Book Reviews: 
Market Models and Marketplaces in the Digital Economy

Making Markets: How Firms Can Design and Profit from Online Auctions and Exchanges
Ajit Kambil and Eric van Heck

Ajit Kambil and Eric van Heck’s book Making Markets discusses online auctions and exchanges based on the very broad and long-term experiences of the two authors. Making Markets focuses on the pragmatic and emerging applications of markets and the factors that lead to their successful deployment in creating business value rather than on either theoretical discussions of markets or a snap-shot of the online market area at a given time. Since the book unveils the results of an analysis of nearly 100 markets investigated over the past decade and thus covers the rise, the peak, as well as the decline of the Internet hype, it provides truly in-depth insights into the issues surrounding online auctions and markets. The authors – both well-accepted authorities in the respective community – explain why so many markets failed and show how to design and effectively use markets; in the supply chain, to connect with customers and to manage risks, and within global firms to increase efficiency and find the best information. Even though the book focuses on online markets it also considers ‘brick and mortar’ and hybrid markets. The first of eight main chapters provides five key insights of the book and presents three cases of successful online marketplaces in order to illustrate what makes them successful. The second part of the introductory chapter then introduces the following chapters. In chapter two the foundations of key market processes through which markets create value for buyers and sellers are introduced. The inherent challenges of the transition processes from place to space are in the focus of the discussion. In addition, the authors discuss the right balance between technology and human interaction as well, thus taking into account that not all market processes can be fully and effectively automated. The next chapter analyses success factors of online markets such as speedy achievement of critical mass and liquidity as well as reducing transition risk for market participants. Many examples from the real world illustrate the findings. At the end, the chapter provides a framework for creating a successful market. Different auction types are discussed in terms of similarities and differences of both processes and outcomes in chapter four: ‘The devil is in the details’. In an in-depth analysis the three main objectives are investigated: selection of a revenue model, selection of an auction model, and selection of specific market features and strategies. B2B markets as part of the supply chain are the focus of chapter five. It addresses the issue of how companies can make use of markets and auctions in order to realize value, discusses the different types of B2B markets, and examines the integration challenges companies must overcome. In chapter six the authors consider several strategic applications of markets other than supply chains such as, for example, resale markets, markets for trading risks, or knowledge markets. Based on the very rich experiences of the authors this chapter — named ‘Using markets creatively’ – provides a lot of insight through its discussion of many examples. In ‘Market tactics’, chapter seven, some principles for participating effectively in markets are outlined. Leveraging information and bidding strategies are discussed as are some psychological traps and strategic misbehaviour of markets. The final chapter, ‘dynamic market strategies’, covers the issue of market strategy building incorporating three major steps, namely: creating a vision, selecting the right strategies for market implementation and participation, and mobilizing to implement the market. Issues such as market-maker strategies and governance topics are also addressed. The end of the book contains a very valuable list of references for every chapter, and a detailed index. Overall, in just eight chapters the book presents a huge amount of insight into the area of online markets and auctions covering foundational issues, analysing different types of markets and auctions, and providing valuable hints dealing with tactics and strategies of online markets and their implementation. Theoretical and conceptual findings are illustrated comprehensively. The book is a very valuable resource for researchers as well as for managers dealing with online markets.

HANS-DIETER ZIMMERMANN
(Hans-Dieter.Zimmermann@unisg.ch)

As the Digital Economy becomes an operating reality for firms across various industries, transforming business and commerce throughout the economy, and consequently affecting society at large, firms struggle to develop strong business models. New delivery channels bring challenges to logistics management, new products and services raise pricing and
access issues, and in general, technological innovation challenges business models. How can a firm develop sustainable strategies in a rapidly changing environment, affected by changing technologies, diversifying markets, and the constant threat of new unanticipated competition? In the second section of this month’s book reviews we present readers of Electronic Markets with an evaluation of four books that provide a range of business models and strategies for the firm of the near future:

- **Understanding the Digital Economy** (Brynjolfsson and Kahin 2000). The authors consider the Digital Economy as characterized by the convergence of communications, computing and information, and examine their economic and socio-technical effects.


- **Place-to-Space – Migrating to eBusiness Models** (Weill and Vitale 2001). The authors recommend a new diagnostic tool, the e-business model schematic, to help senior managers assess e-business models and derive maximal benefit from them for their firms.

- **The Internet Economy: Access, Taxes, and Market Structure** (Wiseman 2000). Wiseman considers the new challenges that have come up in the Digital Economy, and evaluates economic theories about pricing and access in the new e-marketplace that have a bearing on how the structure of the marketplace is likely to change in the future.

The reviewers of the books are doctoral students who participated in an essay writing project in the ‘Doctoral Seminar in Economics, IS and Electronic Commerce’ at the Carlson School of Management, University of Minnesota, in Spring 2002. Our students were invited to review a book in a brief economic theory-based critical essay. The essays were reviewed several times by the instructors, and finalized with the assistance of a managing editor before submitting them to EM. A number of papers were chosen by EM’s editorial staff for publication. The website for the course (ids.csom.umn.edu/8801), provides additional descriptive information on the assignment, as well as the issues that we discussed. The seminar’s coverage of Economics as a referent discipline for IS and e-commerce research is part of the core of Minnesota’s IS Doctoral Programme.

The book review editors thank Beat Schmid and Lucia Pavlikova for their willingness to hand over the development of this section to us and our colleague, Nick Ball, at the University of Minnesota. Nick, a third year IS doctoral student, was an effective ‘managing editor’ for this work, making its completion possible. We also acknowledge our doctoral students at the University of Minnesota, who continue to develop conference and journal submissions that are worthwhile to share with a global audience.

NICHOLAS BALL  
(nbball@csom.umn.edu)  
ROBERT J. KAUFFMAN  
(rkaufmann@csom.umn.edu)  
BABA PRASAD  
(prasad@email.uncc.edu)

**Understanding the Digital Economy: Data, Tools, and Research**  
Eric Brynjolfsson and Brian Kahin (eds)  
2000, MIT Press, Cambridge, MA

When people talk about the Digital Economy they are usually talking about the convergence of communications, computing and information. However, Erik Brynjolfsson and Brian Kahin have pulled together the work of experts in the field that go beyond those sectors. Instead, this compilation focuses on the transformation of business and commerce throughout the economy and the resulting social impacts of that change. The collective works seek to promote a better understanding of the growth and socioeconomic implications of IT and e-commerce, and promote increased private sector research to inform the related investment and policy decisions.

Four major perspectives are used to discuss the impact of e-business on the economy: the macroeconomic perspective; market structure, competition, and the role of small business; employment, workforce, and access; and organizational change. Each perspective is driven by an underlying question, which presents challenges for researchers, policymakers and managers interested in understanding issues related to e-commerce. Table 1 organizes the book’s underlying questions following the framework developed by Kauffman and Walden (2001). This framework recognizes the different levels of aggregation of the economic activity involved, starting at the level of the technology, moving through products and processes, up to the level of firms and markets, and the macro economy as a whole. The most aggregated level of analysis in the book considers the macroeconomic issues in e-commerce. We are informed of the measurement and methodological problems that constitute drawbacks to understanding the scope and significance of transformations triggered by information technology. The authors’ discussion points out that inconsistent methodology, inadequate data collection activities, and inaccurate measurements of the true output versus productivity benefits are precluding the advance of our understanding of the drivers of the Digital Economy. For example, one of the underlying issues addressed at this level in the book is what has come to be known as the ‘productivity paradox’. However, it should not
what the future might hold in the 
into what has occurred to indicate 
electronic markets, providing insights 
Brynjolfsson elaborate on the issues 
qualified workers tend to lose out 
efits, but both firms and poorly 
scenario explored by Beck (1999). 
follow the perfect labour market 
tials, and disparities in access 
example, the dramatic expansion of 
information changes the structure 
Economy and the equity of the 
sophisticated workers in the Digital 
concern that the benefits of the 
the essays elaborate on the growing 
the value created by computers 
Regarding access and employment, 
the argument is found in the Electronic 
The conceptual foundation for this 
argument is found in the Electronic 
Markets: Review and Assessment’. 
However, the more interesting out-
come of their discussion is the 
developments to watch in this area. 
Among them, we have begun to 
the see ‘reintermediation’ of the 
digital marketplace by traditional 
Reintermediation refers to 
the process through which a once-
circumvented traditional intermedi-
ary is able to re-enter the chain of 
value-added activities that support 
buyer–seller transactions. One im-
portant guiding point here, high-
lighted by Chircu and Kauffman (1999), 
is that Internet-focused competitors 
can use a variety of strategies to 
attain competitive advantage in the 
short run, and maintain competitive 
parity in the long run. However, 
there are very few strategies that 
will provide sustainable competitive 
advantage in the Digital Economy. 
The chapter entitled ‘Market Structure, 
Competition, and the Role of Small 
Business Understanding Digital 
Markets: Review and Assessment’. 
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parity in the long run. However, 
there are very few strategies that 
will provide sustainable competitive 
advantage in the Digital Economy. 
The conceptual foundation for this 
argument is found in the Electronic 
Markets and Hierarchies Hypo-
thesis formulated by Malone, Yates 
and Benjamin (1987). They claimed 
that the reduction in coordination 
costs brought by IT would lead to 
greater use of markets. However, 
research to test that hypothesis 
empirically has informed us about 
the directions in the evolution of 
electronic market structure that are 
not entirely predicted by the prior 
theory. Unfortunately, some of the 
latest developments in this respect 
are missed in the book, though the 
reader is still exposed to the main 
directions.

The issues in organizational change 
occur at business process level of 
analysis. This topic is analysed under 
three different perspectives: the socio-
technical perspective, computational 
analyzing social construction. The 
discussion raises the need of deploy-
ing information systems accompanied 
by significant organizational changes 
in order to maximize IT effective-
ness. This is an important point 
to be evaluated by decision makers 
when they are considering the 
implementation of any IT-enabled 
change.

Brynjolfsson and Kahin’s collection 
of essays provides an informative 
overview of the issues and key di-
rections for future development in 
e-business for both industry profes-
sionals and academic researchers. 
The levels of analysis presented also 
provide the reader with a framework 
that assists in understanding the 
current problems of the Digital 
Economy. Readers new to the 
world of e-business may find some 
of the articles heavy on technical 
jargon, with a few concepts lacking 
clear definitions or elaboration. An 
important missing area of coverage 
is emerging e-business models and 
the sustainability of these new strat-
gies. However, even though this 
topic does not receive deep cover-
age in the book, the editors offer 
a comprehensive perspective of orga-
nizational change in the Digital 
Economy. The readings offer a com-
prehensive and engaging account 
of the Internet economy, set an 
agenda for future research and devel-
opment, and make a compelling 
case for advancing the discussion 
and understanding of e-commerce.

Table 1. Underlying questions on the major topics of the Digital Economy

<table>
<thead>
<tr>
<th>E-business topic</th>
<th>Underlying questions</th>
</tr>
</thead>
</table>
| Macroeconomic
implications          | • What type of transformations have been brought about by the Digital Economy?       |
|                        | • How can we measure their impact?                                                  |
| Access, employment    | • What are the barriers to participation in e-business,                              |
| and the workforce     |   the options for overcoming them and the effectiveness and reliability of those options? |
| Market structure and  | • What are the impacts on the size, composition, and                                |
| competition           |   level of education in the workforce?                                              |
| Organizational change | • What are the emerging types of relationships among firms?                           |
| Small business        | • What are the opportunities for and impediments to the participation of small firms? |
The eMarketplace: Strategies for Success in B2B eCommerce provides valuable information about the current state of B2B marketplaces, and offers useful insights to encourage relevant B2B e-marketplace research. Its main purpose is to explore the B2B e-marketplace strategies and business models to promote a more complete understanding of the phases of evolution of these emerging markets and to guide senior managers’ expectations about their potential. (See Table 2.)

Electronic marketplaces typically have four primary participants: buyers, suppliers, market mechanism providers and financial service firms. These participants perform different functions and may influence the evolution of the electronic marketplace. According to network externalities theory, the more participants who join an electronic market, the more the participants benefit. Electronic markets tend to reduce transaction costs between the buyers and suppliers, coordination costs in multi-party bargaining, information acquisition costs for customers, and communication costs for suppliers. They can also impose significant switching costs on the participants, so as to lock in customers (Bakos 1991). With this and other relevant theory in mind, the author analyses B2B e-marketplace evolution, and discusses the strategies that the marketplaces are observed to adopt as they change. Raisch emphasizes the importance of the recent emergence of customer-centric power in B2B e-markets and how e-marketplace organizational culture and strategy ought to change as a result.

The author also offers a vision of the B2B e-marketplace of the future. He believes that value trust networks (VTNs) will weave enterprises, marketplaces, industries and individuals together into productive digital workgroups. He points out that the key factors that make supply chains work well are established relationships and trust between trading partners. Based on trust and value creation, Raisch argues that VTNs will develop into collaborative networks in which different kinds of related companies will be motivated to work together based upon the mutual creation of value. Moreover, all of the participants will come away with a more streamlined business process for procurement, more integrated customer relationships and enhanced managerial information.

The author also describes the ‘three C’s’ strategy of how to integrate content, communities and commerce into an e-marketplace. Dynamic content strategies focus on interactivity, collaboration and personalization. B2B community

### Table 2. Evolutionary phases for B2B electronic markets

<table>
<thead>
<tr>
<th>Phases</th>
<th>Description</th>
<th>Perspectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity exchanges</td>
<td>Supporting the buying, selling and trading of commoditized products and services</td>
<td>Similar to traditional marketplaces</td>
</tr>
<tr>
<td>Value-added e-marketplaces</td>
<td>Providing delivery transaction support services and customized products</td>
<td>A combination of the Internet and physical value delivery</td>
</tr>
<tr>
<td>Knowledge exchanges</td>
<td>Capturing and using information that flows through the value chain of any industry</td>
<td>Sets up efficient collaboration and communication</td>
</tr>
<tr>
<td>Value trust networks</td>
<td>Providing a combination of interoperability and trusted relationships as a basis for economic exchange in procurement</td>
<td>Integrates players, business processes and technology</td>
</tr>
</tbody>
</table>
strategies focus on products, relationships and transaction information sharing. *E-marketplace commerce strategies* emphasize supplier networks, vertical markets, collaboration hubs and value-added services. However, the types of business models that will develop in a given industry will depend on the complexity and frequency of transactions, the extent of industry concentration, the possibility of transaction fees, and the relative power of buyers and suppliers (Weller 2000).

Although the book discusses the strategies of the e-marketplace, it does not do justice to a key problem that most e-commerce firms have encountered: how to generate revenue. (See Table 3.) E-commerce business models leverage unique combinations of channels, branding, marketing, capital, relationships, partnerships, cost structures and logistics strategies (Earle and Keen 2000). Bagchi and Watson (2002) indicate that the characteristics of the firm that affect the generation of revenue are the number of members, transaction volume, number of product types, scope for expansion into related industries, scope for vertical integration, and the number of website page views. The revenue channels include licence fees, professional services, transaction fees, advertising fees, payment for supply chain savings, and subscription or membership fees. Some e-marketplaces are based on some combination of these channels.

Overall, *The E-Marketplace: Strategies for Success in B2B E-Commerce*, provides an excellent overview of the current state of B2B marketplaces. It is filled with useful concepts, emerging ideas, and insightful analysis. The author also uses more than 50 graphics to illustrate his ideas and perspectives, which translate complicated concepts into easily understood ideas. I recommend it to *Electronic Markets* readers.

### References


HUI PENG

(penghui_xa@yahoo.com)

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### Table 3. The primary models for B2B procurement markets

<table>
<thead>
<tr>
<th>Models</th>
<th>Description</th>
<th>Functionality</th>
<th>Perspectives</th>
<th>Revenue</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sell-side model</td>
<td>Automating order entry/fulfillment; one-to-many model</td>
<td>Reduced sales cost; creating or retaining value</td>
<td>Enhanced selling power</td>
<td>Product sales</td>
<td>Cisco, Dell</td>
</tr>
<tr>
<td>Buy-side model</td>
<td>Large buyers deploy requisition, order processing; many-to-one</td>
<td>Reducing processing costs</td>
<td>Enhanced buying power</td>
<td>Transaction, licensing, pro services fees</td>
<td>Commerce One, Ariba</td>
</tr>
<tr>
<td>Procurement</td>
<td>Buyer-hosted; force suppliers to join; many-to-many</td>
<td>Keeping separate buying processes, supplier relations</td>
<td>Emphasizes commercial transactions</td>
<td>Transaction fees</td>
<td>Covisint</td>
</tr>
<tr>
<td>marketplace</td>
<td>Major distributors, resellers, and new market makers host marketplace; many-to-many model</td>
<td>Creating new exchanges</td>
<td>Focused on coordination</td>
<td>Transaction, subscription, advertising, licensing fees</td>
<td><em>eSteel/NewView Technologies, Altra Energy</em></td>
</tr>
<tr>
<td>Vertical</td>
<td>Horizontal markets, hosted by trusted third parties; many-to-many model</td>
<td>MRO, new revenue generating opportunities</td>
<td>Emphasizes value-added services</td>
<td>Transaction, membership, advertising fees</td>
<td>Chemdex, Grainger</td>
</tr>
<tr>
<td>marketplace</td>
<td></td>
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Weill and Vitale, the authors of *Place-to-Space: Migrating to eBusiness Models*, begin their journey with the conviction that the e-revolution is not just another management fad. Their statement, the ‘e and dot revolution can declare victory when e-business becomes business and the dot-com becomes the corporation’ (p. 30), emphasizes their belief that professionally managed
and financially stable traditional companies will eventually take over the leadership role in the electronic markets through their hard work, and abundance of assets. They will become the most productive and profitable in the long run. This echoes Chircu and Kaufman's (1999) earlier claim in Electronic Markets that ‘reintermediation’ in e-commerce by traditional firms will be increasingly observed. They suggest that successful e-business strategy requires not only competitive advantage from e-commerce innovation but also a combination of firm capabilities and suitable environmental conditions.

The authors' inspiration for Place-to-Space is the pioneering work of Sviokla and Rayport (1994) on marketplace and marketspace. ‘Marketspace’ can be defined as a second, parallel world where buyers and sellers may never meet and the goods and services may be delivered in a different way than in a traditional setting. One example that makes definitions of place and space clear is when banks provide services to customers at branch offices (i.e., the marketplace) and when customers use banks' electronic online services (i.e., the marketspace). Sviokla and Rayport (1995, p. 35) conclude that “to succeed in this new economic environment, executives must understand the differences between value creation and extraction in the marketplace and in the marketspace: they must manage both effectively and in concert.”

Place-to-Space is positioned for managers of brick-and-mortar companies who now have come to understand the importance of e-business, but are not quite sure how to migrate from their existing business models to a combination of bricks-and-mortar and the Internet. Weill and Vitale express concern for the senior managers of ‘Old Economy’ companies who have pressure from all sides – from investors, stock market analysts, employees, customers, suppliers and competitors – to migrate from marketplace to marketspace. The managers perceive this migration as chaos that requires swift and decisive action. The authors suggest that managers use Place-to-Space to bring some order to this chaos by using its structured approach to understand and implement e-business models. To this end, the authors classify e-business models into a finite number of ‘atomic’ business models, each of which captures a different way of doing business.

The book also recommends that senior managers decide on their e-business model by using a new diagnostic tool, the e-business model schematic. It is intended to help them create specific schematics that will empower them to assess their current business models. From this, they can identify the business models that best fit their organization and combine these models to create powerful value propositions for customers. Then the firms will specify their e-business initiative by the combination of atomic business models, channels to the customer, targeted customer segments, and IT infrastructure capability necessary to implement the initiative.

Business models are one of the most discussed and least understood areas of e-commerce and electronic markets (Alt and Zimmermann 2001). Sound business models influence potential revenues and the nature of the future e-business initiative. Electronic Markets (2001) recently published a special section on business models to analyse the effects of digitization on markets and organizational strategies. The editors felt that there was a lack of consensus in both practitioner and academic circles on the elements of business models.

Weill and Vitale define business models in a way that comes close to Timmers (1998): He conceives of a business model as ‘architecture for the product, service and information flows, and a description of the potential benefits for the various business actors, and description of the sources of elements’ (p. 4). This point of view probably has already achieved significant standing among this journal’s readers, since the Timmers article has repeatedly ranked as Electronic Markets’ most-read article (see www.electronicmarkets.org/em_top_articles.html).

The authors propose eight atomic business models based on their extensive real-world case studies of international companies such as GE Supply, Cisco, Reuters, CDNow, and Lonely Planet. For each model, the authors discuss the strategic objectives, the sources of revenue, the critical success factors, and the required core competencies necessary for proper implementation. I note that some combinations of business models are compatible, while others are incompatible and might lead to problems such as channel conflict. Another crucial notion for effective e-business models is ownership of three key assets: customer relationships, customer transactions and customer data. The more of these assets a firm has, the greater is the likelihood of its success in e-businesses.

E-commerce grew rapidly in the last decade in areas such as electronic buying and selling, in electronic markets for various products, and in the use of intelligent agents for commerce, as predicted by Malone, Yates and Benjamin (1987). But the recent failure of Internet companies has made both researchers and academicians wonder about which business models will lead to sustainable competitive advantage in the Digital Economy. Place-and-Space, with its powerful evaluative framework, can generate stimulating discussion on the possible strategies that electronic markets-focused firms may use to achieve success.

Kaufman and Walden (2001) identify the role of firm technical infrastructure to support the redesign of business on the Internet as an important issue while analysing the business processes in e-commerce. However, they cite little work that studies the types of new business models that have arisen as a result.
of e-commerce. Place-to-Space is a step in that direction. It tries to put forth a theory of how e-business strategies can create sustainable competitive advantage on the Internet and enable firms to make profits. The authors also propose a framework to analyse the level of e-business threats and opportunities facing a click-and-mortar firm and how these companies can integrate the Web and its traditional channel into one cohesive business model.

Place-to-Space is a hands-on book for information technology strategy specialists. It will also be useful for e-business consultants and senior managers of traditional firms who need to reevaluate and reengineer their infrastructure and distribution channels to maximize the opportunities offered by the Internet. The book also prompts researchers to start to study how well different business models work in empirical analyses of firm performance. The combinations of models that can be applied to develop e-initiatives offer more flexibility compared to focusing on only one. Longitudinal studies by researchers will certainly help to evaluate these business models in terms of whether they can perform effectively in the ever-changing environment of business. Business schools also can take this opportunity to design MBA level courses that deal with the strategy and implementation aspects of e-business models. Place-to-Space can be useful as a reference textbook to guide future executives (now MBA students) to understand the strategic opportunities and threats in e-business.

References


ASOKE DEY
(adey@csom.umn.edu)

The Internet Economy: Access, Taxes, and Market Structure
A. E. Wiseman
2000, Brookings Institution Press, Washington DC

When Napster was first released in 1999, it had caused a severe congestion of networks on university campuses across the US as students downloaded music files. They had paid a fixed charge for access to the Internet and so were not incurring any additional cost for using up bandwidth. Instead of making the students pay based on usage, universities simply blocked access to the website and faced angry protests.

Contrary to common belief, low-priced competitors selling on the Internet rarely command greater market share. Between 1997 and 1999, Amazon.com and Barnes and Noble raised book prices by 8% and 7%, respectively, while discount competitor Books-A-Million had lowered prices by 30%. Even with the proliferation of shopping bots, Amazon’s market share increased from 64% to 72% percent and Barnes and Noble’s went from 12% to 15% (McKinsey 2000).

In November 2001, the US Federal government extended a moratorium on taxation of e-commerce sales by two years. The state governments in the US still are arguing for a right to charge taxes for online sales whereas others argue for an exemption. In contrast, in the European Union countries, all e-commerce sales today are subject to value-added tax.

What does past research have to say about these issues? Do we need new theories? Or, as Shapiro and Varian (1999) ask, can ‘a few basic economic concepts go a long way toward explaining how today’s industries are evolving’? These are the central questions posed by Wiseman in his book, The Internet Economy: Access, Taxes and Market Structure, a survey of economic literature dealing with the Internet and e-commerce. As the author notes, ‘these topics have a sizable body of existing and relevant research’, as compared to other Internet-related issues.

Pricing Access to the Internet

As of September 2001, 143 million people, 54% of the US population were using the Internet and new users were adopting the technology at a rate of more than two million per month (US Department of Commerce 2002). The usage levels in less-developed countries are even lower and have the potential to grow at even faster rates. More and more applications also make use of multimedia content, increasing the load on the network even more.

Apart from the need for technological solutions to provide more bandwidth for Internet access and avoid congestion on the supply side, this also calls for pricing mechanisms on the demand side that lead
to efficient allocation of network resources. This, in effect, tries to account for a negative externality by charging customers for using a large amount of bandwidth. The book cites studies that show usage-sensitive pricing mechanisms have a greater impact on network congestion compared to technological solutions to improve bandwidth.

Researchers have devised some pricing models for rationing limited available bandwidth based on theories from microeconomics and computer science. The book briefly discusses six such access pricing methods that are used or have been proposed, and their implications (see Table 4, which includes the names of researchers who proposed the schemes). Of them, only the ‘flat pricing’ mechanism is used by Internet Service Providers (ISPs) in practice. Of the others, only the ‘static priority’ and ‘dynamic priority’ methods have been tested using simulations. Moreover, the technologies needed for the proposed usage-sensitive schemes are not available freely enough for ISPs to be able to use them. As a result, they have not been tested against each other to determine which is the most efficient under different network traffic conditions. Wiseman also discusses some concerns with usage-sensitive pricing, e.g., the Digital divide (those who do have the resources to pay for Internet access versus those who don’t).

One access pricing mechanism not discussed in the book is that of charging different rates based on time of the day or week. For example, many ISPs in India charge customers an hourly rate that varies depending on whether the usage is during office hours or early mornings/nighttime and whether the usage is during the week or on a weekend.

The usage-sensitive mechanisms above reflect only what economists call first-degree (selling to each customer at a different price) and second-degree price discrimination (selling different versions of a product that are priced differently and letting the users choose from them). Other methods involving third-degree price discrimination can also be thought of, e.g., special rates for underprivileged sections of society, students in a particular school, members of a public library, etc. This method involves selling the same product at different prices to different clearly identified groups of customers. Two good reasons for using this approach are: the price sensitivity of members of certain groups, and some people would rather have others manage and organize the Internet access, say, because they are not comfortable with technology (Shapiro and Varian 1999). Such an approach seems to be relevant if one of the objectives of pricing Internet access is to provide equitable availability to as many people as possible, which in turn means more people involved in e-commerce.

**Pricing of Goods Sold on the Internet**

Another interesting phenomenon is the appearance of online versions of traditional markets, and even new online markets that do not have offline counterparts. Some of the commerce conducted in these markets often involves innovative methods for pricing the goods that are sold, including methods that have not been used before in traditional markets. How will online markets affect businesses that sell their goods using traditional infrastructure? Will e-markets do a better job of meeting the needs of buyers and sellers?

Wiseman notes that such issues can be addressed through conventional microeconomic theory especially because the usual assumptions (e.g., perfect information) in that body of knowledge become more plausible. He points out various streams of research (see Table 5). It is commonly thought that prices of

<table>
<thead>
<tr>
<th>Table 4. Internet access pricing methods</th>
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<tbody>
<tr>
<td><strong>Method</strong></td>
</tr>
<tr>
<td>Flat pricing (e.g., AOL, MSN etc.)</td>
</tr>
<tr>
<td>Auction (Mackie-Mason and Varian)</td>
</tr>
<tr>
<td>Static priority (Cocchi and others)</td>
</tr>
<tr>
<td>Dynamic priority (Gupta and others)</td>
</tr>
<tr>
<td>Paris Metro pricing (Odlyzko)</td>
</tr>
<tr>
<td>Expected capacity pricing (Clark)</td>
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goods sold on the Internet are lower because customers can easily search for lower prices. A good amount of research (using both theoretical and empirical methods) has looked at whether this is true and, if so, under what conditions. Then, many of the products sold on the Internet are information goods, which include anything that can be digitized, according to Shapiro and Varian (1999). Wiseman surveys research that has studied how such products can be packaged and priced. He also examines research that has looked at the role of the intermediary (performing the role of ‘sales assistance’) as transaction costs fall on the Internet. Another important stream of research deals with network effects (when the value of a good to an individual user increases as more people use the same good) and technology innovation.

The author observes that both theoretical and empirical studies have not been able to show if prices will be driven to marginal cost levels in the long run. He surmises that high prices and the variation of prices of homogeneous goods on the Internet could be the result of brand reputation (e.g., Amazon.com in the online book market). He also discusses the possible negative effects of price matching among sellers, and of price discrimination methods on consumer welfare. Wiseman also notes that it is difficult to detect whether a particular market structure is solely because of network effects.

The sample of research results and the author’s observations suggest that the theories of economics have had some success in explaining Internet market structure though there are still many gaps in our understanding. Future research can tell whether other methods of analysis (e.g., drawn from marketing) can give us a better understanding of e-commerce, and whether non-traditional economic models specific to the Internet economy are needed.

**Taxation**

The book also gives a short history of the debate on whether e-commerce should be taxed. The author describes past research based on a) public finance economics arguing why taxation of e-commerce is beneficial, b) price elasticity of demand and the effects of taxation, and c) estimates of potential loss of revenue in the absence of taxation.

Wiseman notes that there are two schools of thought on the taxation of e-commerce. Some favour charging taxes on transactions on the Internet at the same rates as traditional markets. This will ensure a level playing field for both online and offline markets and also prevent any loss of revenue as consumers buy more online. Others argue that e-commerce is a nascent phenomenon and so should be spared taxes. Moreover, they point out, the loss of revenue on sales shifting online is negligible as of now. The author feels that these two sets of issues need to be examined more closely. In addition he suggests a change in taxation laws and procedures to get around the possible complications with taxation of Internet sales.

The research on taxation cited in the book has a more political flavour. For example, it is difficult to argue that the loss of revenue to governments will be minimal if the proportion of sales that are made online increases to levels that are much higher than current levels. Some of the research also focuses on the sensitivity of online sales to price changes (as a result of taxation), rather than the price elasticity of sales, which is the more relevant concept to judge if customers will move away from online markets with taxation. With proper differentiation of their product offerings, online merchants can sustain a growing business with increased prices. In terms of a linear demand function, an outward shift is less price elastic regardless of the slopes of old and new demand curves (Boulding, Lee and Staelin 1994).

**Where to next?**

As the author concludes, there is much to learn about the Internet as a transaction medium, especially through theoretical and large-sample empirical research. His account of the research so far is a stimulating introduction to the work done in the three focus areas. However, the book traces a sketchy path for the direction that future research should take in understanding the Internet economy. Apart from suggesting that the issues discussed in the book need to be explored more deeply, Wiseman points out the importance of more research in areas such as intellectual property, online privacy and B2B transactions.
A recent survey by Kauffman and Walden (2001) presents a better overview of e-commerce research in wider contexts, and also provides an organizing framework for appreciating past work and future directions in this field. They identify five levels of analysis: the technology level, business process level, product level, market level and the macro-economy level. In addition, they place firms and customers as actors at each of these five levels. Viewed within this framework, the research cited in Wiseman’s book seems to be focused more on the markets, technology and macro-economy levels. Kauffman and Walden focus on economics-based research and give the reader their sense of the directions that future research needs to take at each of these five levels. Wiseman’s book, however, is still a useful introduction to the subject of Internet economics, both for a layman and an academic.

References


NAREN B. PEDDIBHOTLA
(npeddibhotla@csom.umn.edu)