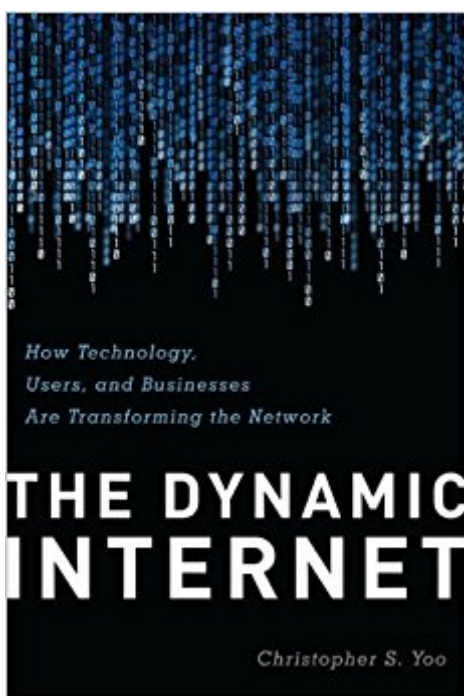The book was found

The Dynamic Internet: How Technology, Users, And Businesses Are Transforming The Network

Synopsis

The Dynamic Internet: How Technology, Users, and Businesses are Changing the Network offers a comprehensive history of the Internet and efforts to regulate its use. University of Pennsylvania law professor Christopher S. Yoo contends that rather than engaging in prescriptive regulatory oversight, the government should promote competition in other ways, such as reducing costs for consumers, lowering entry barriers for new producers, and increasing transparency. These reforms would benefit consumers while permitting the industry to develop new solutions for emerging problems. It is fruitless for government to attempt to lock the burgeoning online industry into any particular architecture; rather, policymakers should act with the knowledge that no one actor can foresee how the network is likely to evolve in the future.

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Customer Reviews

This provocative monograph begins by summarizing the evolving Internet from the mid-1990s when it transitioned from an academic and research network to its modern mass-market form. Yoo (Univ. of Pennsylvania School of Law) cites the four key changes that occurred during this period as the diversity of users, applications, technologies, and business relationships. Next, he suggests that these usage changes may require architectural restructuring and lists seven policy elements for possible adoption. Two parts follow an introductory chapter. The first part contains four chapters elaborating on the key user, usage, technological, and economic and business changes. The second is divided into seven chapters, each respectively expanding on one of the policy element

implications. Among these are the level of standardization, governance, an increase in network core functionality, and pricing issues. In the book's final chapter, Yoo stresses the importance of basing policy on the future rather than the past, and recommends how best to proceed with the Internet's ever-evolving future. He uses frequent citations to support his analysis and includes an extensive reference list. The work is clearly written and easily understandable to general readers, offering a very thoughtful, well-documented case for the future of this important system. Summing Up: Highly recommended. Academic, general, and professional audiences, all levels. (CHOICE)

Since the Internet burst into the public's consciousness during the mid-1990s, it has transformed almost every aspect of daily life. At that time, the economic and technological environment surrounding the Internet remained relatively simple:a small number of users ran a handful of applications over a narrow range of technologies, interconnected by a simple set of business relationships. Time has undermined each of these premises. The population of end users has grown exponentially and become increasingly diverse. The applications that dominated the early Internet—e-mail and web browsing—have been joined by new applications such as video and cloud computing, which place much greater demands on the network. Wireless broadband and fiber optics have emerged as important alternatives to transmission services provided via legacy telephone and cable television systems, and mobile devices are replacing personal computers as the dominant means for accessing the Internet. At the same time, the networks comprising the Internet are interconnecting through a wider variety of locations and economic terms than ever before. These changes are placing pressure on the Internet's architecture to evolve in response. The Internet is becoming less standardized, more subject to formal governance, and more reliant on intelligence located in the core of the network. At the same time, Internet pricing is becoming more complex, intermediaries are playing increasingly important roles, and the maturation of the industry is causing the nature of competition to change. Moreover, the total convergence of all forms of communications into a single network predicted by many observers may turn out to be something of a myth. In short, policymakers and scholars must replace the static view that focuses on the Internet's past with a dynamic view flexible enough to permit the Internet to evolve to meet the changing needs of the future.

Thanks to a rare combination of legal and technical knowledge, the Author was able to make a knowledgeable discussion of the regulatory dilemmas that hinge on the future of the Internet.

Yoo`s book is a concise overview of how Internet architecture has evolved and a principled discussion of the public policies that should govern the Net going forward. For those who monitor ongoing developments in cyberlaw and digital economics, Yoo's book is essential reading.Yoo makes two straight-forward arguments in his new book. First, the Internet is changing. In Part 1 of the book, Yoo offers a layman-friendly overview of the changing dynamics of Internet architecture and engineering. He documents the evolving nature of Internet standards, traffic management and congestion policies, spam and security control efforts, and peering and pricing policies. He also discusses the rise of peer-to-peer applications, the growth of mobile broadband, the emergence of the app store economy, and what the explosion of online video consumption means for ongoing bandwidth management efforts. Those are the supply-side issues. Yoo also outlines the implications of changes in the demand-side of the equation, such as changing user demographics and rapidly evolving demands from consumers. He notes that these new demand-side realities of Internet usage are resulting in changes to network management and engineering, further reinforcing changes already underway on the supply-side.Yoo's second point in the book flows logically from the first: as the Internet continues to evolve in such a highly dynamic fashion, public policy must as well. Yoo is particularly worried about calls to lock in standards, protocols, and policies from what he regards as a bygone era of Internet engineering, architecture, and policy. "The dramatic shift in Internet usage suggests that its founding architectural principles form the mid-1990s may no longer be appropriate today," he argues. (p. 4) "[T]he optimal network architecture is unlikely to be static. Instead, it is likely to be dynamic over time, changing with the shifts in end-user demands," he says. (p. 7) Thus, "the static, one-size-fits-all approach that dominates the current debate misses the mark." (p. 7)Yoo makes a particular powerful case for flexible network pricing policies. His outstanding chapter on "The Growing Complexity of Internet Pricing" offers an excellent overview of the changing dynamics of pricing in this arena and explains why experimentation with different pricing methods and business models must be allowed to continue. Getting pricing right is essential, Yoo notes, if we hope to ensure ongoing investment in new networks and services. He also notes how foolish it is to expect the government to come in and save the day thought massive infrastructure investment to cover the hundreds of billions of dollars needed to continue to build-out high-speed services.Throughout the second half of his book, Yoo explains why it would be a disaster for consumers and high-tech innovation if policymakers limited pricing flexibility and experimentation with new business models and technological standards. He argues that public policy should generally seek to avoid ex ante forms of preemptive, prophylactic Internet regulation and instead rely on an ex post approach when and if things go wrong. Essentially, he wants

policymakers to embrace "techno-agnosticism" toward ongoing debates over standards, protocols, business models, pricing methods, and so on. Lawmakers should not be preemptively tilting the balance in one direction or the other or, worse yet, restricting experimentation that can help us find superior solutions.And even under that model of retrospective review, Yoo makes it clear throughout the book that there should be a very high bar established before any regulation is pursued. This is particularly true because of the First Amendment values at stake when the government attempts to regulate speech platforms. In Chapter 9 of the book, Yoo walks the reader through all the relevant case law on this front and makes it clear how "the Supreme Court has repeatedly recognized that the editorial discretion exercised by intermediaries serves important free speech values." (p. 120). Yoo also makes the case that a certain degree of intermediation helps serve consumer needs by helping them more easily find the content and services they desire. Law should not seek to constrain that and, under current Supreme Court First Amendment jurisprudence, it probably cannot.I strongly encourage everyone to pick up a copy of Christopher Yoo's "Dynamic Internet." It strikes just the right balance for Net governance and public policy in the information age. It all comes down to flexibility and freedom. If the Internet and all modern digital technologies are to thrive, we must reject the central planner's mindset that dominated the analog era and forever bury all the static thinking it entailed.

Yoo is a professor of law and computer science at the University of Pennsylvania. He has developed an alternative to network neutrality called "network diversity". This book, accessible to a lay person, provides a overview of the internet to date, describing the key changes in the technological and economic environment of the internet and the implications for internet policy.Yoo notes that for reasons of user demands, engineering limitations, business models, and financial constraints, the idea of the network being all things to all people is increasingly untenable. Users and institutions want an internet customized to their particular needs. Thus we need to encourage diversity and heterogeneity in the internet and allow networks to experiment and evolve. This evolution is already afoot with private and secondary peering, multihoming, content delivery networks, and server farms.Given this evolution of the internet, Yoo notes a number of policy initiatives that were imagined when the typology of the internet was more simple are today obsolete. He gives the example of smartphones and operating systems which inherently discriminate content based upon the form factor of the smartphone, logic in the operating system, and the user's preferences. One can see that that if we have network neutrality rules, they must also be extended to operating systems, software platforms, applications, and devices.

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