

Brian Kahin and Hal R. Varian (Eds.). *Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property*. Cambridge, MA: MIT Press, 2000, 243 pp. ISBN 0–262–61159–7 (paper). \$24.95

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Internet Publishing and Beyond presents to the reader a thorough introduction to important issues that are arising as a result of the transition to the information technology age of the new century. Topics that were unknown just one decade ago have now become center stage discussions; examples include Internet advertising and on-line newspapers and journals. This book consists of nine self-contained articles, each offering an analysis of a specific issue within the realm of information technology. Following a brief overview by the editors, the book begins by comparing the economics of the past with that of the present and future, then proceeds with in-depth discussions of the many issues addressed.

In the first chapter, DeLong and Froomkin provide an insightful analysis of how the economics of commerce of the past and of today might appear in the new century. They focus on the basic foundations of Adam Smith's invisible hand—that capitalism in its purest form generates efficiency. A detailed look is provided for each of the main pillars of the market economy, including excludability, rivalry, and transparency. The authors contend that as the economy progresses further into the digital and information technology age, such pillars become less pertinent to the existence of the market economy. And, thus, the resulting benefits and consequences are difficult to infer a priori; nonetheless, the new economy must adopt new property rights and policies to maintain market efficiency in the new system.

The second chapter by Hoffman and Novak investigates the implications of developing a “standard” advertising pricing model for Internet advertising. The current state of Web advertising, although growing dramatically, still faces a sense of opaqueness; advertisers often find difficulty measuring the effectiveness of Internet ads, with the exception that on-line sales are verifiably increasing at an exponential rate. The chapter analyzes two distinct pricing models; the first is based on the traditional model that advertisers should pay for the mere exposure of ads on a Web site. The second is an interactive model where the extent to which consumers respond to ads determines the ad rate. Though the authors support the second model, it would also be facile to merit the views of many Internet publishers, who claim this model punishes them for ads that are simply ineffective or promote

products that are unsuccessful; it is argued that the traditional model does not exhibit this characteristic.

Mings and White study the rapid growth of on-line newspapers (often created by the publishers of the print versions) and their economic vitality in their current state. Many on-line newspapers, despite offering high-quality content, have suffered negative profits as a result of failure to produce an adequate revenue-generating business model. Many models have been tried, including the four described in this chapter: subscription, advertising, transactional, and bundling. It is argued that a mix of the models, rather than purely a single model, ought to be the optimal based on the attributes of the on-line news providers. Indeed, different goals motivate pricing decisions; a valid reason for no-fee on-line news is to simply maximize readership, which increases revenues from advertising and on-line classifieds. In the end, as on-line news providers continue to grow, the ability to stay profitable depends on the ability to generate sustainable revenues.

The following chapter by Shy focuses on the copyright protection of information media. Shy cites and presents some particularly paradoxical, yet illuminating, evidence that the elimination of copyright protection methods may actually increase the profits of media producers. The argument is based on the hypothesis that as more people use a particular software (whether legally or illegally), the value of the software increases due to network externalities (i.e., higher compatibility among users). The theory therefore concludes that as more people use the software, the willingness to pay for legal software increases. A crucial question arises here: With the removal of copyright protection, does the network externality effect of higher software prices compensate for the potential loss of sales due to more software pirates? The tone of the author supports this thought.

Bakos and Brynjolfsson present an analysis of the benefits and costs to aggregation of information goods. Such aggregation can take place in different forms: bundling, site licensing, subscriptions, or a combination of the three. The benefits of bundling are clear when the marginal costs of production are insignificant or if it exhibits economies of scale. Through bundling, the seller is able to attain higher profits, and consumers gain greater access to the product. On the cost side, however, aggregation causes a decrease in consumer surplus. The authors also argue that when marginal costs of production are high or if distribution costs are low, aggregation may not be optimal; instead, elements of disaggregation or mixed aggregation may be the most efficient approach.

Chuang and Sirbu offer a slightly alternative view of aggregation. Like Bakos and Brynjolfsson, they support the view that a mixed aggregation model does best to maximize producer profits; furthermore, they find cases when pure bundling is inferior to pure unbundling. However, one must be cautioned. First, the authors focus exclusively on journal articles and their bundling thereof. An unarguable fact regarding journal articles is that there exists a high percentage of bundle components in which consumers have zero valuation. This is not as much the case in the

software industry. Second, assumptions were made in the economies of scale of bundling, journals generally having a lower economy-of-scale index than other medias. Such distinctions make this analysis more of a self-contained model, rather than one that strongly supports or contradicts the more general model of Bakos and Brynjolfsson.

Fishburn, Odlyzko, and Siders conclude the three-chapter discussion on aggregation with a rather technical analysis between fixed-rate and unit pricing for information goods. Like Bakos and Brynjolfsson, the authors predict the continued use of bundling—on the demand side because consumers simply “prefer” them, and on the supply side because the preferences are less pronounced. However, given the competitive nature of information firms, coupled with low production and varying distribution costs, a fixed-rate pricing mechanism can be sustained as the more profitable model. Despite these insights, the overall texture of the chapter seems to be out of place; whereas other chapters rely on application and logic, this chapter is more theoretical and can likely be skipped by the nontechnical reader without loss of continuity in the book.

Varian presents a truly illuminating look into the application of *versioning* information goods as an alternative to aggregation, to extract consumer surplus. By versioning products, producers create products that differ in quality, and therefore prices, such that consumers choose the price–quality combination that best suits their needs. If done optimally, a firm’s pricing structure can be such that consumers perfectly reveal their needs, and thus self-select the appropriate product based on willingness to pay. This is a particularly creative form of third-degree price discrimination because it allows those who pay more to, in fact, receive more. Finally, Varian introduces a psychological effect among consumers called “extremeness aversion,” noting that it is more profitable to create three versions of a product than two. With three versions, consumers are more likely to prefer the middle size, even when the middle size is exactly the same as the large size in the two-version case.

The final chapter by MacKie-Mason and Riveros offers a fitting conclusion to the main topics of the book by offering a summary of bundling and nonlinear pricing methods. To conclude, the authors describe an actual experiment, called Pricing Electronic Access to Knowledge (PEAK), currently being undertaken at the University of Michigan, involving the electronic access of the popular on-line journal service Elsevier. The experiment involves various bundlings of journal articles and journals themselves, along with corresponding pricing structures, in a hope to eventually analyze the dynamic problems that have been addressed throughout the book—that of determining the optimal pricing structure for information media.

Internet Publishing and Beyond represents a truly comprehensive, illuminating, and insightful look into the many diverse aspects of the new information economy. Common business practices of price discrimination, aggregation, and versioning are all discussed and analyzed at a more intuitive rather than technical level. In all but one chapter, the text is fully accessible and informative to the non-

technical reader. Yet, this book also provides a valuable foundation for scholars and academics who wish to pursue further work in this growing field. Thus, this book is perfectly timed, the topics are highly current, and it offers real case studies and actual Web site examples. In fact, this may be the book's only downfall, in that such references and examples may become obsolete in a few years, once the information age and its economic foundations become established. Until then, *Internet Publishing and Beyond* offers the best look at the new century of the economics of information media.