21世纪

高等学校系列教材

电子商务英语教程

English for Electronic Commerce

主编 李凯 王琪 主任审

西安电子科技大学出版社
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English for Electronic Commerce

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Foreword

In order to satisfy the needs of senior undergraduate students and graduate students of electronic commerce major and other related specialties to improve their ability in reading technical English, we compile this textbook. Principles of material selection are:

1. Normativeness and pureness of language. All articles in this book have been carefully recommended by experts and experienced teachers both in technical field and language teaching field.

2. Extensiveness and advancedness of professional knowledge. Texts of this book mainly consist of articles and materials focusing on concept exposition and principle explanation. Contents cover all major technical areas and new development trends in electronic commerce field. Some regulations, rules,laws and plans of electronic commerce are also included in the contents.

3. Proceeding in an orderly and step by step way is employed in sequence arrangement of the material. Basic theories are arranged in the first four units to make preparation for further study of EC application. EC laws and EC plan are also adopted for further reference.

4. Systematicness and specialization. This book tries to give a systematic exposition of electronic commerce either in its theoretical level or in its application level. All materials focus on the above mentioned two levels.

Through reading this book, students can familiarize themselves with large volume of vocabulary and terminology frequently used in electronic commerce and other related fields, significantly increase their ability in reading and understanding original scientific English literature and thus lay a solid foundation of reading scientific English books and journals in the future. Besides, by reading this book, students can also deepen their understanding of some basic concepts in electronic commerce and other related fields and learn some new technology in electronic commerce and other related fields.

For lack of experience, there must be some inappropiateness in covering scope of contents and complexity of language. Therefore, we sincerely welcome the criticism and suggestions from users of this book, so that improvement and enrichment can be made in the future.

Li Qi
Wang Ye
Wang Guilin
2002.3.8

内 容 简 介

本书是为电子商务专业本科生和研究生进行专业英语学习而编写的。其目的在于使学生通过英语原文的学习，了解其语言特色和写作风格，为阅读信息科学和相关专业英文原版资料做准备，同时通过学习本书所选时文，读者不仅可以掌握电子商务的基本面貌，还有助于翻译、撰写英语科技论文。

本书共分 20 个单元，主要包括电子商务的基本理论、基本应用、实用技术和与电子商务相关的法律问题等四大方面。

本书除适用于电子商务专业之外，还可作为管理信息系统、信息应用、经济与管理类专业学生和其他英语爱好者从英语角度学习和了解电子商务的参考书。

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序

广泛开展和应用电子商务的前提是培养一大批掌握经济、信息、管理和法律等知识技能的人才。为此，国家教育部在 2001 年批准了全国 13 所高等院校作为电子商务本科专业的试办单位，并于 2001 年 6 月在南京召开了“全国高校电子商务专业教学研讨会”。与会代表来自全国 30 多所高等院校，就专业定性、专业核心课和促进校际间交流进行了深入的研究。

遵从邓小平同志“教育要面向现代化、面向世界、面向未来”的教导，我们认为，大力加强电子商务的英语教学和学习应当是培养电子商务专业人才的重要内容和方式。近年来，在西安交通大学和许多兄弟院校陆续开展了电子商务双语教学，并取得了较好的效果。时逢西安电子科技大学出版社约稿，我们遂成立了以西安交通大学经济金融学院、外语部、管理学院以及西北工业大学长期从事电子商务英语教学的教师为成员的编写组编写了本教材。本教材的特点是：使学生在提高英语原文学习的基础上，能提纲携领地了解电子商务从理论到实践的概貌。本书采用多单元（20 个单元）、递进式编排，每单元由 A、B、C 三个小部分组成，由浅入深、循序渐进。本书主编为李琪、王晔、王桂林，其中李琪负责书稿策划，王晔负责统稿并编写 1、2、3、4 单元，王桂林负责编写 12、13、14 单元，其他同志为参编，具体分工为：胡宏力编写 5、6、7 单元，张仙锋编写 8、9、10 单元，杨秀云编写 15、16、17 单元，王艳萍编写 18、19、20 单元。

本书的编辑、出版得到西安交通大学“行动计划”《现代电子商务研究》课题、西北工业大学、西安电子科技大学的大力支持。同时，西安交通大学电子商务实验室的陈志聪、顾鹏飞、张帆、高斌、朱勇等为本书的文字处理做了大量的工作。在此，我们一并表示感谢！

中国信息经济学会
电子商务专业委员会主任　**李琪**
2002 年 3 月

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Unit 1

Electronic Commerce(EC) Theory

The term electronic commerce is heard frequently in modern society. It is one of the most common business terms in use as we embark on the 21 century. So what exactly is electronic commerce or will it be just another overused and discarded buzzword? This section is intended to clear the ground and examines the definition of electronic commerce and introduces its framework and classification

Section A

Definition of Electronic Commerce

One only has to pick up virtually any newspaper or business-related magazine to see a story about some facet of electronic commerce. Businesses are incorporating electronic commerce into strategic plans, business schools are incorporating it into their curriculum, and consulting and software firms are marketing electronic commerce "solutions." So what exactly is electronic commerce? Different people define this term in different ways or from different perspectives. Electronic commerce is an emerging concept that describes the process of buying and selling or exchanging of products, services, and information via computer networks including the Internet. Kalakota and Whinston define EC from these perspectives:

From a communications perspective, EC is the delivery of information, products/services, or payments over telephone lines, computer networks, or any other electronic means.

From a business process perspective, EC is the application of technology toward the automation of business transactions and work flow.

From a service perspective, EC is a tool that addresses the desire of firms, consumers, and management to cut service costs while improving the quality of goods and increasing the speed of service delivery.

From an online perspective, EC provides the capability of buying and selling products and information on the Internet and other online services.

The term commerce is viewed by some as transactions conducted between business partners. Therefore, the term electronic commerce seems to be fairly narrow to some people. Thus, many

use the term e-business. It refers to a broader definition of EC, not just buying and selling but also servicing customers and collaborating with business partners, and conducting electronic transactions within an organization. According to Lou Gerstner, IBM's CEO: "E-business is all about cycle time, speed, globalization, enhanced productivity, reaching new customers and sharing knowledge across institutions for competitive advantage. "

Some define electronic commerce as: The use of electronic transmission mediums (telecommunications) to engage in the exchange, including buying and selling, of products and services requiring transportation, either physically or digitally, from location to location.

Electronic commerce involves all size of transaction bases. As one would expect, electronic commerce requires the digital transmission of transaction information. While transactions are conducted via electronic devices, they may be transported using either traditional physical shipping channels, such as a ground delivery service, or digital mechanisms, such as the download of a product from the Internet.

Liqi, a professor and expert in this field defines EC from the perspective of productive force. He thinks there should be two kinds of definitions.The broader definition is that electronic commerce is the employment of electronic tools in commercial activities. These electronic tools range from telegram, telephone of early times to NII, GII and INTERNET of modern times. The commercial activities here refer to all lawful activities of demand and consumption except for typical production process. The narrower definition is that eletronic commercs is the whole process in which people, who master information technology and business regulations and rules, systematically use electronic tools and efficiently and low-costly engage in all kinds of activities centering on the exchange of commodities and services in a highly technically and economically adavanced society. The first definition can be simplified as commercial electronizition, the second can be shortened as electronically commercial system.

Electronic Business

The term electronic commerce is restricting, however, and does not fully encompass the true nature of the many types of information exchanges occurring via telecommunication devices. The term electronic business also includes the exchange of information not directly related to the actual buying and selling of goods. Increasingly, businesses are using electronic mechanisms to distribute information and provide customer support. These activities are not "commerce" activities, but "business" activities. Thus, the term electronic business is broader and may eventually replace the term electronic commerce. Although the term electronic commerce is used throughout this book, many of the activities described are more accurately classified as electronic business.

Those readers familiar with traditional electronic data interchange systems (EDI) may be questioning what makes electronic commerce different from the EDI systems that have been in place for the past 20-30 years. EDI is a subset of electronic commerce. A primary difference

between the two is that electronic commerce encompasses a broader commerce environment than EDI. Traditional EDI systems allow pre-established trading partners to electronically exchange business data. The vast majority of traditional EDI systems arc centered around the purchasing function. These EDI systems are generally costly to implement. The high entry cost precluded many small and mid-sized businesses from engaging in EDI. Electronic commerce allows a marketplace to exist where buyers and sellers can "meet" and transact with one another. Chapter four more clearly traces the evolution of traditional EDI to electronic commerce.

The Internet and the WWW provide the enabling mechanisms to foster the growth of electronic commerce. The actual and projected growth rates and uses of the Internet indicate that electronic commerce is no passing fad, but rather a fundamental change in the way in which businesses interact with one another and then-consumers one only needs to look at Boeing and General Electric. Prior to its web-based sue, only 10 percent of Boeing's customers used its EDI system to order replacement parts. In 1998, Boeing reported that it received $100 million in orders of spare parts through its web site. General Electric Company's 1997 Internet activity clearly demonstrates that electronic commerce can provide substantial, tangible benefits to a firm when implemented properly. In 1997, General Electric purchased approximately $1 billion worth of supplies using the Internet. Some benefits that General Electric has realized due to its Internet procurement system are a 50 percent reduction in the purchasing cycle and a 30 percent reduction in processing costs.

The Framework of EC

Many people think EC is just having a Web site, but EC is more than that. There are a dozens of applications of EC such as home banking, shopping in online stores and malls, buying stocks, finding a job, conducting an auction, and collaborating electronically on research and development projects. To execute these application, it is necessary to have supporting information and organization infrastructure and systems. The EC applications are supported by infrastructures, and its implementation is dependent on four major areas: people, policy, technical standards and protocols, and other organizations.

Classification of the EC Field by the Nature of the Transactions

A common classification of EC is by the nature of transaction. The following types are distinguished:

Business-to-business (B2B). Most of EC today is of this type. It includes the IOS transactions and electronic market transactions between organizations.

Business-to-consumer (B2C). These are retailing transactions with individual shoppers. The typical shopper at Amazon. com is a consumer, or customer.

Consumer-to-consumer (C2C). In this category consumer sells directly to consumers.

Examples are individuals selling in classified ads (e.g, www.classified 2000.com) and selling residential property, cars, and so on. Advertising personal services on the Internet and selling the knowledge and expertise is another example of C2C. Several auction sites allow individuals to put items up for auctions. Finally, many individuals are using intranets and other organizational internal networks to advertise items for sale or services.

Consumer-to-business (C2B). This category includes individuals who sell products or services to organizations, as well as individuals who seek sellers, interact with them, and conclude a transaction.

Nonbusiness EC. An increased number of nonbusiness institutions such as academic institutions, not-for-profit organizations, religious organizations, social organizations, and government agencies are using various types of EC to reduce their expenses (e.g., improve purchasing) or to improve their operations and customer service.

Intrabusiness (organizational) EC. This category includes all internals organizational activities, ususally performed on intranets, that involve exchange of goods, services or information. Activities can range from selling corporate products to employees to online training and cost-reduction activities.

Note that what we described as IOS is a part of B2B. Electronic markets, on the other hand, can be associated either with B2B or with B2C.

Vocabulary & Phrases

perspectives	n.	**视角，角度**	encompass	v.	**包括**
incorporate	v.	**体现，收编，编入，放进**	mall	n.	**林荫道**
discard	v.	**放弃，抛弃**	infrastructure	n.	**基础设施**
buzzword	n.	**被在一时间广泛传播的词**	protocol	n.	**协议**
solution	n.	**解决方案**	auction	n.v.	**拍卖**
automation	n.	**自动化**	intranet	n.	**内部网，企业网**
enhance	v.	**增加**	internal	adj.	**内部的**
substantial	adj.	**大量的**	interact	v.	**互动**
tangible	adj.	**具体的**	corporate	adj.	**公司的**
via	prep.	**经过，通过**	intrabusiness	adj.	**企业内部的**
expertise	n.	**专门的知识或经验**	nonbusiness	adj.	**非企业的**
digital	adj.	**数字的**	curriculum	n.	**课程**
transmission	n.	**传输**	framework	n.	**框架，架构**
mechanism	n.	**机制，方式**	retail	v.	**零售**
subset	n.	**部分**	residential	adj.	**居民的**

Notes

1. IBM **一家美国大型电脑公司**
2. CEO (chief executive officer) **首席执行官**

3. EDI	(electronic data exchange) **电子资料/数据交换**
4. IOS	(internetworking operation system) **互联网络操作系统**
5. WWW	(world wide web) **万维网**
6. Boeing	**一家美国大型公司，主要生产飞机**
7. General Electric Company	**一家主要生产汽车的美国公司**
8. NII	(national informatiom infrastructure) **美国信息高速公路**; **美国国家信息基础设施**; **全美信息基础设施**
9. GII	(global informatiom infrastructure) **全球信息高速公路，全球信息基础设施**
10. INTERNET	**国际互联网**

Exercises

Ⅰ. Put the following English expression into Chinese.

1. incorporate electronic commerce into strategic plans
2. electronic commerce "solutions"
3. reaching new customers
4. competitive advantage
5. traditional physical shipping channels
6. cost-reduction activities

Ⅱ. Give the English equivalents of the following.

1. **电子商务基础设施**
2. **基于内部网的组织的内部活动**
3. **组织间电子市场交易**
4. **增加生产力**
5. **利用电子手段分配信息**
6. **买和卖的过程**

Ⅲ. Translate the following passage into Chinese

Many people think EC is just having a Web site, but EC is more than that. There are a dozens of applications of EC such as home banking, shopping in online stores and malls, buying stocks, finding a job, conducting an auction, and collaborating electronically on research and development projects. To execute these application, it is necessary to have supporting information and organization infrastructure and systems. The EC applications are supported by infrastructures, and its implementation is dependent on four major areas: people, policy, technical standards and protocols, and other organizations.

Ⅳ. Translate the following sentences into English.

1. **有些人认为电子商务只不过又是一个被滥用而后被丢弃的时髦词。**
2. **电子商务这个词有些局限，不能充分涵盖许多通过远程通信设施所进行的信息交流的性质。**

3. **更多的非企业机构，比如学术机构，非赢利组织，宗教组织，社会组织和政府机构采用种种电子商务形式降低成本或改善运作。**

4. **电子事务比电子商务更宽泛，它包含所有的通过电子手段进行的信息交流活动。**

Section B

Potential Benefits of Electronic Commerce

In order for businesses to invest resources to engage in electronic commerce, the benefits must exceed the costs. So what benefits can businesses potentially gain from engaging in electronic commerce?

- Internet and web-based electronic commerce is more affordable than traditional EDI;
- Internet and web-based electronic commerce allows more business partners to be reached than with traditional EDI;
- Internet and web-based electronic commerce can reach a more geographically dispersed customer base;
- procurement processing costs can be lowered;
- cost of purchases can be lowered;
- reductions in inventories;
- lower cycle times;
- better customer service; and
- lower sales and marketing costs

The first three benefits are relative benefits of Internet and web-based electronic commerce over traditional EDI methods. The cost and installation of EDI systems is generally quite high, and it has typically only been beneficial to larger firms that have enough sales volume to justify the costs of developing their own networks or subscribing to a value-added network. A value-added network (VAN) is a service to which a firm can subscribe. VANs provide many services, including data transmission, EDI translation, and store and forward messaging of transaction data. VANs and the other services they provide are discussed in greater detail in chapter four. Because of the low cost of connecting to the Internet, medium and small businesses can now afford the connection cost. Further, because of software developments that allow web-based EDI systems to interface with traditional EDI systems, businesses of all sizes can now transact with one another. This vastly expands the number of potential electronic business partners, some of which may be a substantial, geographical distance away. The Internet offers a greater choice of global partners with which to conduct electronic commerce.

Procurement costs can be lowered by traditional EDI systems by consolidating purchases, developing relationships with key suppliers, negotiating volume discounts, and greater integration

of the manufacturing process. Internet electronic commerce offers additional benefits and potential for cost reductions over traditional EDI. Procurement costs can be lowered for all companies, regardless of size, due to the increased ability to transact electronically with one another. Data transmission costs can be lowered. A wider net can be cast when searching for suppliers. Options for partnering with other firms increase. For example, small and mid-sized companies benefit because they are now able to conduct business with the larger firms that are casting the wider nets. The smaller firms also have the opportunity to reduce their processing costs by using integrated electronic processing systems. As mentioned earlier, General Electric realized a 30 percent reduction in the processing costs of its procurement cycle.The cost of the items purchased can also be lowered due to the ability to seek out and negotiate with a greater number of suppliers. Because of this, General Electric was able to reduce its cost of purchases by 20 percent. By 2000, General Electric estimates that the potential savings from its Internet procurement system will reach $500 - $700 million.

A reduction in inventory is desirable because of the associated reductions in storage, handling, insurance, and administrative costs. Internet electronic commerce can help firms to more optimally order the inventories by electronically linking suppliers and purchasers together and allowing them to share updated production forecasts and projected inventory levels in order to allow both parties to collaboratively "fine-tune" their production and delivery schedules. Businesses can also use the Internet to "unload" unwanted inventory or sell excess capacity very quickly and with extremely low marketing costs. Both American Airlines and US Air determine on a weekly basis which flights have excess capacity and offer "last-minute" (actually two to three days notice) deals to Internet subscribers of this service via e-mail. This strategy allows these airlines to reduce the excess capacity on these flights and generate additional revenues.

The production cycle time is the time it takes a business to build a product beginning with the design phase and ending with the completed product. Internet electronic commerce is enabling the reduction of the cycle time by allowing engineers and production teams to electronically share design specifications for initial approval and refinement processes. In addition to reducing the design and production phases, lower cycle times also reduce the amount of fixed overhead that needs to be allocated to each unit produced, thus positively affecting the ability to pass cost savings on to the customer or to achieve higher net earnings.

Customer service can be enhanced using Internet electronic commerce by helping the customer to access information before, during, and after the sale. Before the sale is made, customers can electronically retrieve product specifications, quantity, and pricing information. During the product/service fulfillment cycle, customers can electronically check on the status of the order. Support services for custom's are also enhanced by electronic services, such as electronic notification of returned items and the ability to download and print the necessary documentation and shipping labels to return an item for servicing. Convenience and reduced processing costs result for both the buyer and seller.

The omnipresent nature of the Internet allows firms to reach many customers in a very

low-cost fashion. Some firms are able to shift some of their sales and marketing functions to electronic processes. This shift in communication mediums allows the firm to either reduce their overhead costs or better utilize their human resources to engage in building customer relations rather than performing tedious sales processing tasks.

Businesses are not the only benefactors of Internet electronic commerce; consumers may also reap benefits from using the Internet. Some benefits that consumers may expect to receive are:

- increased choice of vendors and products;
- convenience from shopping at home or office;
- greater amounts of information that can be accessed on demand:
- more competitive prices and increased price comparison capabilities; and
- greater customization in the delivery of services.

Customers have an increased choice of vendors because they are no longer geographically constrained by a reasonable walking or driving distance. Customers have a greater choice of services they can receive from global Internet companies. For example, a foreign-born resident of the U.S. may subscribe to an electronic news service from his/her home country and receive an electronic "newspaper" on a daily basis that is sent directly from his/her home country's news service. Regarding product selection, virtual stores such as Amazon.com offer consumers with a choice of over 2.5 million titles; physical stores do not have the physical retail space, nor is it feasible, to stock that many titles in each physical retail establishment.

The convenience of shopping at home allows consumers to shop when it is convenient for them and not during the store hours. For handicapped or ill consumers, the ability to shop from home opens up new shopping opportunities and offers greater convenience. The capability of employees to shop on-line from their office is viewed as a benefit by some and as a detriment by others, and both sides have valid points. Whether the availability to access the Internet for personal use is abused or misused by an employee depends on the employee's personal characteristics and work ethic. For busy employees that work long-hours, the ability to take care of some errands may ease their tension and allow them to actually devote more time that is of better quality to their tasks. For example, busy workers facing overtime may need to complete some personal errands, including grocery shopping, buying and mailing a birthday present, and retrieving some income tax forms to complete their tax return. While these errands may require a total time of two hours if done physically, they may all be conducted on the Internet in 15-20 minutes total. Thus, if employees can perform these tasks during their lunch hour, they may still have time to eat, reduce stress regarding their personal life, and feel better prepared to face the rest of the day's workload.

Consumers now have greater access to information that is provided on line, and this translates into greater buying power.

Search engines and intelligent agents are making the process of sorting through information and conducting price comparisons increasingly easier. Information is buying power to consumers,

and the Internet is unleashing access to vast amounts of information. How will Internet vendors compete if price comparison is so easy ? They are quickly learning that service and reliability are also important. Amazon.com does not just sell books and music, it provides book and music reviews, suggests other books that may be of interest based on the books being examined, and provides sound clips for many of the music titles. It also provides inventory status and expected shipping time.

Internet electronic commerce also offers customers the chance to customize many of the products/services offered by merchants. For example, many on-line news services allow their customers to "design" the look of their daily newspaper. The Morning Paper (www.boutell.com/morning) allows on-line users to pre-specify their favorite web sites. Each morning, a "morning paper" is delivered electronically to the user with updates that have occurred on their favorite web sites.

Ⅰ. Answering the following questions based on what you have heard in the recording.

1. Compared with EDI, what are the benefits of Internet and web-based electronic commerce ?
2. Can you simply list 3 or 4 benefits that EC brings to business ?
3. Can you simply list 3 or 4 benefits that EC brings to customers ?

Ⅱ. State your own opinion and discuss with your partner(s).

1. What other benefits do you think is not mentioned in this article?
2. In what way do you think small and mid-sized companies can benefit fom EC ?

Section C

Projecting the Economic Impact of the Internet

In just a few years, the Internet has had a visible impact on the daily lives of many Americans—at work, at home, and how they communicate with one another. But a key policy question for the future is: How will the Internet affect the performance of the economy and the standard of living of average Americans? In particular, is the Internet just a different way to communicate (an alternative to phone, fax, or mail) and thus not likely to have a fundamental impact on the functioning of the economy, as some skeptics have claimed? Or will it be a significant factor in sustaining the remarkable increase in productivity recorded since the mid-1990's, as many executives and venture capitalists in the industry, and some economists, seem to believe?

The answer to these questions cannot be resolved any time soon with standard econometric

techniques because e-commerce is too recent a phenomenon (and still too small in relation to standard economic activity) to be modeled in any defensible way. A different approach, therefore, seems called for, one that attempts to extrapolate judgmental estimates of the likely impact of the Internet at the industry level based on estimates by individual firms and analysts, suitably adjusted where appropriate, and then adds up the results to see what they imply for the overall economy.

That is the approach we have pursued over the past year with a team of researchers, primarily but not exclusively from some of the nation's leading business schools. Our research team focused on eight sectors, which collectively account for about 70 percent of the nation's GDP on a value-added basis: automobile manufacturing and sales, non-auto manufacturing, higher education and private-sector training, financial services, government, health care.

Our findings are necessarily speculative but, we believe, not unduly so. Indeed, some of those in the high-tech community with whom we have discussed our results believe we may be too conservative, especially given the relative infancy of the Internet, its growing penetration rate, and steadily increasing speed of access. Our quantifiable estimates refer only to projected cost savings from the networking of computers, either through the Internet or company intranets (which, for convenience, we lump under the single term, "Internet"). Thus, they do not count the unmeasured and often important gains to consumers from added convenience, wider product mix, and customization that the Internet makes possible. Nor do the estimates include the already significant savings that have been generated by large productivity increases in the computer and software industries.

The cost savings are largely projected to be one-time savings for each firm that achieves them, although in practice, such savings may be spread over time in individual firms, while at the sector level a process of diffusion from first-adopters to followers should generate the pattern of annual productivity savings we estimate. We were not able to collect data on investment expenditures required to achieve these savings. However, the limited available evidence suggests that successful implementation of Internet-based cost-savings strategies requires far more in the way of organizational commitment than actual investment spending. Accordingly, the absence of investment data is not, in our view, a serious drawback, and in any event, there is not likely to be a large difference between labor and multi-factor productivity improvement based on these savings. Finally, our estimates refer to the potential gains available in the sectors of the economy that use the Internet, or the vast portion of the economy, rather than the relatively much smaller Internet-producing sector (where stock prices have fallen sharply since the "Internet bubble" burst in the spring of 2000). Whether, and at what pace, the potential cost savings and thus productivity improvements will be fully realized depend on a series of factors that are discussed toward the end of this paper.

I. Sources of Potential Cost Savings

In principle, the Internet has the potential to increase productivity growth in a variety of distinct, but mutually reinforcing ways:

(i) by significantly reducing the cost of many transactions necessary to produce and distribute goods and services;

(ii) by increasing management efficiency, especially by enabling firms to manage their supply chains more effectively and to communicate more easily both within the firm and with customers and partners; and

(iii) by increasing competition, making prices more transparent, and broadening markets for buyers and sellers, which puts pressure on suppliers to adopt techniques that translate, into cost savings.

Our research team found evidence of these effects in many, if not most, of the sectors examined.

A. Transactions-Cost Savings

Patricia Danzon and Michael Furekaw found in their study that the potential for transactions-cost savings from transition to the Internet is especially high in the health-care sector, because it is so large (l4 percent of GDP), so information-intensive, and so dependent on paper records. Moving health-insurance claims processing to the Internet would require aggressive efforts to standardize claims formats, but savings could be large. One of the providers of the current system. Electronic Data Interchange (EDI), alleges that it can reduce the cost of processing from $10-15 per paper claim to $2-4 per EDI claim. Web-based processors may be able to deliver the same service for 2-4 cents per claim. Only about 40 percent of doctors' claims are now processed electronically, leaving much to be improved through the Internet.

The Internet also offers great potential in the area of managing medical records, not only for cutting costs, but also for improving the quality and effectiveness of care. Assuming that privacy concerns can be adequately addressed, patients and providers would benefit enormously from conversion of current, mostly paper, medical records into electronic medical records in a standard format. Providers would then be able to access the patient's full medical history quickly and enter their own observations and treatments.

Transactions are the bread and butter of the financial-services industry, and so it is not surprising that Eric Demons and Loren Hitt find ways that the Internet already is leading to lower transactions in this sector. While securities trades are cheaper to process on-line (hence the bargain-basement commissions), some of the cost reduction is being offset by increased advertising and marketing costs of the new entrants. In the mortgage lending industry, customers are using the Internet to shop for information and compare rates, although only a tiny fraction of mortgages now originate on-line, where it is cheaper to process them. This should change over the next few years as consumers grow more comfortable using "digital signatures" , now legal under a law signed by President Bill Clinton in June 2000. There also are savings from lower costs of electronic bill presentment and payment, which are significantly cheaper than paper-based methods (although the progress toward electronic banking and bill payment in particular so far has been slower than many expected).