Do the “New Dynamics of Business Ecosystems” Spell the End of Antitrust?

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Shortly after publication of The Keystone Advantage by Marco Iansiti and Roy Levien, New York Times business reporter Steve Lohr wrote that the book “is creating an admiring stir within the not-inconsiderable cottage industry of academics and consultants who study innovation, competition and corporate strategy.” The most provocative part of the book, he observed, is the argument that antitrust policy needs to be rethought because “keystone companies” are both powerful and benevolent. Lohr noted that the book was warmly received by Microsoft, with Bill Gates blurbing it as “an important book that should be read by everyone interested in the dynamics of modern business.” It is easy to see why the book would make Microsoft, Wal-Mart, or eBay smile. It is far more difficult to see how it contributes positively to thinking about antitrust policy.

Professor Iansiti, a physicist by training, teaches at the Harvard Business School. He is a principal of Keystone Strategy Inc., a consulting firm specializing in technology and operations strategy where he has advised a large number of Fortune 500 firms. Professor Levien, a biologist by training, worked for Microsoft for seven years as a program manager and technology architect. He is a principal of Keystone Advantage LLC, a consulting firm specializing in the implications of networks. It is not surprising that these scientist/business advisors should seek in the nature of ecosystems the keys to

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understanding business. They are part of a movement in the study of marketing and strategic management that has shifted focus from the firm to the diad of relationships between two firms, to the system level in which networks operate. Because the authors work by analogy from population ecology, the ultimate question with which the reader must wrestle is how far one can rely on organic metaphors when explaining – and making policy for—social phenomena.

The book’s central theme is that certain clusters of networked companies have evolved, particularly in the past fifteen years, into an important new business reality. Broader than what we traditionally have conceived as differentiated industries, they constitute “business ecosystems.” At the center of each ecosystem is a so-called keystone business. Wise keystone management acts upon enlightened understanding that a keystone’s fate is shared with that of the other members of their business network. Rather than focusing primarily on their internal capabilities (as many of their competitors did), they emphasize the collective properties of the business networks in which they participate, and treat these more like organic ecosystems than traditional supply chain partners.³

The authors say that a biological ecosystem provides a powerful analogy for understanding a business network:

Like business networks, biological ecosystems are characterized by a large number of loosely interconnected participants who depend on each other for their mutual effectiveness and survival. And like business network participants, biological species in ecosystems share their fate with each other. If the ecosystem is healthy, individual species thrive. If the ecosystem is unhealthy, individual

³ Iansiti & Levien at 4.
species suffer deeply. And as with business ecosystems, reversals in overall ecosystem health can happen very quickly.⁴

Within the business ecosystem three classes of company are described: keystone, dominator, and niche player. Keystone and dominator strategies can be pursued by firms that occupy important hubs in their business networks… Niche strategies can be pursued by the much larger number of firms that make up the bulk of the ecosystem. They emphasize differentiation by focusing on unique capabilities and leveraging key assets provided by others.⁵

The distinction between keystone and dominator is crucial. A keystone “acts to improve the overall health of the ecosystem and, in doing so, benefits the sustained performance of the firm. It does this by creating and sharing value with its network by leveraging its central hub position in that network while generally occupying only a small part of that network.”⁶ A classic dominator, on the other hand, “acts to integrate vertically or horizontally to directly control and own a large proportion of a network,”⁷ capturing most of the value created by the network and leaving little opportunity for the emergence of a meaningful ecosystem. A hub landlord, the most anti-social species of dominator, “eschews control of the network and instead pursues control of value extraction alone,” providing little new value to its network, leaving a “starved and unstable” ecosystem around it.⁸ The ideal keystone company is Microsoft. The classic dominator is Apple. Enron was the classic hub landlord. Keystone, good. Dominator, not so good.

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⁸Id.
The authors do not purport to be talking about antitrust policy in a direct or systematic way. Rather, they drop hints, such as:

We believe that it is essential for the health and vigor of our economy that the crucial roles played by these organizations [that occupy business network hubs] be safeguarded and reinforced. These considerations should influence future thinking regarding policy and regulation. We hope that the ideas in this book will spur a new look at antitrust economics, balancing the potential threat of monopolistic behavior with the value that can be created by an effective keystone strategy.  

So, let us take a look at a handful of the topics that are discussed in the book to examine their possible implications for antitrust policy.

**Distinguishing Keystones from Dominators**

Both keystones and dominators may occupy business network hubs. If keystone companies are praiseworthy but dominators are not, then one might ask whether traditional antitrust law should apply to dominators, but some “new look” hands-off approach to keystones. Since, as the authors admit, the idea of a keystone is virtually absent from existing theories of management, we have to turn to the authors themselves to provide the basis for an answer.

First, keystone firms do not always act in a keystone manner. They “do not pursue keystone strategies for altruistic reasons,” which implies that in following their perceived best interests, they may or may not think or act in terms of the best interest of

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9 223-34. Immediately after writing, “In the Microsoft antitrust trial, existing frameworks had to be stretched to account for the complex dynamics of networked industries,” the authors recognize that “many of the strategies we discuss…run the risk of being misunderstood or resented if they are not clearly articulated and explained.” Id.,103. The present review runs the risk of being resented.


the entire network. In fact, the authors tell us that we should not think “as if the firm as a whole is a keystone,” since what makes a firm a keystone “is the extent to which it pursues actions that serve keystone functions.”\textsuperscript{12} This means that Microsoft, Wal-Mart, and eBay “are not keystones in everything they do.”\textsuperscript{13} The authors may or may not be confusing position within a system with conduct. That is, a keystone holds a key position within the network, yet it is only by its conduct (and intent) that one can identify a keystone, since another firm holding a comparable position may by its conduct (and intent) be identified as a dominator. Position does not determine conduct.

In certain markets, Microsoft itself “has only been prevented from acting like a dominator by the restraining influences of effective competitors.”\textsuperscript{14} Like all mature keystones, Microsoft “must struggle against the pressure exerted by its growth imperative to cannibalize niches in the ecosystem for short-term gain at the expense of long-term ecosystem growth and health.”\textsuperscript{15} Finally, a given firm may act as a keystone in one domain while acting as a dominator or a niche player in others.\textsuperscript{16} The different strategies of the firm may conflict or work in synergy.\textsuperscript{17}

So, it appears to me that the issue comes down to whether there can be an antitrust policy that leaves a firm alone to the extent that it is acting as a keystone, but intervenes in the traditional way to the extent that the firm is not acting as a keystone, even though the firm may change its strategy in any domain apparently at any time and its strategies for various domains may be synergistically related. How do you know whether to treat a firm as a keystone or a dominator? There is something circular and feathery about the definition of a keystone. And if the keystone is not a firm but a firm’s temporary strategy, then the question for antitrust would seem to be whether there are certain strategies that

\textsuperscript{12} Id.
\textsuperscript{13} Id.
\textsuperscript{14} Op. cit., at 104.
\textsuperscript{15} Id.
\textsuperscript{16} Id.
\textsuperscript{17} Id.
should simply be left alone. A law enforcement officer may or may not be a keystone kop depending on the strategy that is being investigated at the moment. It is likely that the determination of whether a firm or the strategy its top management pursues is keystone, dominator, or something else, will require substantial investigation and will be susceptible to differing interpretations.

Two implications for antitrust policy should be pointed out. First, networks are different from antitrust markets, encompassing multiple markets or even industries. This is a dagger in the heart of standard neoclassical antitrust economics, whose focus is the “relevant” market, where the primary test of membership is substitutability. The Keystone Advantage shows that a broader focus is sometimes necessary. Second, by demonstrating that huge market power can accrue from a position within a network, even when the size of that position is relatively small within the system, the analysis cuts against the concentration thesis of neoclassical antitrust economics, which only recognizes market power in the context of very large market shares. The network phenomenon calls attention to the importance to competition of relationships of power and influence that tend to be more familiar to business people and political scientists than to neoclassical economists.

The Role of Competition

We are told that a firm may be precluded from a dominator strategy if its competition is strong. Presumably this is good. The authors do not tell us, however, very much about the dynamic between the hub business and others in the network and they tell us nothing at all about the appropriate role of antitrust in maintaining the type of competition that might restrain hubs from becoming dominators. They do make several observations that merit discussion.

First, a critical question raised in the antitrust case against Microsoft was whether Microsoft should be allowed to continually integrate additional products into its monopoly operating system. In the U.S., the product was the browser. Netscape created a
popular browser. Microsoft came along and not only integrated a browser into the operating system, but used its enormous muscle to make sure that Netscape would all but disappear from the scene. In Europe, the product is on-line music. The authors see it as an essential part of a keystone strategy that the keystone be able to integrate once-distinct functions into the platform. \(^{18}\) “The process benefits almost all ecosystem members—but at the expense of firms (or specific implementations) that position themselves too close to the frontier of the platform without preparing for the consequences.” \(^{19}\) This process of platform expansion is not only “an important way for ecosystems to grow,” \(^{20}\) but “it is a common component of both technological evolution and biological evolution.” \(^{21}\)

Niche players are advised that they can survive by not operating too close to the keystone’s platform. In the U.S. Microsoft case, part of Microsoft’s purpose for killing off Netscape was that it, combined with Java language, had the potential for becoming a direct competitor of the monopoly operating system. Had Netscape simply kept more distance (that is, had it not been in the browser business), it would not have been at risk. Now, it is hard to determine at what point in time Netscape was supposed to have known this. Perhaps if Netscape had been truly prescient, no workable or popular browser would have been introduced or perfected by Netscape—or, if everyone were truly prescient, by anyone else. Thus, the authors’ advice to niche players rests on the fallacious idea that the niche players can know in advance how to keep a safe distance from the hub. One of the lessons we can learn from Microsoft is that the surest sign that a keystone will try to absorb a niche’s function into the platform is that the niche has demonstrated its success in the marketplace! The defeatist advice to keep at a distance from the hub carries the horrific implication that investors should stay away from niche companies, because if such companies succeed, their days will be numbered. Innovation, progress, and even the health of the beloved ecosystem might very well be undermined, unless there are


\(^{19}\) Id.


standards of conduct—namely, the antitrust laws—that can protect competitors (and ultimately, consumers) from the rapacious expansion of either a keystone or a dominator.

The authors have additional advice for niche players— which is to say, for every other business in the network beside the hub business itself: they should try to be part of several competing networks, so that they can use the threat of leaving “to keep keystones honest and to prevent them from straying into becoming dominators.”

It is in fact in this sense that ecosystems compete: They compete with each other for mobile niche players. And it is precisely this competition that keeps ecosystems healthy.

The advice may be good, but if a hub operates a platform that has monopoly power and the platform is supposed to expand continuously as part of its essential functioning, and if “new look” antitrust is not going to constrain the keystone, what makes us believe that there will be multiple competing networks that will provide mobility to niche players? The charge against Microsoft has not been that it is a keystone within a system, but that it uses its dominant position in one system in order to transport dominance into other competing or potentially competing systems. In the absence of antitrust, would there be any limitations on how or how far a Microsoft could expand?

Of Markets and Monopolies

What the authors describe is an industrial structure characterized by many niche firms that are loosely connected to the central hub. This contrasts with vertically integrated firms of the old economy. The difference can be explained in Coasean terms as a reflection of a radical reduction in transaction costs made possible principally by

different applications of the computer chip.\textsuperscript{25} This represents a replacement of hierarchy by the market,\textsuperscript{26} but the role of market in the authors’ world is quite limited.

In the first place, niche firms exist largely at the whim of the hub. The hub could, if the niche player becomes a threat or even an irritant, integrate the hub’s function into the firm. Enough integration of this sort and the keystone will have become a dominator, like Apple.\textsuperscript{27} (Some of us, apparently not sophisticated in the ways of keystones, tend to view Apple as a good guy, compared to Microsoft.) One would think that the hub would prefer to have niche players that are in competition with one another, so that the hub could play one off against the other. This is one way in which consumer-driven companies try to bring the best value package to consumers. But the analogy to nature apparently requires something different. The authors stress that the niche player should develop specialized capabilities that differentiate it from other firms in the network. This enhances the health of the entire ecosystem. “By avoiding duplication of effort, niche players implement a more efficient division of labor within the ecosystem.”\textsuperscript{28} Indeed, they actually encourage keystones to dissuade niche players from duplicating effort.

If one is getting the idea that the authors are not real fond of competition, as we know it, this is correct. “It is sometimes argued,” they say, “that an industry with many small equivalent players, or peers, fiercely competing in all domains would be more productive, stable, or innovative because that is the natural way. However, the reality is that there is very little evidence for this kind of system in nature.”\textsuperscript{29} Of course, in modern

\textsuperscript{25} John Micklethwait and Adrian Wooldridge, \textit{The Company, A Short History of a Revolutionary Idea} (Modern Library, 2003), 185: “The erosion of Coasean transaction costs will make it ever easier for small companies—or just collections of entrepreneurs—to challenge the dominance of big companies; and ever more tempting for entrepreneurs to enter into loose relationships with other entrepreneurs rather than to form long-lasting corporations.”

\textsuperscript{26} See Oliver E. Williamson, \textit{Markets and Hierarchies: Analysis and Antitrust Implications} (Free Press, 1975).

\textsuperscript{27} Iansiti and Levien, op. cit., at 74.

\textsuperscript{28} Op. cit. , at 77.

\textsuperscript{29} Op. cit., at 78.
economic life, there are vast variations that occur, ranging from the totally competitive model through various degrees of oligopoly, to monopoly, with most sectors not dominated by one species. Who knows what role nature has played in this? And it might be mentioned that, traditionally, if a firm dominates its industry because economies of scale make it inefficient for there to be multiple competing firms, the firm will be declared a natural monopoly and will be regulated by government, since there is no competitive market to do the regulating. We are not told how to distinguish a keystone from a natural monopoly that ought to be regulated.

In markets where competition is the model, prices are set by the coming together of supply and demand, which tracks the incremental costs on each side of the market. This is not what is supposed to happen in what the authors call an “N-sided” market. In a network, pricing strategies can have a fundamental impact on the cost curve of the market operation. The authors want to separate pricing from product and relate it to the well-being of the ecosystem as a whole.

The essence of the argument is that in an N-sided market, the value obtained by each type of customer depends on the presence of the other types of customer. Pricing should reflect all systemwide interactions, opportunity costs, and shared costs, such as the cost of achieving and maintaining critical mass in all market components. Because of these costs, the price will not reflect marginal cost in any individual market side, even in a competitive environment.

Such a system has long had a name: administered pricing. And it has implications, as the fallen socialist economies crushingly demonstrated, for generating the right products and services in the right quantities in the right places at the right time. But these implications of the departure from market pricing are not mentioned.

The Question of Access

The fundamental challenge for business leaders who operate in networked domains, the authors say, is the management of assets not directly owned by their own firm. Others have also observed that markets are making way for networks and that ownership is steadily being replaced by access. In the new networked economy, many assets will not be bought and sold, so much as leased, rented, or licensed for short-term access between servers and clients. In the networked world of Iansiti and Levien, it is the player at the hub of the network who controls the platform, which is the keystone asset that gives the hub the ability to influence the niche players at the nodes of the network.

Fundamental questions of who will have access to a network and on what terms are now in play. The Antitrust Modernization Commission is expected to make recommendations regarding whether high technology requires antitrust law to be modified. Classic antitrust doctrines like “essential facility” are being talked out of practical existence and unilateral behavior by firms is less frequently the subject of antitrust restriction. Many conservatives who would like to see all property rights enthroned, if it were politically feasible, are focusing their attention on turning intellectual property into something absolute, meaning that the person owning the central intellectual property asset will have full discretion on whether and how to share it.


34 See Report of the Department of Justice’s Task Force on Intellectual Property, October 2004, at 41: “It is well established under United State law that an intellectual property owner’s decision not to license its technology to others cannot violate the antitrust laws.” Compare this to the statement of the Court of Appeals of the D.C. Circuit in U.S. v. Microsoft Corp., No. 005212 (June 28, 2001), “Microsoft's primary copyright argument borders upon the frivolous. The company claims an absolute and unfettered right to use its intellectual property as it wishes: "[I]f intellectual property rights have been lawfully acquired," it says, then "their subsequent exercise cannot give rise to antitrust liability." Appellant's Opening Br. at 105. That is no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability. As the Federal Circuit succinctly stated: "Intellectual property rights do not confer a privilege to violate the antitrust laws." In re Indep. Serv. Orgs. Antitrust Litig., 203 F.3d 1322, 1325 (Fed. Cir. 2000).”
without regard to the balancing of other values that antitrust has traditionally brought to the table. Iansiti and Levien’s description of the new dynamics of business ecosystems will no doubt provide solace to those who would replace antitrust with what will be presented as a more efficient regime. But if analogies from biology are to drive economic and regulatory policy, the public should take heed of the cancer cell, whose telos is unrestricted predatory growth.

35 See Robert Pitofsky, “Challenges of the New Economy: Issues at the Intersection of Antitrust and Intellectual Property,” 68 Antitrust L.J. 913 (2001): “[B]ecause intellectual property is now a principal, if not the principal, barrier to new entry in high-tech markets, we are…concerned that it be interpreted in a way that does not distort the traditional balance between intellectual property and antitrust.”