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PERTEMUAN 2 – *ELEARNING*

PENGENALAN KONSEP DASAR ECOMMERCE (BAGIAN 2)

Dosen
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INTRODUCTION

In 1994, e-commerce as we now know it did not exist. In 2013, less than 20 years later, around 155 million American consumers are expected to spend about $419 billion, and businesses more than $4.8 trillion, purchasing goods and services online or via a mobile device. A similar story has occurred throughout the world. And in this short period of time, e-commerce has been reinvented not just once, but twice.

The early years of e-commerce, during the late 1990s, were a period of business vision, inspiration, and experimentation. It soon became apparent, however, that establishing a successful business model based on those visions would not be easy.

There followed a period of retrenchment and reevaluation, which led to the stock market crash of 2000–2001, with the value of e-commerce, telecommunications, and other technology stocks plummeting. After the bubble burst, many people were quick to write off e-commerce. But they were wrong. The surviving firms refined and honed their business models, ultimately leading to models that actually produced profits.

Between 2002–2008, retail e-commerce grew at more than 25% per year. Today, we are in the middle of yet another transition: a new and vibrant social, mobile, and local model of e-commerce growing alongside the more traditional e-commerce retail sales model exemplified by Amazon. Social network sites such as Facebook, Twitter, YouTube, and Pinterest, which enable users to distribute their own content (such as videos, music, photos, personal information, blogs, and software

applications), have rocketed to prominence. Spurred by the explosive growth in smartphones such as iPhones and Androids, tablet computers, and ultra-lightweight laptops, a new e-commerce platform has emerged called "social e-commerce" that is closely intertwined with social networks, mobile computing, and heretofore private social relationships. Never before in the history of media have such large audiences been aggregated and made so accessible.

Businesses are grappling with how best to approach this audience from an advertising and marketing perspective. Governments, private groups, and industry players are trying to understand how to protect privacy on this new e-commerce platform. Social networks and user-generated content sites are also examples of technology that is highly disruptive of traditional media firms. The movement of eyeballs towards these sites means fewer viewers of cable and broadcast television and Hollywood movies, and fewer readers of printed newspapers and magazines, and so those industries are also facing a transition. It's probably safe to predict that this will not be the last transition for e-commerce, either.

E-commerce: The Revolution Is Just Beginning

Table 1 describes the major trends in e-commerce in 2013–2014. Social networks have become a new e-commerce platform rivaling traditional e-commerce platforms by providing search, advertising, and payment services to vendors and customers. Who needs Google when you can have a swarm of friends recommend music, clothes, cars, and videos on a social network site where you spend most of your time online? The mobile platform based on smartphones and tablet computers has also finally arrived with a bang, making true mobile e-commerce a reality.

Table 1	Major Trends in E-commerce 2013–2014
BUSINESS	

- Retail e-commerce in the United States continues double-digit growth (over 15%), with global growth rates even higher in Europe and emerging markets such as China, India, and Brazil.
- A new "social e-commerce" platform, based on social networks and supported by advertising, emerges, growing to an estimated $5 billion in 2013 in the United States, and $8 billion worldwide.
- Mobile retail e-commerce explodes, and is estimated to reach almost $40 billion in the United States in 2013.
- A new app-based online economy grows alongside traditional Internet e-commerce, generating an estimated $25 billion in revenue worldwide in 2013
- Local e-commerce, the third dimension of the social, mobile, local e-

commerce wave, also is growing in the United States, to an estimated $4.4 billion in 2013.

- Facebook continues to grow, with more than 1.1 billion active users worldwide.
- Twitter continues to grow, with more than 200 million active users worldwide.
- Search engine marketing continues to challenge traditional marketing and advertising media.
- Social and mobile advertising platforms show strong growth and begin to challenge search engine marketing.
- The number of people of all ages online in the United States continues to increase, to an estimated 243 million, although the rate of growth is slowing.
- The global population using the Internet continues to expand, to over 2.5 billion, with around 33% of the world's population now online.
- Online businesses continue to strengthen profitability by refining their business models and leveraging the capabilities of the Internet.
- The breadth of e-commerce offerings grows, especially in entertainment, retail apparel, luxury goods, appliances, and home furnishings.
- 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.
- Brand extension through the Internet continues to grow as large firms such as Walmart and Target pursue integrated, multi-channel bricks-and-clicks strategies.
- B2B e-commerce in the United States continues to strengthen and grow beyond the $4.7 trillion mark.

TECHNOLOGY

- A mobile computing and communications platform based on smartphones and tablet computers (the "new client") becomes a reality and begins to rival the PC platform.
- More than 1.5 million apps in Apple's and Google's app stores create a new platform for online transactions, marketing, and advertising.
- 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.
- 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.

SOCIETY

- Consumer- and user-generated content, and syndication in the form of social networks, tweets, blogs, and wikis, continue to grow and provide an entirely new self-publishing forum that engages millions of consumers.
- The amount of data the average American consumes (estimated to be more than 34 gigabytes per day) continues to increase.
- Social networks encourage self-revelation, while threatening privacy.
- Participation by adults in social networks on the Internet increases; Facebook becomes ever more popular in all demographic categories.
- E-books finally gain wide acceptance and today account for about half of all book sales.
- Conflicts over copyright management and control continue, but there is substantial agreement among Internet distributors and copyright owners that they need one another.
- Explosive growth continues in online and mobile viewing of video and television programs.
- Taxation of Internet sales becomes more widespread and accepted by large online merchants.
- Surveillance of Internet communications by both repressive regimes and Western democracies grows.
- Concerns over commercial and governmental privacy invasion increase as firms provide government agencies with access to private personal information.
- Internet security continues to decline as major sites are hacked and lose control over customer information.
- Spam remains a significant problem despite legislation and promised technology fixes.
- Invasion of personal privacy expands as marketers extend their capabilities to track users.

More and more people and businesses are using the Internet to conduct commerce; smaller, local firms are learning how to take advantage of the Internet as Web services and Web site tools become very inexpensive. New e-commerce brands emerge while traditional retail brands such as Walmart and Target further extend their multi-channel, bricks-and-clicks strategies and retain their dominant retail positions by strengthening their Internet operations. At the societal level, other trends are apparent. The Internet has created a platform for millions of people to create and share content, establish new social bonds, and strengthen existing ones through social networks, blogging, and photo- and video-posting sites. These same social networks have created significant privacy issues. The major digital copyright owners have increased their pursuit of

online file-swapping services with mixed success, while reaching broad agreements with the big technology players like Apple, Amazon, and Google to protect intellectual property rights. States have successfully moved toward taxation of Internet sales, while Internet gaming sites have been severely curtailed through criminal prosecutions in the United States.

Sovereign nations have expanded their surveillance of, and control over, Internet 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.

The First 30 Seconds

It is important to realize that the rapid growth and change that has occurred in the first 19 years of e-commerce represents just the beginning—what could be called the first 30 seconds of the e-commerce revolution. Technology continues to evolve at exponential rates. This underlying ferment presents entrepreneurs with new opportunities to both\ create new businesses and new business models in traditional industries, and also to destroy old businesses. Business change becomes disruptive, rapid, and even destructive, while offering entrepreneurs new opportunities and resources for investment.

Improvements in underlying information technologies and continuing entrepreneurial innovation in business and marketing promise as much change in the next decade as was seen in the last decade. The twenty-first century will be the age of a digitally enabled social and commercial life, the outlines of which we can barely perceive at this time. Analysts estimate that by 2017, consumers will be spending about $637 billion and businesses about $6.6 trillion in online transactions. By 2020, some industry analysts believe e-commerce may account for 20% of all retail sales (eMarketer, Inc., 2013a). It appears likely that e-commerce will eventually impact nearly all commerce, and that most commerce will be e-commerce by the year 2050.

Can e-commerce continue to grow indefinitely? It's possible that at some point, e-commerce growth may slow simply as a result of overload: people may just not have the time to watch yet another online video, open another e-mail, or read another blog, tweet, or Facebook update. However, currently, there is no foreseeable limit to the continued rapid development of Internet and e-commerce technology, or limits on the inventiveness of entrepreneurs to develop new uses for the technology.

Therefore, for now at least, it is likely that the disruptive process will continue. Business fortunes are made—and lost—in periods of extraordinary change such as this. The next five years hold out extraordinary opportunities—as well as risks—for new and traditional businesses to exploit digital technology for market advantage. For society as a whole, the next few decades offer the possibility of extraordinary gains in social wealth as the digital revolution works its way through larger

and larger segments of the world's economy, offering the possibility of high rates of productivity and income growth in an inflation-free environment. As a business or technology student, this book will help you perceive and understand the opportunities and risks that lie ahead. By the time you finish, you will be able to identify the technological, business, and social forces that have shaped the growth of e-commerce and extend that understanding into the years ahead.

What is E-commerce?

Our focus in this book is e-commerce—the use of the Internet, the World Wide Web (Web), and mobile apps to transact business. Although the terms Internet and Web are often used interchangeably, they are actually two very different things. The Internet is a worldwide network of computer networks, and the Web is one of the Internet's most popular services, providing access to billions of Web pages. An app (short-hand for application) is a software application. The term is typically used when referring to mobile applications, although it is also sometimes used to refer to desktop computer applications as well. More formally, we focus on digitally enabled commercial transactions between and among organizations and individuals. Each of these components of our working definition of e-commerce is important. Digitally enabled transactions include all transactions mediated by digital technology. For the most part, this means transactions that occur over the Internet, the Web, and/or via mobile apps.

Commercial transactions involve the exchange of value (e.g., money) across organizational or individual boundaries in return for products and services. Exchange of value is important for understanding the limits of e-commerce. Without an exchange Of value, no commerce occurs.

The professional literature sometimes refers to e-commerce as "digital commerce" in part to reflect the fact that in 2013, apps account for a growing amount of e-commerce revenues. For our purposes, we consider "e-commerce" and "digital commerce" to be synonymous.

> **e-Commerce**: the use of the Internet, the Web, and apps to transact business. More formally, digitally enabled commercial transactions between and among organizations and individuals

The Difference Between E-commerce & E-business

There is a debate about the meaning and limitations of both e-commerce and e-business. Some argue that e-commerce encompasses the entire world of electronically based organizational activities that support a firm's market exchanges—including a firm's entire information system's infrastructure (Rayport and Jaworski, 2003). Others argue, on the

other hand, that e-business encompasses the entire world of internal and external electronically based activities, including e-commerce (Kalakota and Robinson, 2003).

> **e-Business:** the digital enabling of transactions and processes within a firm, involving information systems under the control of the firm

We think it is important to make a working distinction between e-commerce and e-business because we believe they refer to different phenomena. E-commerce is not "anything digital" that a firm does. For purposes of this text, we will use the term e-business to refer primarily to the digital enabling of transactions and processes within a firm, involving information systems under the control of the firm. For the most part, in our view, e-business does not include commercial transactions involving an exchange of value across organizational boundaries. For example, a company's online inventory control mechanisms are a component of e-business, but such internal processes do not directly generate revenue for the firm from outside businesses or consumers, as e-commerce, by definition, does. It is true, however, that a firm's e-business infrastructure provides support for online e-commerce exchanges; the same infrastructure and skill sets are involved in both e-business and e-commerce. E-commerce and e-business systems blur together at the business firm boundary, at the point where internal business systems link up with suppliers or customers (see Figure 1). E-business applications turn into e-commerce precisely when an exchange of value occurs.

FIGURE 1	The Difference Between E-commerce And e-business
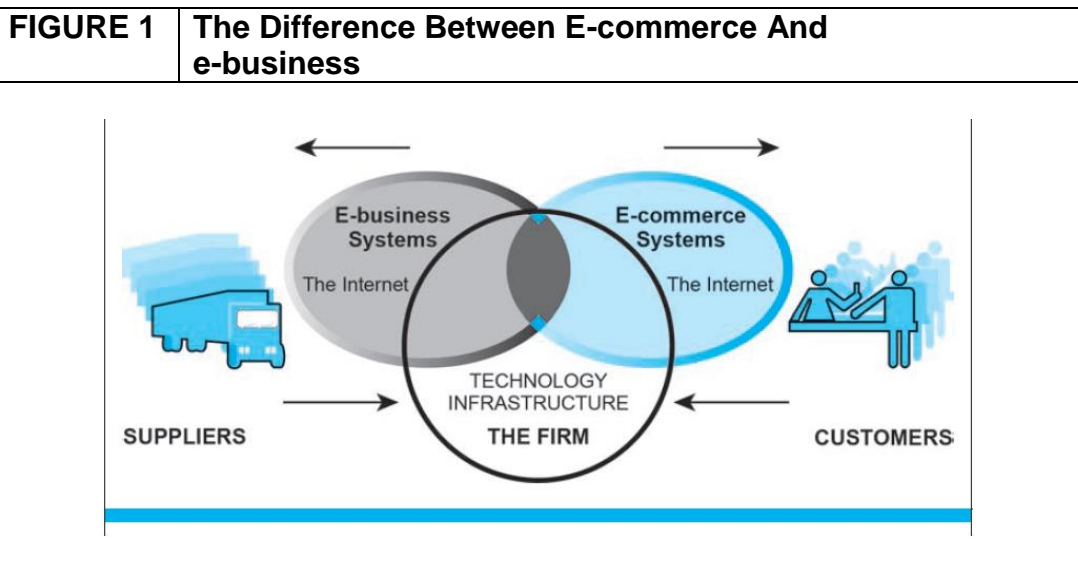
E-commerce primarily involves transactions that cross firm boundaries. E business primarily involves the application of digital technologies to business processes within the firm.

Why Study E-commerce?

Why are there college courses and textbooks on e-commerce when there are no courses or textbooks on "TV Commerce," "Radio Commerce," "Railroad Commerce," or "Highway Commerce," even though these technologies had profound impacts on commerce in the twentieth century and account for far more commerce than e-commerce?

The reason for the interest specifically in e-commerce is that e-commerce technology is different and more powerful than any of the other technologies we have seen in the past century. E-commerce technologies—and the digital markets that result—have brought about some fundamental, unprecedented shifts in commerce. While these other technologies transformed economic life in the twentieth century, the evolving Internet and other information technologies are shaping the twenty-first century.

Prior to the development of e-commerce, the marketing and sale of goods was a mass-marketing and sales force–driven process. Marketers viewed consumers as passive targets of advertising campaigns and branding "blitzes" intended to influence their long-term product perceptions and immediate purchasing behavior. Companies sold their products via well-insulated channels. Consumers were trapped by geographical and social boundaries, unable to search widely for the best price and quality. Information about prices, costs, and fees could be hidden from the consumer, creating profitable "information asymmetries" for the selling firm. **Information asymmetry** refers to any disparity in relevant market information among parties in a transaction. It was so expensive to change national or regional prices in traditional retailing (what are called menu costs) that "one national price" was the norm, and dynamic pricing to the marketplace let alone to individuals in the marketplace—changing prices in real time—was unheard of. In this environment, manufacturers prospered by relying on huge production runs of products that could not be customized or personalized.

> **Information asymmetry**: any disparity in relevant market information among parties in a transaction

One of the shifts that e-commerce is bringing about is a reduction in information asymmetry among market participants (consumers and merchants). Preventing consumers from learning about costs, price discrimination strategies, and profits from sales becomes more difficult with e-commerce, and the entire marketplace potentially becomes highly price competitive. At the same time, online merchants gain considerable market power over consumers by using consumer personal information in ways inconceivable 10 years ago to maximize their revenues.

Eight Unique Features of E-commerce Technology

Figure 2 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.

E-commerce technologies make it possible for merchants to know much more about consumers and to be able to use this information more effectively than was ever true in the past. Online merchants can use this new information to develop new information asymmetries, enhance their ability to brand products, charge premium prices for high-quality service, and segment the market into an endless number of subgroups, each receiving a different price. To complicate matters further, these same technologies make it possible for merchants to know more about other merchants than was ever true in the past. This presents the possibility that merchants might collude on prices rather than compete and drive overall average prices up. This strategy works especially well when there are just a few suppliers (Varian, 2000a). We examine these different visions of e-commerce further in Section 1.2 and throughout the book.

Each of the dimensions of e-commerce technology illustrated in **Figure 2** deserves a brief exploration, as well as a comparison to both traditional commerce and other forms of technology-enabled commerce.

Ubiquity

In traditional commerce, a **marketplace** is a physical place you visit in order to transact. For example, television and radio typically motivate the consumer to go someplace to make a purchase. 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.

> **Marketplace** physical space you visit in order to transact

> **Ubiquity**: available just about everywhere, at all times

> **Marketspace**: marketplace extended beyond traditional boundaries and removed from a temporal and geographic location

To transact, it is no longer necessary that you spend time and money traveling to a market. At a broader level, the ubiquity of e-commerce lowers the cognitive energy required to transact in a marketspace. Cognitive energy refers to the mental effort required to complete a task. Humans generally seek to reduce cognitive energy outlays. When given a choice, humans will choose the path requiring the least effort—the most convenient path (Shapiro and Varian, 1999; Tversky and Kahneman, 1981).

FIGURE 2	**Eight Unique Features of E-Commerce Technology**
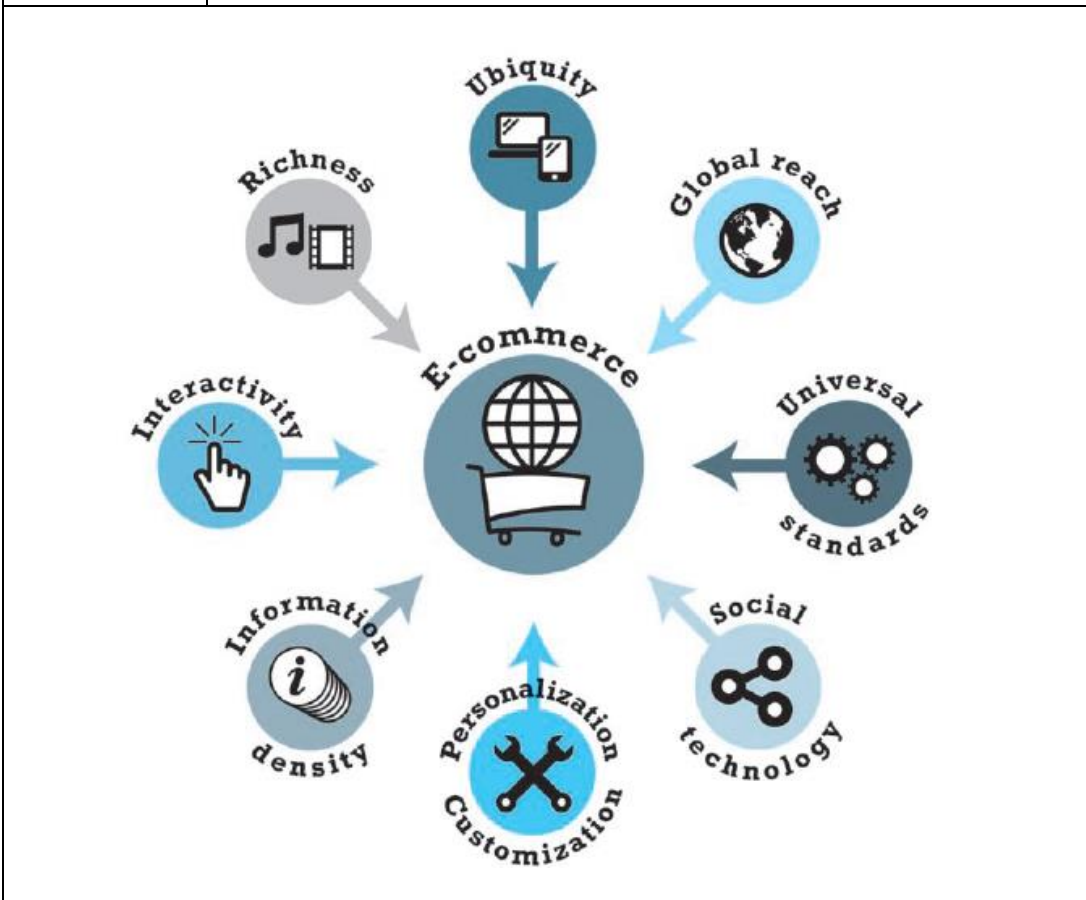
E-commerce technologies provide a number of unique features that have impacted the conduct of business.

Global Reach

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 (an estimated 2.56 billion in 2013) (eMarketer, Inc., 2013b). More realistically, the Internet makes it much easier for start-

up online 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** (Evans and Wurster, 1997).

> **Reach**: the total number of users or customers an e-commerce business can obtain

In contrast, most traditional commerce is local or regional—it involves local merchants or national merchants with local outlets. Television and radio stations, and newspapers, for instance, are primarily local and regional institutions with limited but powerful national networks that can attract a national audience. In contrast to e-commerce technology, these older commerce technologies do not easily cross national boundaries to a global audience.

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. For instance, television and radio standards differ around the world, as does cell phone technology. The universal technical standards of the Internet and e commerce greatly lower market entry costs—the cost merchants must pay just to bring their goods to market.

> **universal standards**: standards that are shared by all nations around the world

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 (Banerjee, et al., 2005; Bakos, 1997; Kambil, 1997). Users of the Internet, both businesses and individuals, also experience network externalities benefits that arise because everyone uses the same technology. With e commerce technologies, it is possible for the first time in history 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. Although this is not necessarily realistic today for all or even many products, it is a potential that will be exploited in the future.

Richness

Information richness refers to the complexity and content of a message (Evans and Wurster, 1999). 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. The Internet has the potential for offering considerably more information richness than traditional media such as printing presses, radio, and television because it is 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 the Internet 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.

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, social networks, and Twitter. Interactivity allows an online merchant to engage a consumer in ways similar to a face-to-face experience.

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 (Sinha, 2000). 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, or nearly the same goods, to different targeted groups at different prices. For instance, an online merchant can discover a consumer's avid interest in expensive exotic vacations, and then pitch expensive exotic vacation plans to that consumer at a premium price, knowing this person is willing to pay extra for such a vacation. At the same time, the online merchant can pitch the same vacation plan at a lower price to more price sensitive consumers. Merchants also have enhanced abilities to differentiate their products in terms of cost, brand, and quality.

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.

The result is a level of personalization and customization unthinkable with traditional commerce technologies. For instance, you may be able to shape what you see on television by selecting a channel, but you cannot change the contents of the channel you have chosen. In contrast, the online version of the Wall Street Journal allows you to select the type of news stories you want to see first, and gives you the opportunity to be alerted when certain events happen. Personalization and customization allow firms to precisely identify market segments and adjust their messages accordingly.

Social Technology: User Content Generation and Social Networking

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, use 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. The Internet and 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. The Internet provides a unique, many-to-many model of mass communication. **Table 2** provides a summary of each of the unique features of e-commerce technology and their business significance.

TABEL 2	Business Significance of the Eight Unique Features of E-commerce Technology	
E-Commerce Technology Dimension		Business Significance
Ubiquity—Internet/Web technology is available everywhere: at work, at home, and elsewhere via mobile devices, anytime.		The marketplace is extended beyond traditional boundaries and is removed from a temporal and geographic location. "Marketspace" is created; shopping can take place anywhere. Customer convenience is enhanced, and shopping costs are reduced.
Global reach—The technology reaches across national boundaries, around the earth.		Commerce is enabled across cultural and national boundaries seamlessly and without modification. "Marketspace" includes potentially billions of consumers and millions of businesses worldwide.
Universal standards—There is one set of technology standards, namely Internet standards.		There is a common, inexpensive, global technology foundation for businesses to use.
Richness—Video, audio, and text messages are possible.		Video, audio, and text marketing messages are integrated into a single marketing message and consuming experience.
Interactivity—The technology works through interaction with the user.		Consumers are engaged in a dialog that dynamically adjusts the experience to the individual, and makes the consumer a co-participant in the process of delivering goods to the market.

Information density—The technology reduces information costs and raises quality.	Information processing, storage, and communication costs drop dramatically, while currency, accuracy, and timeliness improve greatly. Information becomes plentiful, cheap, and accurate.
Personalization/Customization—The technology allows personalized messages to be delivered to individuals as well as groups.	Personalization of marketing messages and customization of products and services are based on individual characteristics.
Social technology—User content generation and social networks.	New Internet social and business models enable user content creation and distribution, and support social networks.