail marketing and advertising is inexpensive and somewhat invariant to the number of mails sent. The cost of sending 1,000 e-mails is about the same as the cost to send 1 million. The primary cost of e-mail marketing is for the purchase of the list of names to which the e-mail will be sent. This generally costs anywhere from 5 to 20 cents a name, depending on how targeted the list is. Sending the e-mail is virtually cost-free.

While e-mail marketing often is sales-oriented, it can also be used as an integral feature of a multi-channel marketing campaign designed to strengthen brand recognition. Personalization and

targeting are major themes in e-mail marketing.

Although e-mail can still be an effective marketing and advertising tool, it faces three main challenges: spam, software tools used to control spam that eliminate much e-mail from user inboxes, and poorly targeted purchased e-mail lists. **Spam** is unsolicited commercial e-mail (sometimes referred to as "junk" e-mail) and spammers are people who send unsolicited e-mail to a mass audience that has not expressed any interest in the product. (Laudon, 2017)

In general, e-mail works well for maintaining customer relationships but poorly for acquiring new customers. (Laudon, 2017)

It's important to understand the types of marketing emails that businesses send. The key to success in email marketing is employing the right type of email at the right time. There are three types of emails — promotional, relational, and transactional. Figure 10.1 shows the goals of these three typesof emails. (Diamond, 2019)


**Figure 10.1 The primary goals of each email type**

## 1.1. Promotional emails

**Promotional emails** present the leads and customers on your email list with an offer. The offers could be promotional content, a gated offer like a white paper or webinar, a brand announcement, product release, event announcements, or trial offers, just to name a few.

Promotional emails are the most common marketing emails. This isn't surprising. Because 66 percent of consumers have made a purchase as a direct result of an email marketing message, we know that promotional emails work.

Promotional emails provide value and help tee up sales. They're great for lead generation,

retention, loyalty, engagement, nurturing, sales, and upsells. They should be part of any email marketing strategy. The problem is that many companies use them as the only part of their email marketing strategy, so they miss out on opportunities to relate to customers in diverse ways that are often more effective. (Deiss, 2017)

## 1.2. Relational emails

**Relational emails** deliver value to your customers by providing free content and information such as subscriber welcomes, newsletters, blog articles, webinar guides, surveys, social updates, contest announcements, and more.

Relational emails may not sell a product or brand directly, but they build relationships with the customer by adding value upfront. For example, when your email subscriber receives a piece of high-quality content in an email newsletter, he or she is interacting with your brand in a deeper, more meaningful way. (Deiss, 2017)

## 1.3. Transactional emails

Transactional emails are sent in response to an action that a customer has taken with your brand. They include messages such as order confirmations, receipts, coupon codes, shipping notifications, account creation and product return confirmations, support tickets, password reminders, and unsubscribe confirmations. These emails reengage customers who have engaged with your business in some way and give the customer an idea of the voice behind your brand. Do you follow up quickly and deliver what you promised? Do you have systems in place that give the customer true value? Do you respect your customers' wishes? The leads and customers on your email list are observing how you conduct business, and your transactional email is a big part of that.

Transactional emails meet all the primary goals of marketing. They offer a customer service experience, tell customers about your brand, generate leads, increase customer retention and loyalty, engage customers, and even help with sales.

Yet most businesses rarely use transactional emails properly, mistakenly assuming that promotional and relational emails are more effective. Research shows, however, that transactional emails have the highest open rates of the three types and produce 2 percent to 5 percent more revenue than standard bulk email does. (Deiss, 2017)

Direct marketing email campaigns can be broken into seven distinct elements. Chronologically,

they are: (Charlesworth, 2018)

1. Determine objectives of the campaign
2. Develop a mailing list
3. Develop the content
4. Develop the landing page
5. Test content and technology
6. Send
7. Measure the results

## 2. Marketing on social media

**Social media marketing (SMM)** is the use of social networking and social media as marketing communication and other marketing tools. Social media marketing facilitates social commerce, increases brand exposure, repairs brand reputation damages in social media, and fosters long-term customer relationships, among other things.

Today, integrated marketing communications is the application of the traditional marketing tools in innovative ways, integrating them with social media, such as in viral marketing.

The emergence of Web 2.0 allows marketers to connect directly with increasingly smaller target markets, including a single individual. For example, savvy marketers now build brands and respond to questions and complaints on social networks instead of (or in addition to) sending press releases to traditional journalists. They can also build social interactions with customers and conduct market research. (17)

Social marketing differs markedly from traditional online marketing. The objectives of traditional online marketing are to put your business's message in front of as many visitors as possible and hopefully encourage them to come to your Web site to buy products and services, or to find out more information. The more "impressions" (ad views) you get, and the more unique visitors to your site, the better. Traditional online marketing never expected to listen to customers, much less have a conversation with them, any more than TV advertisers expected to hear from viewers.

In social marketing, the objective is to encourage your potential customers to become fans of your company's products and services, and engage with your business by entering into a conversation with it. Your further objective is to encourage your business's fans to share their enthusiasm with

their friends, and in so doing create a community of fans online. Ultimately, the point is to strengthen the brand and drive sales, and to do this by increasing your "share of online conversation." There is some reason to believe that social marketing is more cost effective than traditional marketing. (Laudon, 2017)

## 2.1. Social Marketing Players

There are hundreds of social network sites worldwide, but the most popular sites (Facebook, Instagram, Twitter, LinkedIn, Pinterest, and Tumblr) account for over 90% of all visits. While the number of monthly unique visitors is a good measure of market reach, it is not helpful in understanding engagement—the amount and intensity of user involvement in a site. One measure of engagement is the amount of time users spend on a site. (Laudon, 2017)

## 2.2. Social Marketing Process

At first glance the large number of different social sites is confusing, each with a unique user experience to offer, from Twitter's micro blogging text messaging service, to Tumblr's blogging capability, and to graphical social sites like Pinterest and Instagram. Yet they can all be approached with a common framework.

Figure 10.2 illustrates a social marketing framework that can be applied to all social, mobile, and local marketing efforts. There are five steps in the social marketing process: Fan acquisition, engagement, amplification, community, and brand strength (sales). Each of these steps in the process can be measured. The metrics of social marketing are quite different from those of traditional Web marketing or television marketing. This is what makes social marketing so different—the objectives and the measures. (Laudon, 2017)

- Fan acquisition: attracting people to your marketing messages
- Engagement: encouraging visitors to interact with your content and brand
- Amplification: encouraging visitors to share their Likes and comments with their friends
- Community: a stable group of fans engaged and communicating with one another over a substantial period of time about your brand
- Brand strength: sales.

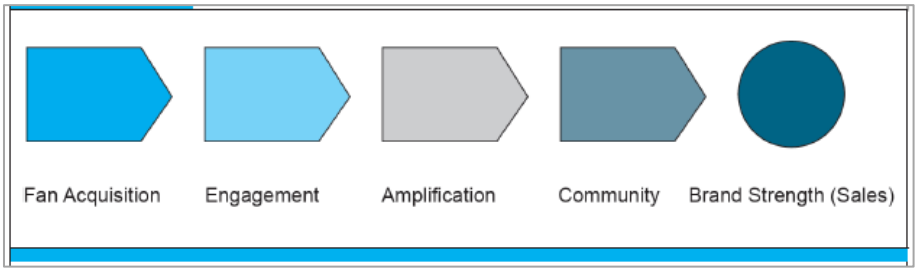


**Figure 10.2 The social marketing process**

## 3. Online branding

**Branding** is the process of creating and evolving successful brands.

**Brand** is the sum of the characteristics of a product or service perceived by a user.

The impact of brand credibility on consumer price sensitivity, that a credible brand signal helps to generate customer value by

- reducing perceived risk,
- reducing information search costs,
- creating a favourable, trustworthy perception of the organization.

This shows the importance of online branding since web sites must give the impression of trust and deliver a favourable experience to encourage first-time and repeat sale.

There are three essential characteristics of a successful brand which we need to relate to the online environment:

- brand is dependent on customer perception;
- perception is influenced by the added-value characteristics of the product;
- the added-value characteristics need to be sustainable.

In the online environment, the customer can **experience** or interact with the brand more frequently and to a greater depth.

To build successful online brands, organizations should consider how their proposition can build on these possible brand promises:

1) *the promise of convenience* – making a purchase experience more convenient than the realworld one, or that with rivals;
2) *the promise of achievement* – to assist consumers in achieving their goals, for example

supporting online investors in their decision or supporting business people in their day-to-day work;

3) *the promise of fun and adventure* – this is clearly more relevant for B2C services;
4) *the promise of self-expression and recognition* – provided by personalization services such as Yahoo! Geocities where consumers can build their own web site;
5) *the promise of belonging* – provided by online communities. (Chaffey, 2009)

# 4. E-Customer Relationship Management (e-CRM)

## 4.1. Customer relationship management (CRM)

**Customer relationship management** (**CRM**) is an approach to building and sustaining long-term business with customers.

The application of technology to support customer relationship management (CRM) is a key element of digital business. Building long-term relationships with customers is essential for any sustainable business. Failure to build relationships largely caused the failures of many dotcoms following huge expenditure on customer acquisition.

The importance of customer retention to long-term profitability is well known. NBut acquiring online customers in the retail sector is so expensive (20–30% higher than for traditional businesses) that such start-up companies may remain unprofitable for at least two to three years. (Chaffey, 2015)

CRM (Customer Relationship Management) aims at tracking and analysis of all interactions of the firm with the customers to optimize sales volume, customer effectiveness, customer satisfaction and customer loyalty. It integrates all customer-oriented processes and considers the customer as a strategic asset (A regular customer is the most profitable customer). In CRM there is no focus on single transactions but on customer activities in general. (Kutz, 2016)

### Typical CRM-Processes

- Process customer requests
- Inform customer
- Solve problems of customer
- Conduct repair and service
- Run customer loyalty improvement programs.

- Manage complaints
    - Pre-complaint consideration set (complaint cause, dissatisfaction)
    - E-complaint decision (complainers versus non-complainers)
    - Profiling e-complaint senders (personality, demographics, culture)
    - E-complaint channels (channel choice, publicity)
    - E-complaint message (attitude orientation, language intensity)
    - E-complaint receivers (employees, observers)
    - Internal e-complaint management systems (IT, human elements)
    - E-complaint response message (speed, tone, content)
    - E-complaint feedback utility evaluations (perceptions, outcomes). (Kutz, 2016)

## 4.2. e-CRM Defined

**e-CRM** refers to the use of the Internet and IT applications to manage customer relationships. As the Internet has permeated all the activities of a company's value chain, e-CRM has also become more important. Specifically, it aims at:

- Creating a long-term relationship with customers to offset their acquisition costs.
- Reducing the rate of customer defections.
- Increasing the 'share of wallet' through cross-selling and up-selling.
- Increasing the profitability of low-profit customers.
- Focusing on high-value customers.

e-CRM comprises the following four main elements (see Figure 10.3): (1) customer selection, (2) customer acquisition, (3) customer retention and (4) customer extension.

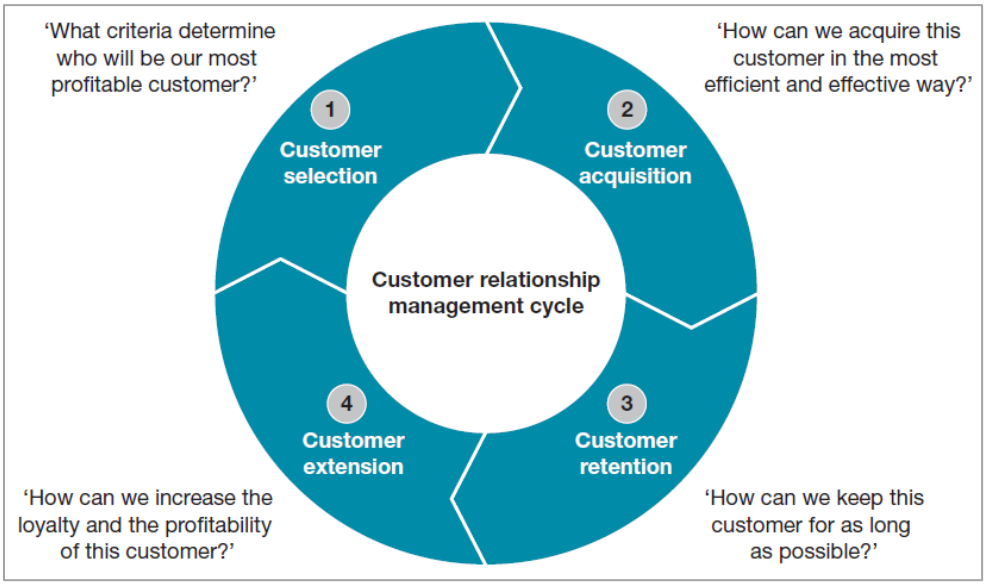


**Figure 10.3 Customer relationship management consists of four elements**

## Customer selection

Customer selection means defining the types of customers that a company will market to. It means identifying different groups of customers for which to develop offerings and to target during acquisition, retention and extension. There are different ways of segmenting customers by value and by their detailed life cycle with the customer. From a digital business perspective, we may want to selectively target customer types who have adopted e-channels. (Chaffey, 2015)

## Customer acquisition

Customer acquisition includes promotions and other incentives to (1) acquire new customers and (2) entice existing customers to use the company's Internet-based offering. In order to engage a customer in a relationship through the online channel, a firm needs to have at least the customer's email address. More detailed customer profiles include information such as a customer's personal interests, age, financial status and role in the purchasing process. To acquire this more detailed information, it is usually necessary to offer customers an incentive, e.g. a gift certificate or a free product sample. e-Commerce companies use a number of different tools to get the attention of potential customers. Initially, this was done primarily through banner advertising. More recently, marketers have added more sophisticated tools such as 'viral marketing', where customers forward a website address or other types of company information to each other via email or SMS. Another effective way of acquiring customers is link building, which Amazon.com does in partnership with affiliate sites that refer to the Amazon.com site. For instance, the alumni club of the Leipzig

Graduate School of Management in Germany maintains an affiliate relationship with Amazon.de. As part of this agreement, the alumni club's homepage. (Jelassi, 2014)

### Customer retention

Customer retention aims at (1) turning one-time customers into repeat-purchase customers and (2) keeping customers for as long as possible in the online channel. Customer retention is achieved primarily through two features: personalisation and communities. The personalization of a website designed to meet specific customer needs helps to create 'stickiness'. If customers want to change their online provider, then they will incur switching costs. Strong online communities with many different users help to create network effects. Both personalisation and online communities entice users to stay with a specific website. (Jelassi, 2014)

### Customer extension

Customer extension focuses on maximising the lifetime value of a customer. Companies achieve this primarily by expanding the scope of an existing customer relationship through cross-selling. Nordea, for instance, is turning towards triggered data mining to cross-sell additional financial products to existing customers. Triggered data mining works as follows: when there is a change in a customer account – for instance, a large incoming money transfer, an address change or a marital status change – a trigger in the database is set off and informs the bank about this change. This, in turn, raises the following question: what does this change mean for financing, long-term payments, insurance and e-services? (Jelassi, 2014)

E-marketing activities which are within the scope of e-CRM include: (Chaffey, 2015)

- Using the *website and online social presences for customer development* from generating leads through to conversion to an online or offline sale using email and web-based content to encourage purchase.
- *Managing customer profile information and email list quality* (coverage of email addresses and integration of customer profile information from other databases to enable targeting).
- Managing customer contact options through mobile, *email and social networks* to support up-sell and cross- sell.
- *Data mining* to improve targeting.
- Providing online *personalisation* or *mass customisation* facilities to automatically recommend the ' next-best product'.

- Providing *online customer service facilities* (such as frequently asked questions, call-back and chat support).
- Managing *online service quality* to ensure that first-time buyers have a great customer experience that encourages them to buy again.
- Managing the *multichannel customer experience* as they use diff erent media as part of the buying process and customer life cycle.

**Personalisation**: Delivering customized content for the individual through web pages, email or push technology.

**Mass customization**: The creation of tailored marketing messages or products for individual customers or groups of customers typically using technology to retain the economies of scale and the capacity of mass marketing or production.

## 4.3. Benefits of e‐CRM

Using the Internet for relationship marketing involves integrating the customer database with websites to make the relationship targeted and personalised. Through doing this marketing can be improved as follows: (Chaffey, 2015)

**Targeting more cost-effectively**. Traditional targeting, for direct mail for instance, is often based on mailing lists compiled according to criteria that mean that not everyone contacted is in the target market. For example, a company wishing to acquire new affluent consumers may use postcodes to target areas with appropriate demographics, but within the postal district the population may be heterogeneous. The result of poor targeting will be low response rates, perhaps less than 1%. The Internet has the benefit that the list of contacts is self-selecting or pre-qualified.

A company will only aim to build relationships with those who have visited a website and expressed an interest in its products by registering their name and address. The act of visiting the website and browsing indicates a target customer. Thus the approach to acquiring new customers with whom to build relationships is fundamentally different, as it involves attracting the customers to the website, where the company provides an offer to make them register.

**Achieve mass customisation of the marketing messages (and possibly the product)**. Technology makes it possible to send tailored emails at much lower costs than is possible with direct mail and also to provide tailored web pages to smaller groups of customers (micro-

segments).

**Increase depth, breadth and nature of relationship**. The nature of the Internet medium enables more information to be supplied to customers as required. The nature of the relationship can be changed in that contact with a customer can be made more frequently. The frequency of contact with the customer can be determined by customers – whenever they have the need to visit their personalised pages – or they can be contacted by email by the company according to their communications preferences.

**A learning relationship can be achieved using different tools throughout the customer life cycle**. For example, tools on Amazon and other retailers summarise products purchased on-site and the searching behaviour that occurred before these products were bought; online feedback forms about the site or products are completed when a customer requests free information; questions asked through forms or emails to the online customer service facilities; online questionnaires asking about product category interests and opinions on competitors; new product development evaluation – commenting on prototypes of new products.

**Lower cost**. Contacting customers by email or through their viewing web pages costs less than using physical mail, but perhaps more importantly, information only needs to be sent to those customers who have expressed a preference for it, resulting in fewer mail-outs. Once personalisation technology has been purchased, much of the targeting and communications can be implemented automatically. (Chaffey, 2015)

## 4.4. Social CRM

To effectively manage customer relationships, CRM should be designed by leveraging multiple communication channels, whether they are electronic or not. Social CRM is an extension of the initial concept offering bidirectional exchanges and collaboration with customers. Through Web 2.0 technology, customers become co-creators of value and the new emphasis is on developing a customer–supplier relationship through interaction and dialogue.

To leverage social CRM capabilities for business competitiveness, companies should consider using the following MASTER approach comprising the following six actions:

- ***Monitor***. Target audiences that continuously generate data, content, etc., and gather useful information about them.
- ***Assess and analyse***. Analyse the data collected in the previous stage and identify potential

threats and opportunities in social customers, which could be addressed by social CRM.

- ***Strategise and structure***. Design and develop specific actions that target customer communities and create value for them. This can be called the platform mix of social or Web 2.0 applications.
- ***Test***. Before implementing the social CRM plan, run a test in order to finetune the solution.
- ***Embed***. Once social CRM activities are established, it is important to determine their related organisational processes and people's roles, responsibilities and incentives.
- ***Review***. In view of the dynamic business environment surrounding the social web, regularly review the CRM activities and decide on future actions.

To effectively embed social CRM in the corporate structure, specific actions should be taken at the following three levels:

- *Business functions*: product innovation, social marketing and public relations, social sales, social service;
- *Organisational structure*: people and skills, culture;
- *Technology platforms*: tools and systems, integration.

These actions should be considered at the initial stage of rolling out social CRM and at the mature stage. (Jelassi, 2014)

## 4.5. e-CRM Technology

Technology greatly enhances CRM processes. Incoming toll-free numbers, electronic kiosks, fax-on-demand, voice mail, and automated telephone routing are examples of technology that assist in moving customers through the life cycle. The internet, however, is the first fully interactive and individually addressable low-cost multimedia channel, it forms the centerpiece of a firm's CRM abilities. Cookies, Web site logs, bar code scanners, automated Web monitoring (such as Google Alerts), social media, and other tools help to collect information about consumer behavior, conversations, and characteristics. Databases and data warehouses store and distribute these data from online and offline touch points, thus allowing employees to develop marketing mixes that better meet individual needs. Visitors are generally unaware that marketers are collecting data and using these technologies to customize offerings. (Strauss, 2014)

The most important tools used to push customized information to users are the following:

### Cookies

Cookies are small files written to the user's hard drive after visiting a Web site. When the user returns to the site, the company's server looks for the cookie file and uses it to personalize the site.

### Web log analysis

Every time a user accesses a Web site, the visit is recorded in the Web server's log file. This file keeps track of which pages the user visits, how long the user stays, and whether the user purchases.

### Data mining

Data mining involves the extraction of hidden predictive information in large databases through statistical analysis.

### Behavioral targeting

Behavioral targeting occurs when software tracks a user's movements through a Web site and then sends appropriate Web content at a moment's notice.

### Collaborative filtering

Collaborative filtering software gathers opinions of like-minded users and returns those opinions to the individual in real time.

### Outgoing e-mail / Distributed e-mail

Marketers use e-mail databases to build relationships by keeping in touch with useful and timely information. E-mail can be sent to individuals or sent *en masse* using a distributed e-mail list.

### Social media

A firm may listen to users on blogs or social networks, and build community by providing a space for user conversation on the Web site.

### iPOS terminals

Interactive point-of-sale terminals are located on a retailer's counter and used to capture data and present targeted communication. (Strauss, 2014)

*  *  *

## Review

**True/False Questions**

1. Mobile devices have become the predominant method for accessing e-mail.

   ☒ True

   ☐ Fulse

2. e-CRM comprises the following four main elements: customer search, customer revenue, customer loyality, and customer satisfaction.

   ☐ True

   ☒ Fulse

3. In the online environment, the customer can experience or interact with the brand more frequently and to a greater depth.

   ☒ True

   ☐ Fulse

**Multiple Choices Questions**

1. ---------- is unsolicited commercial e-mail (sometimes referred to as "junk" e-mail) and spammers are people who send unsolicited e-mail to a mass audience that has not expressed any interest in the product
   a. Commercial message
   b. Email group
   c. Advertizing email
   *d. Spam*
2. ---------- deliver value to your customers by providing free content and information such as subscriber welcomes, newsletters, blog articles, webinar guides, surveys, social updates, contest announcements, and more
   *a. Relational emails*
   b. Promotional emails
   c. Transactional emails
   d. Direct emails
3. ---------- refers to the use of the Internet and IT applications to manage customer

relationships

a. Direct marketing

*b. e-CRM*

c. Marketing mix

d. E-business strategy

**Essay Questions**

1. Discuss how emails can be used as a tool of emarketing.
2. How social media can be a big support for e-marketing?
3. Define online branding and compare it with the traditional branding.
4. Describe customer relationship management in the context of e-business and e-commerce.

*  *  *

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# *Chapter 11: Business to Business Management*

## 1. Basic Definitions

B2B (business-to-business) is the major and valueble model of e-commerce. B2B e-commerce is conducted between two separate businesses and has been in effect for many years. E-commerce plays an important role in enhancing and transforming relationships between and among business. B2B, also known as e-biz, is the exchange of products, services, or information between businesses rather than between businesses and consumers. Although early interest centered on the growth of retailing on the Internet (sometimes called e-tailing), B2B revenue far exceed business B2C. B2B is a kind of e- commerce, which refers to a company selling or buying from other companies. One company communicates with other companies through electronic Medias. Some of these transactions include sending and receiving orders, invoice and shopping orders. It was an attractive alternative to the current process of printing, mailing various business documents. (Susheela, 2015)

### 1.1. B2B commerce

Before the Internet, business-to-business transactions were referred to simply as *trade* or the *procurement process*. We use the term **B2B commerce** to describe all types of inter-firm trade to exchange value across organizational boundaries. B2B commerce includes the following business processes: customer relationship management, demand management, order fulfillment, manufacturing management, procurement, product development, returns, logistics/transportation, and inventory management. This definition of B2B commerce does not include transactions that occur within the boundaries of a single firm—for instance, the transfer of goods and value from one subsidiary to another, or the use of corporate intranets to manage the firm. (Laudon, 2017)

### 1.2. B2B e-commerce

The term **B2B e-commerce** (or B2B digital commerce) describes specifically that portion of B2B commerce that is enabled by the Internet (including mobile apps). (Laudon, 2017)

### 1.3. Supply Chain

**Supply Chain** is the links that connect business firms in the production of goods and services are referred to as the supply chain. **Supply chains** are a complex system of organizations, people, business processes, technology, and information, all of which need to work together to produce products efficiently. Today's supply chains are often globa, but they may be also local and national in scope. (Laudon, 2017)

## 2. B2B Components

The B2B field is very diverse, depending on the industry, products and services transacted, volume, method used, and more. The diversity can be seen in Figure 11.3 where we distinguish five major components: Our company, which may be the manufacturer, retailer, service provider, and so forth, is shown in the center. It has suppliers (on the left) and retailers (on the right). Our company operations are supported by different services (bottom), and we may work with several intermediaries (top of Figure 11.3). The solid lines show the flow of information. (Turban, 2017)

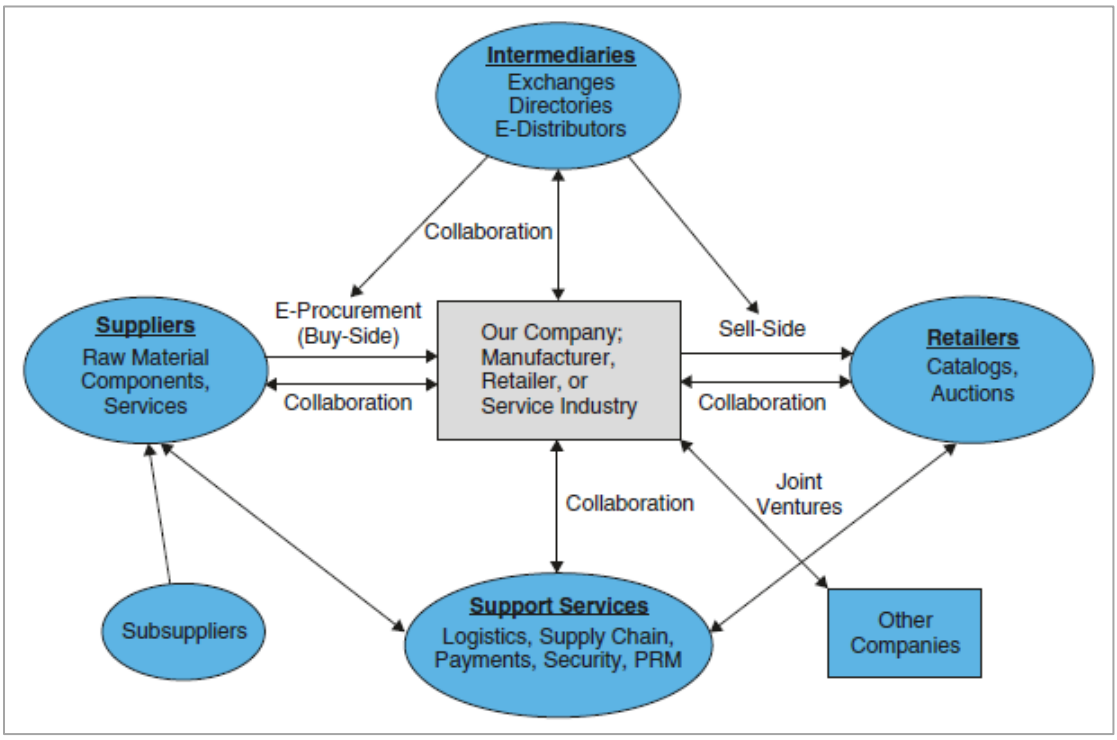


**Figure 11.3 The components of B2B**

The various components of B2B commerce are: (Turban, 2018)

## 2.1. Parties to the Transaction: Sellers, Buyers, and Intermediaries

B2B commerce can be conducted *directly* between a *customer* and a *manufacturer* or it can be conducted via an *online intermediary*.

An **online intermediary** is a third-party entity that serves as transaction broker between the buyer and seller; it can apply to either a virtual or click-and-mortar business. Some of the electronic intermediaries for individual consumers can also be used for B2B by replacing the individual consumers with business customers. Aggregations of buyers or sellers are typical B2B activities conducted by intermediaries.

## 2.2. Types of Materials Traded: What Do Firms Buy?

Two major types of materials and supplies are traded in B2B markets: *direct* and *indirect*.

- **Direct materials** are materials used in making products, such as steel in a car or paper in a book.
- **Indirect materials** are items, such as office supplies or light bulbs, which support operation and production. They normally are used in **maintenance, repair, and operation (MRO)** activities. Collectively, they are also known as *nonproduction materials*.

## 2.3. B2B Marketplaces and Platforms

B2B transactions are frequently conducted in marketplaces such as Alibaba.com. B2B marketplaces can be classified as *vertical* or *horizontal*.

- **Vertical marketplaces** are those for one particular industry or industry segment. Examples include marketplaces specializing in electronics, cars, hospital supplies, steel, or chemicals.
- **Horizontal marketplaces** are those in which trading is in a service or a product that is used in many types of industries. Examples are office supplies, cleaning materials, or paint. Alibaba.com is an example of a horizontal marketplace.

The types of materials traded and the types of B2B transactions are used to define the B2B marketplaces. One way of classifying these markets is:

- Strategic (systematic) sourcing and indirect materials = MRO hubs (horizontal markets for MRO)
- Systematic sourcing and direct materials = vertical markets for direct materials
- Spot buying and indirect materials = horizontal markets for spot sourcing

- Spot sourcing and direct materials = vertical markets

The various characteristics of B2B transactions are presented in summary form in Table 11.1.

**Table 11.1 - Summary of B2B characteristics**

| **Parties to transactions** | **Types of transactions** |
|---|---|
| Direct, seller to buyer, or buyer to seller | Spot buying |
| Via intermediaries | Strategic sourcing |
| B2B 2C: A business sells to a business but delivers to individual consumers | |
| **Types of materials sold** | **Direction of trade** |
| Direct materials and supplies | Vertical |
| Indirect (MROs) | Horizontal |
| **Number and form of participation** | **Degree of openness** |
| One-to-many: sell-side (e-storefront) | Private exchanges, restricted |
| Many-to-one: buy-side | Private exchanges, restricted |
| Many-to-many: exchanges | Public exchanges, open to all |
| Many, connected: collaborative, supply chain | Private (usually), can be public |

## 3. B2B applications

Some B2B applications are the following:

### 3.1. Supplier Management

Electronic applications in this area helps to speed up business partnerships through the reduction of purchase order processing costs and cycle times, and by maximizing the number of purchase order processing with fewer people.

### 3.2. Inventory Management

Electronic applications make the order-ship bill cycle shorter. Businesses can easily keep track of their documents to make sure that they were received. Such a system improves auditing capabilities, and helps reduce inventory levels, improve inventory turns, and eliminate out-of-stock occurrences.

### 3.3. Distribution Management

Electronic based applications make the transmission of shipping documents much easier and faster. Shipping documents include bill of lading, purchase orders, advance ship notices, and manifest claims. E-commerce also enables more efficient resource management by certifying that documents contain more accurate data.

## 3.4. Channel Management

E-commerce allows for speedier distribution of information regarding changes in operational conditions to trading partners. Technical, product and pricing information can be posted with much ease on electronic bulletin boards.

## 3.5. Payment Management

An electronic payment system allows for a more efficient payment management system by minimizing clerical errors, increasing the speed of computing invoices, and reducing transaction fees and costs. Many organizations are implementing electronic commerce in numerous ways and receiving tangible benefits but as electronic commerce matures and develops, these ways are likely to change based on the accelerating adoption rate. There are three specific implementation models of B2B E-commerce:

- **Transaction based:** a single company establishes a common transactional method for conducting business with its major customers or key suppliers. This offering is common across all business units within the company and includes common tools, techniques, and infrastructure.
- **Process based:** Two companies establish a common business process to conduct business efficiently between the two firms. The two firms establish and share this common practice jointly, both within their firm and outside their organization with this predetermined trading partner.
- **Strategic relationship based:** Two or more companies establishing a strategic relationship partnership based on all major interactions between the organizations. This includes transactions, processes, and any other collaboration between the organizations. From a technology perspective this includes linking the CRM, ERP and SCM systems of the two organizations. This way each organization can actually monitor sales activity, production schedules, inventory management, and technical service exchanges. (Susheela, 2015)

Web-based B2B includes:

- Direct selling and support to business (customers can buy and also get technical support, downloads, patches online).
- E-procurement (also known as industry portals) where a purchasing agent can shop for supplies from vendors, request proposals, and, in some cases, bid to make a purchase at a

desired price.

- Information sites provide information about a particular industry for its companies and their employees. These include specialized search sites and trade and industry standards organization sites.

In a B2B environment, purchase orders, invoices, inventory status, shipping logistics, and business contracts handled directly through the network result in increased speed, reduced errors, and cost savings. (BCA, 2011)

B2B is the most important business model of e-commerc for the following reasons.

- Volume of business transaction of B2B takes up the majority of the total trading volume in e-commerce.
- The B2B e-commerce companies hold an advantage in lowering operation cost
- B2B e-commerce companies are more suitable for modern logistics management
- B2B e-commerce companies are competitive in guaranteeing credit and capital security during operation course
- E-commerce of B2B is more mature in both theory and practice (Qin, 2009)

## 4. Basic Types of B2B Transactions and Activities

The number of sellers and buyers and the form of participation used in B2B determine the five basic B2B transaction activity types:

1) **Sell-side.** One seller to many buyers
2) **Buy-side.** One buyer from many sellers
3) **Marketplaces or exchanges.** Many sellers to many buyers
4) **Supply chain improvements**
5) **Collaborative commerce**

The last two categories include activities other than buying or selling inside organizations and among business partners. They include, for example, removing obstacles from the supply chain, communicating, collaborating, sharing information for joint design and planning, and so forth.

Figure 11.1 illustrates these five B2B types. A brief explanation follows. (Meier, 2009)

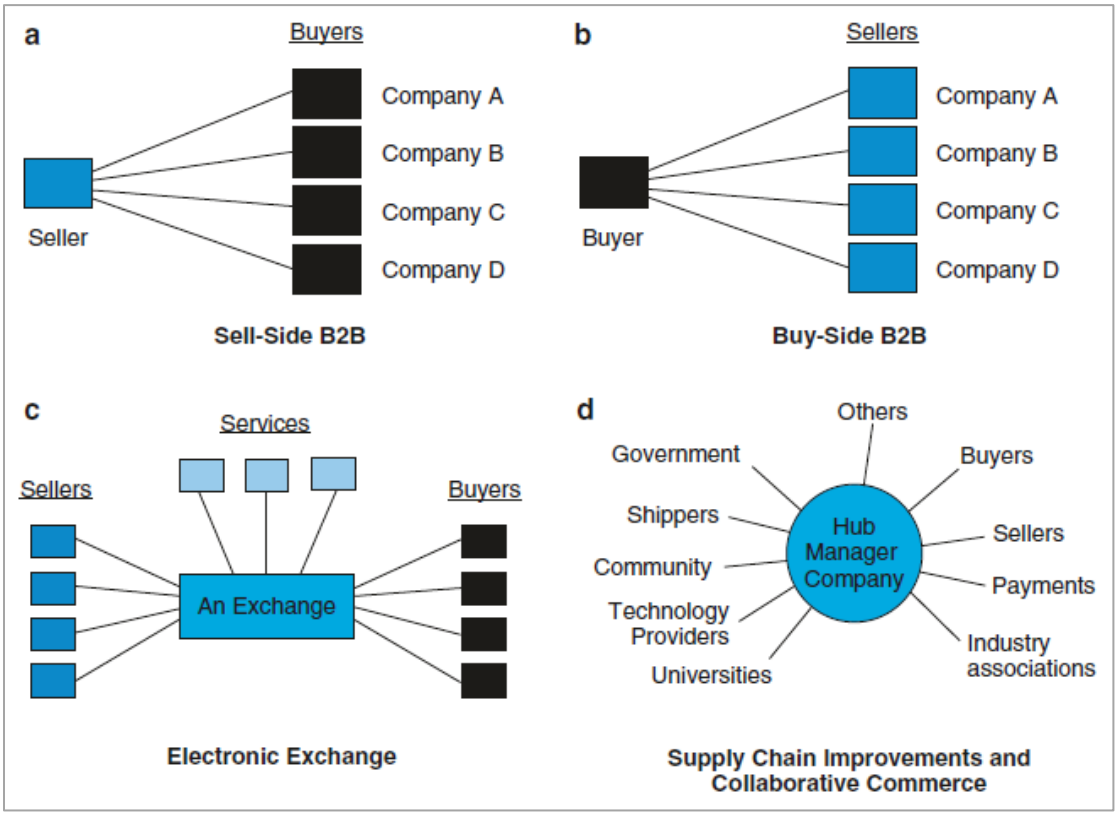


**Figure 11.1 Five types of B2B e-commerce**

## 5. Benefits and Limitations of B2B

The benefits of B2B are for buyers, sellers, or for both, and they depend on which model is used. In general, though, the major benefits of B2B (the beneficiaries are marked after each benefit: S = seller, B = buyer, J = joint) are that it:

- Creates new sales opportunities (S).
- Decreases the time and cost of managing customer accounts (S).
- Eliminates paper and reduces administrative costs (J).
- Expedites processing and reduces trading cycle time (J).
- Lowers search costs and time for buyers to find products and vendors (B).
- Increases productivity of employees dealing with buying and/or selling (J).
- Reduces errors and improves quality of service (J).
- Allows for enhanced customer service (J).
- Makes product configuration easier (B).
- Reduces marketing and sales costs (S).

- Reduces inventory levels and costs (J).
- Reduces purchasing costs by cutting down on use of intermediaries (B).
- Enables customized e-catalogs with different prices for different customers (J).
- Increases production flexibility, permitting on demand delivery (S).
- Reduces procurement costs (B).
- Facilitates customization via self-configuration (J).
- Provides for efficient customer service (B).
- Increases opportunities for collaboration (J).
- Data collected can help make operations more efficient (B).
- Web-based EC is more affordable than traditional EDI (J).
- Allows more business partners to be reached than with EDI (J).
- Reaches a more geographically dispersed customer base (S).
- Provides a better means of communication with other media (J).
- Provides 24/7 coverage of the shop front (J).

B2B EC development has limitations as well, especially regarding channel conflict and the operation of public exchanges.

Furthermore, personal face-to-face interactions may be needed but are unavailable. Some companies are attempting to offset the potential disadvantages of the lack of sales contact by using VOIP and video systems integrated into B2B CRMs. These interpersonal interactions have the ability to solidify long-term partnerships as well as initial client meetings.

Implementing e-B2B might eliminate the distributor or the retailer, which could be a benefit to the seller and the buyer (though not a benefit to the distributor or retailer). This phenomenon is referred to as ***disintermediation***. The benefits and limitations of B2B depend on such variables as who buys what items and in what quantities, who are the suppliers, how often a company buys, and so forth. (Turban, 2018)

## 6. Evolution of B2B E-Commerce

B2B e-commerce has evolved over a 35-year period through several technology-driven stages (see Figure 12.1).

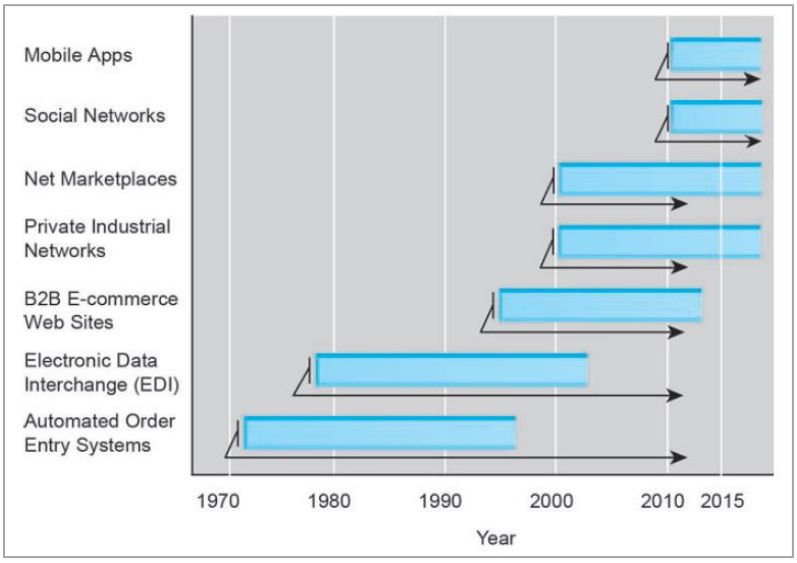


**Figure 11.1 The evolution of the use of technology platorms in B2B e-commerce**

## 6.1. Automated order entry systems

The first step in the development of B2B e-commerce in the mid-1970s was **automated order entry systems** that involved the use of telephone modems to send digital orders to health care products companies. This early technology was replaced by personal computers using private networks in the late 1980s, and by Internet workstations accessing electronic online catalogs in the late 1990s.

Automated order entry systems are **seller-side solutions**. They are owned by the suppliers and are seller-biased markets—they show only goods from a single seller. Customers benefited from these systems because they reduced the costs of inventory replenishment and were paid for largely by the suppliers. Automated order entry systems continue to play an important role in B2B commerce. (Laudon, 2017)

## 6.2. Electronic Data Interchange (EDI)

**Electronic data interchange (EDI)**, emerged by the late 1970s, is a form of computer-to-computer communication standard for sharing business documents such as invoices, purchase orders, shipping bills, product stocking numbers (SKUs), and settlement information among a small number of firms. Virtually all large firms have EDI systems, and most industry groups have industry standards for defining documents in that industry.

EDI systems are owned by the buyers, hence they are **buyer-side solutions** and buyer-biased

because they aim to reduce the procurement costs of supplies for the buyer. Of course, by automating the transaction, EDI systems also benefit the sellers through customer cost reduction. The topology of EDI systems is often referred to as a **hub-and-spoke system**, with the buyers in the center and the suppliers connected to the central hub via private dedicated networks.

EDI systems generally serve vertical markets. A **vertical market** is one that provides expertise and products for a specific industry, such as automobiles. In contrast, **horizontal markets** serve many different industries. (Laudon, 2017)

## 6.3. B2B e-commerce Web sites

**B2B e-commerce Web sites** emerged in the mid-1990s along with the commercialization of the Internet. B2B e-commerce Web sites are perhaps the simplest and easiest form of B2B e-commerce to understand, because they are just online catalogs of products made available to the public marketplace by a single supplier. In this sense, they mimic the functionality of B2C e-commerce Web sites.

Owned by the supplier, they are seller-side solutions and seller-biased because they show only the products offered by a single supplier.

B2B e-commerce Web sites are a natural descendant of automated order entry systems, but there are two important differences:

- the far less expensive and more universal Internet becomes the communication media and displaces private networks,
- B2B e-commerce Web sites tend to serve horizontal markets—they carry products that serve a wide variety of industries.

Today, more and more B2B manufacturers, distributors, and suppliers are using B2B e-commerce Web sites to sell directly to business customers, who most often are procurement/purchasing agents. (Laudon, 2017)

## 6.4. Net marketplaces

**Net marketplaces** emerged in the late 1990s as a natural extension and scaling-up of B2B e-commerce Web sites. There are many different kinds of Net marketplaces, the essential characteristic of a Net marketplace is that it brings hundreds or even thousands of suppliers—each with a digital catalog and potentially thousands of purchasing firms—into a single Internetbased

environment to conduct trade.

Net marketplaces can be organized under a variety of **ownership models**. Some are owned by independent third parties backed by venture capital, some are owned by established firms who are the main or only market players, and some are a mix of both.

Net marketplaces establish the prices of the goods they offer in two ways:

- fixed catalog prices,
- dynamic pricing such as negotiation, auction, or bid/ask ("exchange" model).

Net marketplaces earn revenue in a number of ways, including:

- transaction fees
- subscription fees
- service fees
- software licensing fees
- advertising and marketing
- sales of data and information.

In the last few years, **cloud-based B2B Net marketplaces** have emerged, and generate revenue by selling access to their storage, software services, and communications facilities.

Although the primary benefits and biases of Net marketplaces have to be determined on a case-by-case basis depending on ownership and pricing mechanisms, it is often the case that Net marketplaces are biased against suppliers because they can force suppliers to reveal their prices and terms to other suppliers in the marketplace.

Net marketplaces can also significantly extend the benefits of simple electronic storefronts by seeking to automate the procurement value chain of both selling and buying firms. (Laudon, 2017)

## 6.5. Private Industrial Networks

**Private industrial networks** also emerged in the last decade as natural extensions of EDI systems and the existing close relationships that developed between large industrial firms and their trusted suppliers. Private industrial networks (sometimes also referred to as a *private trading exchange*, or *PTX*) are Internet-based communication environments that extend far beyond procurement to encompass supply chain efficiency enhancements and truly collaborative commerce.

Private industrial networks permit buyer firms and their principal suppliers to share product design

and development, marketing, inventory, production scheduling, and unstructured communications.

Like EDI, private industrial networks are owned by the buyers and are buyer-side solutions with buyer biases. These systems are directly intended to improve the cost position and flexibility of large industrial firms.

Naturally, private industrial networks have significant benefits for suppliers as well. Inclusion in the direct supply chain for a major industrial purchasing company can allow a supplier to increase both revenue and margins because the environment is not competitive—only a few suppliers are included in the private industrial network. These networks are the most prevalent form of B2B e-commerce, and this will continue into the foreseeable future. (Laudon, 2017)

## 7. Classification of B2B e-marketplaces

B2B electronic marketplaces could be classified based on two dimensions: *what* businesses purchase (purchased products) and *how* they purchase (purchasing process).

### 7.1. First Dimention: the what

Regarding the *what*, there are essentially two different types of goods: *Operating inputs and Manufacturing inputs.* (Jelassi, 2014)

#### Operating inputs.

These goods are also often called MRO (maintenance, repair and operations) goods or indirect goods because they do not form part of the final products a company produces. MRO goods, which are typically not industry specific, include items such as office supplies, airline tickets and travel services.

MRO goods are usually purchased from horizontal platforms and shipped through third-party logistics providers. These items are typically not strategically relevant to a company's production process and therefore are not crucial for developing a competitive advantage.

#### Manufacturing inputs (raw materials and components).

These industry-specific goods are also called direct goods because they are used for the final product that is delivered to the customer. These goods, which include raw materials (such as steel or cement) and goods that are used for final products (such as electronic components) are usually

purchased from vertical suppliers/distributors. To handle and deliver these manufacturing inputs, it is typically necessary to use specific fulfilment mechanisms.

## 7.2. Second Dimention: the how

The second determining dimension is *how* these goods are purchased from suppliers. There are two main types of sourcing: *systematic sourcing* and *spot sourcing*. (Jelassi, 2014)

### Systematic sourcing

This type of sourcing involves negotiated contracts with qualified suppliers. Contracts are usually long term and built on mutual trust, hence leading to lasting relationships between buyer and seller. The goal of systematic sourcing is to create value for both buyer and seller, by sharing, for instance, sales forecasts, customer data and production statistics. Thus, systematic sourcing relationships are usually about more than just optimising price. To corporate customers, it is more important to get the right product at the right time with the right service than to save an additional 1–2% of the price.

Usually, it is advisable to set up systematic sourcing contracts when (1) complicated products are involved that need specific adjustment and service, and (2) it is necessary to make investments that are specific to the relationship.

### Spot sourcing

Firms typically use this type of sourcing to fulfil an immediate need at the lowest possible price. Commodities (such as oil, gas and iron) are typically purchased via spot sourcing. Thus, it rarely involves a long-term relationship between buyer and seller. In contrast to systematic sourcing, spot sourcing focuses primarily on price, so both buyer and seller will try to maximise their own benefit at the other party's expense.

## 7.3. B2B Internet matrix

Based on the above dimensions, it is possible to construct a B2B Internet matrix depicting the following four different types of B2B e-marketplaces (see Figure 11.2): (Jelassi, 2014)

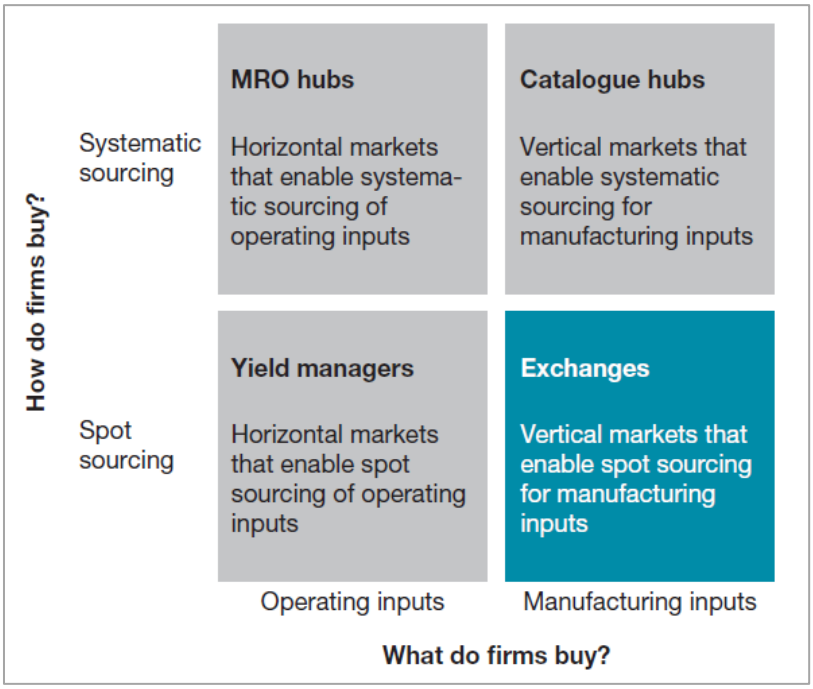


**Figure 11.2 The B2B e-commerce matrix classifies different types of B2B e-marketplaces**

## MRO hubs

*MRO hubs* are public and horizontal e-marketplaces with long-term supply relationships, usually for non-production-related products and services. MRO hub sells, among other things, non-strategic, low-value items.

## Catalogue hubs

*Catalogue hubs* sell manufacturing inputs through a systematic sourcing system. Goods sold through catalogue hubs are tailored specifically to meet the individual needs of the purchasing company.

## Yield managers

*Yield managers* are horizontal e-marketplaces for spot procurement of usually operating, manufacturing inputs. They are most valuable for operating inputs that display high fluctuations in price and/or demand. Yield managers tend to be more vertical than MRO hubs, as their aim is to protect buyers and sellers from production variations by allowing them to scale their manufacturing resources upwards and downwards.

## Exchanges

*Exchanges* are closely related to more traditional commodity exchanges. They are used primarily

for the selling of commodities (such as steel and copper) that are used in the production process.

## 8. E-procurement

The term *procurement* refers to the purchase of goods and services by organizations. Procurement is usually done by *purchasing agents*, also known as *corporate buyers*.

**Procurement management** refers to the process of planning, organizing, and coordinating of all the activities pertaining to the purchasing of the goods and services needed by an organization. It involves the B2B purchase and sale of supplies and services, as well as the flow of required information.

The procurement process may be lengthy and complex due to the many activities performed.

### 8.1. E-Procurement Concepts

**E-procurement (electronic procurement)** is the online purchase of supplies, materials, energy, work, and services. It can be done via the Internet or via a private network such as an electronic data exchange (EDI). Some activities done by e-procurement include enabling buyers to search for products and suppliers, comparing prices, facilitating reverse auctions for buyers, and automating paperwork and documentation. Some of these activities are done in private marketplaces, others in public exchanges.

#### The Goals and Process of E-Procurement

E-procurement frequently automates activities in the purchasing process from multiple suppliers via the Web for better execution and control. Improvements to procurement have been attempted for decades, usually by using information technologies. Using e-procurement results in a major improvement. Essentially, e-procurement automates the process of auctions, contract management, vendor selection, management, etc.

#### Types of E-Procurement

Four major methods of e-procurement are available: (1) Buy at buyer's own website, (2) buy at sellers' store, (3) buy at exchanges, and (4) buy at others' e-market sites. Each method includes several activities, as illustrated in Figure 11.5.

The seven main types of e-procurement are as follows: (1) e-sourcing, (2) e-tendering, (3) e-reverse auctioning, (4) e-informing, (5) Web-based ERP (enterprise resource planning), (6) e-market sites,

and (7) E-MRO (maintenance, repair, and operating).

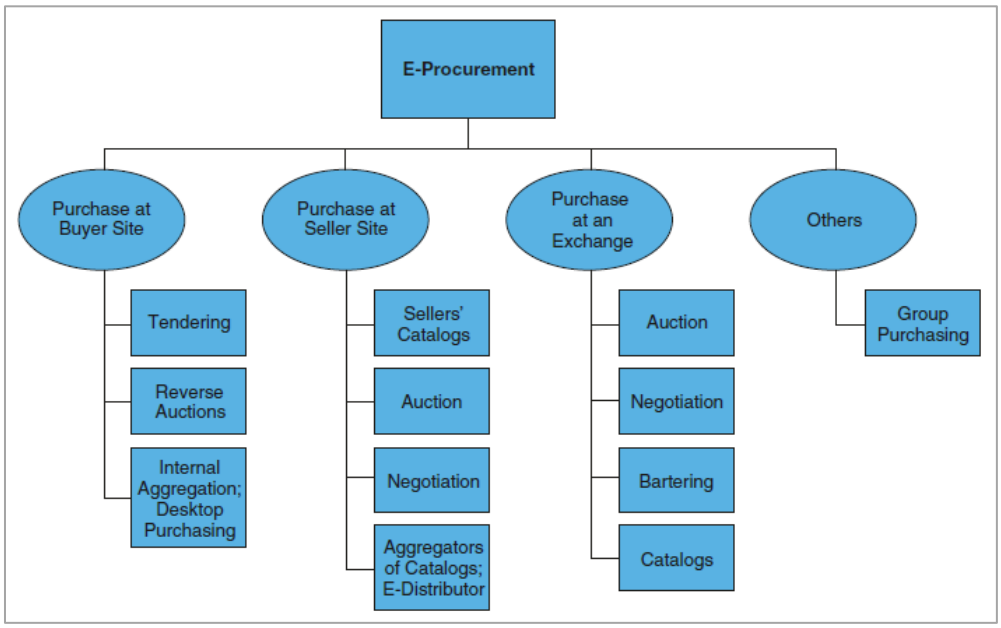


**Figure 11.5 E-procurement methods**

## 8.2. Procurement Methods

The major procurement methods include the following:

- Buy directly from the catalogs of manufacturers, wholesalers, or retailers, and possibly by negotiation.
- Buy at private or public auction sites in which the buying organization is one of many.
- Conduct bidding in a reverse auction system where suppliers compete against each other. This method is used for high-value items or when large quantities are involved.
- Buy from the catalog of an intermediary (e-distributor) that aggregates sellers' catalogs.
- Buy from the company's own internal buyer catalog. Such catalogs usually include agreed-upon prices of items from many suppliers. This is part of *desktop purchasing*, which allows the users to bypass the procurement department.
- Join a group purchasing system that aggregates participants' demands, creating a large volume. Then the group may negotiate prices or initiate a tendering process.
- Buy at an exchange or industrial mall.

## 8.3. Benefits and Limitations of E-Procurement

### The Benefits of E-Procurement

- Increasing the productivity of purchasing agents, providing them with more non-routine time and reducing job pressures, and possibly reducing purchasing departments' overhead
- Lowering purchase per item prices through activities such as product standardization, reverse auctions, volume discounts, and consolidation of purchases from fewer suppliers
- Improving information flow and its control (e.g., price comparisons)
- Reducing the frequency and cost of maverick buying
- Improving the payment process and sellers' savings due to expedited payment cycle
- Establishing more efficient and collaborative partner relations due to information sharing
- Improving the manufacturing process for the suppliers
- Ensuring on-time delivery and fewer stockouts
- Reducing the skill requirements and training needs of purchasing agents
- Reducing the number of suppliers
- Streamlining and expediting the purchasing process
- Controlling inventories more effectively at the buyers' end
- Streamlining invoice reconciliation and dispute resolution
- Reducing the administrative processing cost per order by as much as 90% by reducing purchasing overheads and intermediary fees
- Finding new suppliers that can provide goods and services faster and/or less expensively (e.g., by going global and use online price comparisons)
- Integrating budgetary controls into the procurement process
- Minimizing human errors in the buying or shipping processes.

### The Limitations and Challenges of E-Procurement

- The total cost (TCO) may be too high.
- It may be subject to hacker attacks.
- It may be difficult to get suppliers to cooperate electronically.
- The system may be too complex.
- It may be difficult to have internal and external integration (sometimes it involves different standards).
- The technology may change frequently.

## Review

**True/False Questions**

1. B2B is the exchange of products, services, or information between businesses rather than between businesses and consumers

   [×] True

   [ ] Fulse

2. Horizontal marketplaces are those for one particular industry or industry segment. Examples include marketplaces specializing in electronics, cars, hospital supplies, steel, or chemicals.

   [ ] True

   [×] Fulse

3. Electronic data interchange (EDI) is a form of computer-to-computer communication standard for sharing business documents such as invoices, purchase orders, shipping bills among a small number of firms.

   [×] True

   [ ] Fulse

**Multiple Choices Questions**

1. ---------- are a complex system of organizations, people, business processes, technology, and information, all of which need to work together to produce products efficiently
   *a. Supply chains*
   b. Inter-organizational systems
   c. ERP
   d. CRM systems
2. ---------- is a third-party entity that serves as transaction broker between the buyer and seller; it can apply to either a virtual or click-and-mortar business
   a. offline intermediary
   *b. online intermediary*
   c. online supplier

d. online customer

3. Which choice is not a model for the implementation of B2B E-commerce?
    a. Transaction based
    b. Process based
    c. Strategic relationship based
    *d. Operation based*

**Essay Questions**

1. Define B2B model and describe its main components.
2. Discuss the major applications of B2B.
3. Discuss the major benefits and limitations of B2B.
4. Define e-procurement. What are its methods, bemefits, and limitations?

*  *  *

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