

Article

Big Tech, Competition Policy, and Strategic Management: An Alternative Perspective to Teece

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Abstract: Teece asserts that competition policy is so outdated that it now significantly degrades the ability of Big Tech firms to bring socially beneficial innovations to market. He suggests that strategic management research is essential in the struggle to update such policies. We counter that none of these assertions are accurate, let alone backed by evidence. While the larger goal of improving laws and policies through scientific research is a worthy one, the specific focus on doing so to aid a set of powerful firms that have allegedly caused—directly or indirectly—great societal damage is quite unappealing. To balance his pro-Big Tech perspective, we provide logical and theory-based arguments and evidence that indicates Big Tech has often been bad for innovation and society while their regulation has been good, and that more oversight—specifically tailored to digital platforms—would be better. We then offer three alternative paths for us, as management scholars, to take that leverage our distinctive skills and that fulfill our ethical and professional mandates, in the pursuit of improving the strategic decisions and actions that policymakers and firms take.

Keywords: competition policy; strategic management; Big Tech; economics; social welfare; innovation



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1. Introduction

We offer this essay as a constructively critical counter-balance to the views expressed in Teece's recent works (e.g., in the journals AMP [Teece 2023], and ICC [Teece 2020], and on his own consulting firm's website [<https://www.thinkbrg.com/insights/publications/big-tech-big-data-competition/>] (accessed on 5 November 2023)). Specifically, the AMP essay (Teece 2023) aims to encourage the field of strategic management (SM) to contribute to competition policy (CP) to improve CP's impact on economies, especially those most affected by Big Tech (BT) (e.g., Apple, Alphabet, Amazon, Meta, and Microsoft—the big five US platform firms). That essay argues that SM is in a unique position to offer better, alternative perspectives on issues central to CP—those that will more accurately identify the competitive advantages, potential competitors, market power, markets, ecosystems, and anti-competitive actions of Big Tech—because SM scholars have relatively greater expertise in analyzing dynamic competitions that leverage innovation and capability-building. His essay promotes the Academy's research over that of economics as being more relevant to CP because it considers a wider array of theories, constructs, and firm-focused performance-related factors. Teece argues that recent policies and actions taken by CP legislators and judges against BT have been detrimental to healthy innovative ecosystems because such policies and actions were based on dated, static, industrial-era models associated with economics research. He recommends that SM scholars increase their studies of BT, model more innovation-based rivalry, pursue case studies on past CP decisions, and, in general, try harder to better inform CP.

Our contribution here is to provide needed perspective on CP as relevant to BT (especially in light of recent developments like the essays of scholars in support of less regulation of BT, the introduction of the EU's *Digital Markets Act* [DMA] introduced earlier this year (see https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-markets-act-ensuring-fair-and-open-digital-markets_en) (accessed on

5 November 2023), and the various recent legal actions taken in the US against Amazon, Alphabet, and Meta). We respond to calls for updating CP for the digital age by providing a summary (in table form) of the many issues at stake (with examples), by presenting a critical response to those in SM who believe that BT is harmed by current CP, and by suggesting useful paths for our research to take in improving policy to actually protect competition and the benefits it provides to many aspects of society (over and above those of interest to consumers).

We appreciate that Teece has put a spotlight on an area where policymakers have appeared dangerously behind in their regulation and enforcement—i.e., regarding the technologies, capabilities, business models, and economic and social impacts of BT—noting that this area is currently rife with debate on how (new) CP law and enforcement could hinder our economy’s most innovative firms and, hence, lower the benefits that society could reap. His essay’s proposed solution involves the SM scholarship helping to resolve that debate, specifically in BT’s favor.

We believe such a solution is poorly grounded. So, in the spirit of good science—that being a process that seeks discussion, criticism, multiple perspectives, objectivity, evidence, logic, and ultimately truth—we provide a better grounded response to Teece’s assertions. His work asserts that: (i) CP is now harmful, inefficient, ineffective, and unfair, especially to BT; (ii) SM ideas, including his own, would help improve CP policy; (iii) there are many contrasts and relevancies of SM to CP that identify potential areas for such improvement; and (iv) the real competitiveness of BT is currently misunderstood. But, despite those assertions, his AMP essay (and related work) fails to provide: (i) proof that current CP is systematically flawed or harmful to BT (e.g., through objective evidence of any one case or measures of net losses in any case); (ii) proof that such systemic flaws are mainly caused by outdated economic logic, models, concepts, or measures; (iii) proof that any new SM logic, models, concepts, or measures would address those flaws in any meaningful, implementable way; and (iv) direct arguments that the issue of CP’s effects on BT is one of the most urgent, important concerns for SM research.

Further, the recent AMP essay explicitly avoids confronting the harms caused by BT and their vastly under-regulated innovations, including the significant damages their products have done—directly or indirectly—to individuals (e.g., through cyberbullying, cyber-scams, and body-shaming), to democracy (e.g., as tools foreign actors have used to influence elections), and to societal welfare more generally (e.g., by promoting harmful conspiracies against health measures, minorities, and so on). We consider that to be an unfortunate choice, given both the wider goals of governmental policy and the lamentable reality that consumers could not have easily avoided such harms precisely because alternative (competitive) products to those of BT did not appear available to them¹.

While ‘we’, as SM scholars, may celebrate Teece’s promotion of ‘our’ ideas over those of other fields, and the vision of those ideas making a difference to decisions that affect our currently most-impactful firms (i.e., those of high market value, high visibility, and high consumer use), there is *no* scientific basis provided by him to support either optimistic depiction. In fact, arguments can be made that: (i) ‘we’ do not have better ideas than our economics peers; (ii) the majority of ‘our’ research is too pro-business (versus pro-society), too focused on financial performance, too parts-of-the-elephant (versus holistic), too consulting-trendy (versus built upon common fundamentals), too focused on reporting best practices (versus being predictive), with theories that are too numerous and too impractical (e.g., Cronin et al. 2021); and, (iii) ‘we’ lack a unified professional organization of scholars to generate a legitimized, consensus-based, well-formed (i.e., accounting for multiple effects) set of policy recommendations to over-ride what exists—positively, politically, and historically—for CP.

To be fair, we agree with many of the statements and admissions in Teece’s work: We agree that BT sometimes engages in classic collusive restraints, with some of their rents arising from classic welfare-damaging monopoly actions based on naked restrictive practices, and that they are not lazy about this. We agree that BT performance has been

helped by a low investigation rate and lax regulations (quoting from Teece's reference to [Knee 2021](#)). We agree that BT leverages its advantages in data, patents, and switching costs—all of which can be used to decrease welfare. We agree that enhancing consumer welfare is a key goal of CP. And, we agree with the encouragement of SM scholars to become involved in policy processes.

Further, there are other points in that essay that we agree with, but with a different interpretation. We agree that a new perspective is needed to better understand and regulate BT, but while Teece implies using fully new frameworks, we believe that the original economic fundamentals of US antitrust should remain—those focusing on promoting competitive markets (and the interests of workers, entrepreneurs, producers, and citizens). And, we agree that the DMA is radical, but we believe it is a 'good' radical intervention whose time is well past due in holding BT to account for overlooked anticompetitive behaviors.

We also (obviously) disagree with Teece on many points, in addition to the main ones described above: We oppose the unnecessary attacks on ('competition') economists (e.g., that they are stuck in static mental models, or that they do not understand dynamic competition [what about [Nelson and Winter 1982](#) evolutionary economics?], or that they put all rent types in a single category—none of that is true)². We question the belief that SM scholars see BT as 'healthy'—there is no such universal agreement³. We disagree that innovation drives competition—the opposite is true (given firms can innovate anti-competitively—to find ways to tie their offerings together, as Microsoft has done on numerous occasions [from *Explorer* to *Teams*]). We disagree that incumbency is as much a liability as an advantage—that is not true unless many more assumptions are made that asymmetrically bind incumbency to inertia, sunk costs, frictions on spinoffs, and so forth. We disagree that network effects are *not* a major factor sustaining some BT firms—they simply are a sustaining factor for most platforms. We disagree that most rents of BT are Schumpeterian (e.g., based on [Sautet's \(2018\)](#) delineation)—no, BT's 'innovations' produce stable rather than transient profits, and their new products reinforce rather than displace incumbency. And, we disagree that 'potential competition' is an important issue for BT—at present it is not, as the financial markets clearly indicate⁴.

Science should be built on a healthy debate about ideas. We have outlined significant areas of agreement, partial agreement, and disagreement above. The substantive debate focuses on the latter. Thus, we offer a set of criticisms on Teece's ideas in that spirit, with the understanding that all parties—us, our peers, and our stakeholders—are interested in advancing several shared goals, including increasing innovation, equity, diversity, transparency of information, and the freedom to compete, with the caveat that appropriate oversight and accountability exist to help ensure any newly created 'products' of such efforts are used for good (or not used at all).

2. The Main Critiques

We now outline our five primary constructive critiques of Teece's recent ideas (e.g., as expressed in his AMP essay). We do so to help clarify the issues relevant to the CP and BT involved, and SM's potential role in that relationship:

(1) No evidence is provided to prove that CP has been detrimental to BT's effects on innovation or societal welfare; so, we suggest that it be provided in some persuasive form. In order for a healthy debate to occur over real phenomena, facts are needed rather than simply opinions. While we anticipate that some evidence does exist indicating that at least some CP-related regulatory actions have had measurable harms (e.g., as alluded to by [Jacobides et al. 2021](#)), none is provided in the essay. And, so we are left to wonder why it was not provided as foundational material in building the larger case (i.e., that SM intervention is needed) here, especially when references to antitrust actions were provided by the same author just recently (in [Petit and Teece \(2021\)](#) paper's Section 5.3's interpretations of lawsuits, although mostly not involving BT). When proving the point that 'CP is bad' is at the core of his essay, we believe a reasonable expectation is that documented,

objective facts be provided, rather than simply suppositions and brief, negative descriptions of recent legislation (e.g., of the DMA).

Not only is there a lack of key evidence, but even some of the points asserted provide less-than-solid support for the case. For example, the DMA outlines a clear *pro*-competitive message—that anti-competitive practices will not be tolerated by those who control certain gateways of the economy (e.g., *Amazon's* marketplace) (Crémer et al. 2021; Furman 2019; Kimmelman 2023). The reference to *Facebook's* (META's) deep drop in market value in early 2022 is arguably less about competition and more about a bad bet for the time (i.e., on the augmented reality 'metaverse') that was poorly rolled out, then doubled-down on, and pushed by an arguably unpopular, unappealing spokesperson, combined with a base product facing a waning interest from a new generation. That seems more like a self-inflicted wound, despite the claims of advantages that emerge from the massive investments in data, AI, and R&D *Facebook* has made.

There is even evidence to the contrary—where BT has been helped by CP, with consumers or suppliers suffering the consequences. Khan (2017) describes several instances relating to *Amazon*, including: its use of predatory pricing to force *Quidsi* into an acquisition—approved by the FTC—then raising its prices to consumers in the less-competitive baby product market; and, the DOJ suing publishers and *Apple* for colluding to raise e-book prices when faced with the predatory pricing of *Amazon*—an action helped lock consumers into one e-reader (i.e., the *Kindle*—from which it could obtain more consumer data), and provide it much greater bargaining power against publishers so it could impose higher fees on them, resulting in more restrictive offerings (given less room for them to cross-subsidize a more diverse selection of authors and subjects).

(2) Key terms lack proper definitions; so, we suggest that these be specified. A healthy debate requires parties to be speaking about the same things; that does not occur without solid definitions of key terms. *Innovation* is not formally defined, making the big assumption that it is beneficial to society questionable (given that innovations in the form of patent fences are not so, nor are newer, more addictive recreational drugs). *CP* is not formally defined (e.g., in scope, legal system, enforcement, or goal), making its assessment difficult. The adjective *dynamic* is not formally defined; it is sometimes used to delineate innovation-drivenness, sometimes used to describe effectiveness over efficiency, and other times used as a contrast to any theory of rents up to and including the RBV. While these three characterizations are not mutually exclusive, the term *dynamic* has many other, and perhaps more established, meanings (e.g., referring to multi-period games) and associations (e.g., with complexity and unpredictability) in our field. Given the fixation with this term in Teece's work, it would be useful to know exactly what is believed about it that economists do not understand. Even the more specific expression of *digital firm* is not formally defined, even though it establishes the core of the areas highlighted in the latter half of his essay that are in need of SM contributions.

Having proper definitions of key terms matters because, without them, we cannot correctly understand the scope, drivers, and outcome measures of the innovations, firms, policies, and competitive changes that are supposed to be focused on. As with the lack of evidence, we are left to wonder why this lack of precision exists in such a strongly prescriptive essay. We note that CP is written law; it is crafted with precision, and so it would be sensible to try to match its clarity in how 'we' are supposed to influence it, if we expect to be successful doing so.

Beyond the lack of formal definitions for key terms, there are also some unusual choices for their proposed proxies⁵. Consider the suggestion that to increase consumer welfare—as a proper goal of CP—the focus should be on advancing a robust innovation ecosystem. This proxy is mistaken. There is nothing in most definitions of innovation that guarantees societal benefits. Just because something is granted a patent does not mean it has commercial value. Just because something new sells for a profit does not mean it is 'good' (e.g., given most 'sin' products and services generate net harms). And, just because a firm legally stays in business based on its innovations does not mean it benefits

society (e.g., negative externalities—in damages to the environment, to workers, and to communities—can offset any private profits observed). In the end, most innovations are inaccurately priced tools that can be used for good or bad. Worse still, many of the BT's innovations that are referred to end up producing some form of 'sticky entertainment', much of which preys on negative emotions, promotes siloing, and sells a lot of what is not needed (e.g., fast fashion), none of which should be considered advancing consumer welfare (e.g., by increasing education, health, mindfulness, tolerance, or openness).

(3) The faith in SM to 'forecast better' is unfounded; so, we suggest withdrawing or limiting the claim. When the debate turns to opinions about 'what if', then there needs to be some history or logic to back those; none appear to be provided on this key assertion. Teece's faith in SM is implied in statements made about 'our' advantages for identifying potential competitors better, and in the explicit contrast of SM scholars to the economists who ridiculed Microsoft's defenses in its antitrust trial, where he states SM scholars had a better understanding of technology-based businesses in 1999. That is curious, given the then-looming Internet bust was *not* predicted by *any* SM scholar, although that would have been our moral, social, and professional responsibility (Arend 2006); instead, it appeared many of 'us' were profiting from promoting the 'new economy' of that time, some cool new performance measures (e.g., eyeballs), and a set of questionable dot-com business models (Kaplan 2002), the majority of which were about to lose their firms over ninety percent of their value in a few short months. There is no proof that 'we' are good at forecasting new rivals or even the downfalls of incumbents. At least (government) economists make regular public predictions; it would be useful for SM scholars to do the same for comparison.

(4) The contrast to SM is a 'strawman'; so, we suggest contrasting to a more suitable rival instead. A healthy debate involves substantive targets rather than hollow caricatures, as seems to be the case here regarding Teece's description of competition economists. Using a strawman opponent weakens any case. Further, the contrast between the (economically) theoretical and the (strategically) real is becoming somewhat tiresome. Pigeon-holing economics to some select 'static' contents of introductory textbooks is inaccurate (e.g., given Tirole's (1988) famous textbook's second half is devoted to dynamic strategic interaction) and unnecessarily adversarial. In fact, economists-turned-business scholars (e.g., Amit, Brander, and Cockburn) have been quite progressive on the very topics pushed by Teece, including entrepreneurship, innovation, and international competition policy. It seems working with our economist peers would be a kinder and smarter approach.

That said, if an antagonistic point was to be made, a proper contrast could have been reported, for example, on a specific phenomenon, like allegedly anti-competitive acquisitions, where the research from economics could have been compared to that from SM—on theory and on empirical analyses—over some objective measures, like sample sizes, methodological sophistication, validity of logical premises, and so on⁶. But it was not. Regardless, there is no argument made that one perspective 'needs to win' for CP to improve; indeed, what would be detrimental for considering any one CP decision from multiple lenses, as doubtless that actually occurs at any serious trial regardless (Teece appears to agree elsewhere with this idea—see Petit and Teece's (2020) point 8, about retaining economics 'in the policy toolbox').

(5) Details are lacking on how to proceed; so, we suggest the provision of at least one in-depth example. A healthy debate should provide some specific prescriptions, with some consideration of practical implementation for real phenomena, but that is missing here. The AMP essay is insufficiently specific on many aspects of how to proceed (e.g., regarding which CP cases to review, which policies are harmful, which digital firms are being targeted unfairly, which innovations are being blocked, and so on), reducing the effectiveness of its call for action⁷. While the essay focuses mostly on the US big five platform companies—some of which produce intangibles that are *not* used to increase productivity but instead entertainment⁸—perhaps SM scholars would be more motivated to action if it meant altering policy to increase tangible pro-productivity innovations (e.g., as GE-Digital attempted—see Girod and Duke 2019). Further, even when his essay does

hint at why we should care about BT firms, it does not always ring true. For example, while in one breath it states that BT's successes are firmly rooted in "*long-run vision, heavy R&D investments, and innovative culture*", in the very next it blames META's 2022 market value decline on something completely unrelated, i.e., changes in Apple's privacy policies, making it seem more like META's success is instead based on something as basic, short-term, and unimaginative as access to consumer data. And, the idea that SM scholars could help firms accused of monopolization with a defense based on some theoretical disciplining effect of 'potential competition' may seem not only a bit mercenary but also somewhat suspect (e.g., because it would involve making confident predictions over what we know from history to be unpredictable). So, while we may know (from precedent) that incumbents in innovation-driven arenas do not last forever—due to rival actions, technological progress, demand volatility, or simple managerial incompetence⁹—such a fact does *not* in any way support the tolerance of any anti-competitive behaviors of such firms fortunate to hold great power at the time (behaviors that are likely to be relatively more damaging due to their scale and scope at that time)¹⁰.

3. An Alternative Perspective on BT

There are two main ways to balance the pro-BT, anti-regulation views of Teece and others: one way is depicted above, through a critique of the merits of those views' main points; the second way we depict below, by building a counter-case. We have collected, summarized, and categorized a wide spectrum of observations, facts, and issues raised about BT relevant to CP mainly from the regulatory literature (e.g., [Anonymous 2021](#); [Besen and Levinson 2012](#); [Cr  mer et al. 2021](#); [Furman 2019](#); [Guggenberger 2020](#); [Hajiyev 2012](#); [Jennejohn 2015](#); [Kamepalli et al. 2020](#); [Kerber 2022](#); [Kimmelman 2023](#); [Krotz et al. 2022](#); [Lařcov and Tiuhtii 2020](#); [Lemley and McCreary 2019](#); [Lohr 2019](#); [Marty and Warin 2023](#); [Newman 2019](#); [Popiel 2023](#); [Wu 2019](#)), to offer a balance to Teece's views. Table 1 describes BT's alleged (and realized) anti-competitive practices and abuses of dominant position, in addition to how BT can build (and has built) barriers to entry to remain dominant. The table also lists several advantages of BT's size and scope, as well as the many ways in which such dominance and size can be monetized. These points and examples provide a comprehensive picture of the dangers of BT to economic progress, innovation, and competition, and help explain why BT will remain dominant without better CP engagement¹¹.

Table 2 describes many of the actual and potential economic and social harms posed by BT. We list the harms to consumers and to competitors. We provide evidence of the dominance of BT and its expected continuation, as well as some evidence of collusion (versus competition) among the BT firms. These points and examples offer a useful counter to the optimistic depiction of BT and illustrate the variety of issues that SM scholars would need to consider when fully and objectively modeling 'digital' competition and its effects. Other potential harms include: weakening suppliers and distributors; endangering the stability of markets (i.e., with firms becoming too big to fail); reducing the diversity of ideas (e.g., in the book or news markets); shifting risks to newer and smaller firms without compensating returns (e.g., by using them as arms-length experimental tests of demand and technology in owned marketplaces/platforms); increasing the harms of any successful hack on these global firms (e.g., in terms of unauthorized access to sensitive and extensive user data); and creating a 'waterbed' effect for suppliers who shift discounts to BT on to their smaller users (see [Khan 2017](#)).

Table 1. Examples of Big Tech/gatekeeper anti-competitive practices/abuses of dominant position.

(Alleged) Direct Abuse of Position/Anti-Competitive Behavior • use of acquisitions to kill off or distort innovation [creating a kill-zone around their positions; more than 6% of acquisitions every year in that sector are ‘killer acquisitions’]; • potential for pricing algorithms to enable collusion and tacit co-ordination [increasing academic evidence of the potential for algorithms to themselves learn to collude]; • ‘no escape’ behaviors—in search for Google, in social media for Facebook [e.g., Facebook acquired dozens of firms that were either substitutes for or complements to its core social network (WhatsApp, Instagram, tbb) <i>without</i> conditions, leaving customers with no viable options] [the Facebook social media platform services do not have sufficient choice for ensuring that their users’ consent can be seen as given voluntarily]; • discrimination against third-party businesses (or exclusion from platforms); • foreclosure of markets; • free-riding behaviors—cloning or mimicking, then crowding out, small startups’ features [dissuading startups from even attempting entry—Silicon Valley will not invest in startups that can be copied by Meta]; • choosing terms and conditions that extract not only its own contribution to consumer and user welfare, but also the contributions of the consumers and users themselves; • price maintenance (AMZN); • digital blackmail—when a dominant platform extracts rents by displaying (or threatening to display) unwanted information, then charging victims for its removal or concealment (or the inverse strategy) [Zillow]; • anticompetitive product design strategies to maximize interoperability with own product and lower interoperability with others’ [MSFT]; • coercion of competitors into sharing data (with threats to blacklist them) [META]; • collusion [about a fifth of AAPL’s global profits from payment by GOOG for it to appear as the <i>de facto</i> search engine on those phones]; • unfair access to consumers through platforms; • unfair restrictions on the use of alternative platforms; • unfair terms for business users of platforms; • playing the antitrust referees to keep potential competitors busy defending their core businesses from regulators, and thus less able to encroach on other markets.	Building Barriers to Entry to Remain Dominant through... • personalized digital products based on past user experience; • increased stickiness of already popular platforms; based on access to extensive datasets and data externalities [where access to data on one user helps understand and predict the behavior of others]; • being the default choice matters (in a world of scarce attention); • switching costs [of ‘that one click’] that are much higher than orthodox antitrust analysts imagined; • lowering intrabrand switching costs to increase interbrand switching costs; • reducing data portability to raise users’ switching costs; • network effects; • infrastructuralization—extending platform services across a large range of social activities; • creating ecosystems of digital platforms that increase users’ switching costs (e.g., AMZN Prime; iOS and Android in mobile); • patent thickets (that put a drag on rival innovation); • innovations that reinforce existing market power [patent holders distort voluntary standard-setting processes to exercise market power]. Advantages of Size and Scope • unconstrained by borders, the ability to make acquisitions on a global scale; • having the ability to self-finance investments at a lower cost; • cross-sectorization—leveraging dominance in one sector to expand to another (e.g., AMZN into foods). Ways to Make More Money from a Dominant Position • favor audience steerage to those clients who pay fees (e.g., Zillow); • increase attention costs to readers, increase prices to advertisers, or both; • use IT to monitor rivals’ prices to see if they are lower and match; • steer own users to a favored counterparty operating in a different market; • degrade privacy and use data to target consumers better; • use cross-platform targeted advertising.
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Table 3 summarizes the many varied views on CP—in terms of the past players involved, the related economic theories (or lack thereof), the current ideas, the relative lack of recent regulatory activity, the implementation issues, the defenses, and the issues that CP does not cover but should. Note the ‘big names’—both economists and institutions—that stand on each side of the debate over whether BT is good. That said, there is a consensus that economic theory needs to be improved to cover CP, BT, and innovation outcomes. To address that gap, there are some interesting ideas on how to deal with BT platforms based on established economic concepts, for example, limited-lifetime monopolies (of essential facilities). Other ideas—ones that are more pragmatic—also exist, like the creation of a code of competitive conduct based on consultation with all stakeholders. The analysis even extends to the future, as we note legitimate apprehension over BT’s possible use of AI to

further enhance their alleged anticompetitive and collusive practices. It also extends to the past, where many peers have noted that the mostly ‘hands-off’ attitude towards regulation of the BT firms has not spurred more competition (Popiel 2023), and raised questions over whether it has actually damaged innovation on the whole (e.g., Bloom et al. 2019; Thatchenkery and Katila 2023)¹². Peers have also suggested that CP should be extended to consider ‘new’ and ‘wider’ effects on consumers outside of ‘more immediate’ harms like higher prices or less variety, so as to take into account harms in the form of invasions of privacy, exposure to psychologically hurtful content, and damages to political and other institutions that consumers rely upon for services and verified information, security, and safety (Furman 2019).

Table 2. Actual and potential economic and social harms from Big Tech/gatekeepers.

<i>Harms to Customers</i>	<i>Harms to Rivals</i>
• violations of privacy [<i>Cambridge Analytica</i>]; • exposure to harmful online content; • not being offered high-quality elements of service that consumers are less aware of; • leaky data security; • exposure to increased advertising; • lower levels of innovation than under a more competitive situation; • higher prices; • lower quality; • reduced choice; • search algorithms not always ranking results based purely on relevance to the consumer; • too high an amount of data given in exchange for a service; • loss of data rights; • unwanted political communication; • negative network effects that entail exposure to dangerous products or defective applications; • unfair outcomes where users are not rewarded for their contributions to the success of the platform.	• anecdotal evidence suggests that anti-competitive behavior occurs well beyond the competition enforcement cases in the public domain; • government investigations provide ample firsthand accounts of BT’s predatory behavior from numerous internal emails and papers [https://perma.cc/7XJJ-52C7] (accessed on 4 August 2020); • the default exit strategy of new entrants is to aim to be acquired by one of the big five—chosen by 9 out of 10 of the nascent challengers (Lemley and McCreary 2019); • evidence of specifics: • META degraded the access that other platforms and services have to its application programming interfaces. . . , effectively shutting down the potential for competition [Vine, MessageMe]; • the Wall Street Journal (2020) debunked earlier statements of AMZN, including those made before Congress, that it does not use seller-specific data from third-party sellers’ transactions to design and market its private-label products; 58% of third-party vendors indicate that “Amazon has made it harder for them to compete in their product category in the past year”; • after GOOG vertically integrates into a market for an app that runs on Android, the developers of existing apps in that market reduce their own efforts to continue innovating (Wen and Zhu 2019); • “premier” agents that benefit from ZillowGroup’s steering appear to be those who pay fees to it; • AAPL imitating TILE’s product and app, given better information about TILE’s customers than TILE; • AMZN’s taking over sellers’ buy boxes, imitating products, and undercutting their prices; • GOOG’s refusal to allow the use of multiple voice assistants on SONOS product—killing that kind of innovation that would be useful to customers.
<i>Evidence of Dominance or of Expected Dominance</i>	
• the USD 7.6T market value of US’s five giants (AAPL, AMZN, GOOG, META, MSFT) implies their sales will double in the next decade; stratospheric market valuations—of between 25 and 82 times annual earnings—require ambitious growth plans; • advertising revenues of GOOG, META, and AMZN increase, with signs that the volume of advertising consumers are exposed to also increase; • five US giants continue to derive the bulk of their revenue and profits from the businesses which made them into trillion-dollar companies; • seven out of ten of the most valuable companies globally operate digital platforms; • AAPL and MSFT are over 40 years old and GOOG and AMZN over 20; even META is over 15 years old.	
<i>Evidence of Collusion</i>	
• a fifth of AAPL’s global profits are from GOOG for it to appear as the <i>de facto</i> search engine on its phones; • in 2014, MSFT’s new CEO binned a pro privacy ad campaign alleging that GOOG scanned emails to serve targeted adverts.	

Table 3. Economic issues, legislation, economists, and implementation issues involved in competition policy.

<i>Economists and Economic Theory Involved</i>	<i>What Competition Policy Should/Could Involve</i>
- for the first time in human history, the amount of information available has swamped our ability to process it; the downside of that information abundance is <i>information overload</i>, which has prompted the meteoric rise of services (i.e., the platforms, ecosystems, BT, gatekeepers) that compile and refine information into a more useful finished product; - the true power of network effects is well known to GOOG's chief economist, <i>Hal Varian</i>; - Richard <i>Posner's</i> (2001) position that digital markets are not novel enough to warrant explicitly different antitrust rules, but are novel enough to warrant unusually defendant-friendly treatment, was misguided—digital markets face uncertainty and are different, but in ways that warranted increased scrutiny, not a free pass; <i>David Yoffie</i> believes that GOOG may not have arisen without the 1999 anti-trust ruling against MSFT (would have been crushed like NetScape); - economist <i>Jean Tirole</i> has recently called for “participative antitrust”; - between 2018 and 2019, the <i>FTC</i> held 14 hearings on competition and consumer protection in the twenty-first century; - the ‘<i>Utah Statement</i>’ stresses antitrust law’s economic and political implications, where fair competition is an instrument for both the creation of opportunity and the distribution of wealth and power’ (<i>Wu 2019</i>); - between 2017 and 2020, a series of U.S. policy elite discussions began to converge on competition policy—namely antitrust law, its enforcement, and certain competition regulations—as a foundation for a governance framework for digital platform markets. . . roots lie in the work of antimonopoly advocacy organizations like the <i>Open Markets Institute</i>; - economic theory does not offer robust predictions as to whether a particular deal will harm innovation (<i>Newman 2019</i>); - economists do not have a good theory of platform competition, but it is clear that market power driven by network effects is stable in the digital economy (<i>Cr�mer et al. 2021</i>); - current antitrust scholarship is missing: needed is a theory of regulatory creativity—regulatory agencies must proceed more like entrepreneurs than actuaries (<i>Jennejohn 2015</i>); - clear from economic theory and empirical evidence that regulation is systematically and always antagonistic to innovation is wrong; - economic insights into the optimal design of intellectual property rights provide valuable lessons for structuring an <i>essential facilities doctrine</i> for the digital age: creating and protecting monopolies, in the form of exclusive rights or otherwise, can incentivize innovation... however, any monopoly <i>must</i> be limited in scope and duration to ensure competition and progress; - classical economic theory teaches us that efficiency requires that firms receive rewards equal to the value of their contribution to the welfare of their clients... the “unfair” ability of platforms to charge more leads to inefficiencies.	- the goal of policy changes not being more or less enforcement but better enforcement; to be pro-entry, to foster predictability, and to spur innovation; - antitrust law, when applied to digital platforms, to embrace the idea that those <i>de facto</i> monopolies are only protected and tolerated to incentivize innovation, and they must remain limited in scope and duration; - in cases of persistent platform monopolies, having it fall on the owner of the platform to provide sufficient evidence that the access-seeking competitor can rely on alternative means to access the market or that the denial of equal access was justified; - digital companies that have been designated with a strategic market status be required to make the regulators aware of all intended acquisitions; - making it easier for consumers to move their data across digital services, to build systems around open standards, and to make data available for rivals; - an updated merger policy to protect consumers and innovation, preserving competition for the market; - a basis in a code of competitive conduct - items in the <i>American Innovation and Choice Online Act</i> (S.992) [the Klobuchar Bill] that focus on harmful self-preferencing and discrimination by gatekeeper platforms that control key chokepoints of digital markets; - users being treated fairly and being able to trade on reasonable commercial terms with dominant platforms; - users not facing any barriers to choosing freely and easily between services provided by firms designated as dominant platforms and other firms; - users having access to clear and relevant information to understand what services that dominant platforms are providing, and to make informed decisions about how they interact with the firm; - data-related concerns: a ban on combinations; opening data silos; data portability; access to data generated by users; access to search data for online search engines; - commercial relations issues: a ban on MFN clauses; anti-steering; providing a reader rule; a ban on gag clauses; easing termination; - mobile ecosystem concerns: requiring uninstallation/choice screens; allowing side-loading apps; easing switching; - reporting issues: reports about implementation; informing about mergers; auditing regrading techniques for profiling consumers; - fair access issues: fair rankings and a ban on self-preferencing; FRAND access conditions; - transparency issues: transparency on ad pricing; transparency on ad performance; - interoperability concerns: vertical interoperability for hardware/software; interoperability for NI-ICS [DMA]; - tying concerns: a ban tying with ancillary services; a ban tying between CPSs; - contingent regulation approaches that work as ‘options’, whereby certain rights are triggered upon the occurrence of a particular negative event.

Table 3. Cont.

Implementation Issues for Competition Policy • ensure those responsible for enforcing competition and consumer law have sufficient and proportionate information gathering powers to enable them; establishment of a digital markets unit, given a remit to use tools and frameworks that will support greater competition and consumer choice in digital markets; • guard against the risk of developing recommendations in isolation from wider public policy; • with ex post antitrust enforcement as an important backstop; • merger and antitrust enforcement can create delays and uncertainties that can be bad for large incumbents and small entrants; • monitor how the use of machine learning algorithms and AI evolves to ensure it does not lead to anti-competitive activity or consumer detriment; • perform a retrospective evaluation of selected cases not brought and decisions not taken; • an international agenda is needed to harness the full benefits of expanded competition; this will require closer cross-border co-operation between competition authorities and governments in sharing best practices and developing a common approach; • work with industry and stakeholders to establish a digital platform code of conduct.	Big Tech Regulatory Defenses that Do Not Work • conduct in digital markets is unusually unlikely to produce offsetting efficiencies [most of production is code, not based on hard assets that can be eliminated to reduce redundancies]; • digital-product suppliers engage in less physical intermingling of assets, and any intangible combination that occurs is relatively easy to unwind—so, no strong ‘unscrambling the eggs’ defense post-merger to a de-merger; • evidence on the innovation effects of breakups is minimal, but the last breakup in the US—of the Bell System in 1984—shows that it had a substantial positive long-term impact on innovation; • false positives are relatively rare and costless, while false negatives are relatively common and costly, regarding anti-trust and merger enforcement of BT; • regarding ‘potential rivalry’—the proper focus is not merely on whether some type of rudimentary entry can occur, but instead on the question of whether the type of entry that would provide a meaningful competitive check on dominant firms can occur; • the question is not whether the absolute level of innovation by today’s platforms is high, but whether it would be higher if those platforms faced more competition.
Current Competition Policy Lack of Impact • the biggest risk, however, is not acting at all, or relying solely on traditional competition policy tools; we constantly decide on the level of monopolization in the economy, including through regulation, property rights, contract law, coordination rights, and antitrust enforcement, so considering changes to those decisions is not unreasonable; • a ‘hands-off’ attitude is apparent in each of the three primary areas of antitrust agency activity: litigation challenging anticompetitive conduct, litigation seeking to block proposed mergers and acquisitions, and competition advocacy . . . and that attitude is not working.	What Competition Policy Does Not Cover But Is Important • data privacy and security, both from a legal and economic perspective, can argue that competition law can and should also consider negative effects on privacy, as these effects <i>can be interpreted as negative effects on consumer welfare</i>; • exposure to harmful, deceptive content (especially to vulnerable groups); • need to prevent patent rights from being extended to parts of the digital economy where they are not currently available; • political influence.

We provide these tables because we believe it is useful for our audience to obtain a bigger picture of the issues—a picture widened by adding many other voices to this debate and, as Teece did in his essay, summarizing a spectrum of relevant work in the area (based on the relevant micro-economic theories related to the functioning of competitive and innovative markets). As can be seen, the content of our essay and its tables engage in several theories (e.g., of industrial organization (Tirole 1988), including concerns over market power and abuses of dominant position [here, not through increases in price but through other mechanisms like increasing users’ exposure to advertising, decreasing their data privacy, increasing the extraction of their personal data, and so on]; of network effects (Katz and Shapiro 1985, 1994; Shapiro and Varian 1999); of platform systems [e.g., (Rochet and Tirole 2003)]; and of regulatory capture (Stigler 1971) [especially the capture of regulators to slow rivalry]). In a larger sense, our critique engages in the theory of Type III errors (Mitroff and Silvers 2010), where we believe that Teece is engaging in solving the wrong problem, i.e., ‘solving’ CP to protect BT rather than to protect competition.

4. Possible Paths Forward

We have argued *against the basis* of Teece's specific call to action, although we agree with the larger goal of using scientific research to improve policy, including that which regulates the biggest and most socially influential firms. Now, to leverage our arguments, and to do so in pursuit of the agreed-upon goal, we briefly describe three alternative courses of action that the SM field could take to make progress in issues relevant to BT and innovation.

(1) Make it easier to hold those with power responsible for their actions: Let us work towards greater accountability—for BT, for policymakers, and for our field itself. Let us achieve that by leveraging SM ideas to: (i) create and validate better measures of the costs, benefits, and risks [over time and across stakeholders] of the strategic decisions and actions taken by such entities based on what 'we' have learned from studying performance for decades; (ii) study and track select cases of such decisions and actions to analyze and learn from the mistakes and successes, based on techniques 'we' have used to examine competition; and, (iii) suggest better and more meaningful punishments and rewards to alter the entities' behaviors towards what has been shown to benefit society, based on the statistical evidence and theoretical arguments we have garnered about strategic decision-making. Let us establish formal relationships with our scholarly peers in law to jointly study policies that affect firm strategy, such as CP, agreeing to well-defined goals and methods, possibly in special coordination with the courts (e.g., to appropriately access in-depth data, testimony, and other materials), conduct extensive case analyses, and monitor subsequent outcomes. Let us then keep a secure, anonymized, searchable research database that we can refer to in order to make evidence-based prescriptions.

The calls for action to create better measures, track actions, consider more appropriate punishments, and retain histories are all to make entities much more transparent and accountable, including BT and even our SM academic institutions. We fear that focusing on whether or how BT innovation is being harmed by outdated CP—as Teece has done in his essay—is missing the forest for a tree. The myriad of alleged harms directly or indirectly caused by *Facebook*, *Twitter*, *Instagram*, *TikTok*, and others arguably far outweigh the entertainment or (valid) informational benefits they have provided. Real accountability is needed, if not from legislators, then at least from 'us', in some collective, evidence-based voice. Of course, that would be more possible and legitimate when 'we' also hold ourselves more accountable (e.g., in adding oversight and transparency to our institutions, academies, and [publication] processes).

(2) Create a more holistic evaluation of organizations: Expanding on the goal of accountability and the use of new and valid measures above, it is time to create, report, and track a holistic indicator of firm performance—one that captures the many significant dimensions of impact that an economic organization can have. Easy measures like revenue, scaled returns, and market value simply cannot suffice now. We need deeper and wider assessments to determine the full range of a firm's effects—listing the resultant costs, benefits, and risks to the world (e.g., involving consequences to its consumers, workers, supply chain, physical environment, cluster, community, nation's interests, and so on). We need to be able to come to very clear conclusions over basic questions like whether a firm is profitable only because the value it creates for select stakeholders (e.g., consumers and shareholders) comes (or will come) at the costs arising from abusing market power, exploiting negative externalities, overusing public goods, evading taxation, being subsidized, lobbying against public interest, abusing its workers, putting national security at risk, misleading or manipulating other consumers, and so on. We need very clear answers about whether a firm is simply transferring wealth or whether it is creating it (net of any associated costs and risks involved in the process). Shockingly, we do not have those conclusions or answers yet. Without them, it is difficult to say that 'we' are doing 'our jobs' as experts in the strategic sciences of the economy, let alone to proclaim that we have well-informed advice to give to policymakers on CP or other areas affecting social welfare. We believe that now is the time to start working on this project—collectively—because

certainly this generation of students, consumers, and stakeholders all have great interest in seeing the outcome¹³.

(3) Recommend, monitor, and adjust antitrust approaches to apply to address the current concerns over BT: We not only need to apply our expertise to address the potential for abuses of power by BT and other near-monopoly entities now, but we also need to reflect on the past to better understand how we reached this point so we can reduce the chances of creating more of those entities. We can start with a shared premise—one rooted in the ‘American’ ideal of *freedom from monarchs*; but, in this case, it is freedom from ‘industrial monarchs’, where markets are open, fair, innovative, and entrepreneurial (Khan 2017). This implies that CP should be based on (revert back to) economic structuralism—that CP should be used to help ensure that: market structures do not incentivize or permit predatory conduct; and company structures are not only free from anticompetitive conflicts of interest but also do not allow the leveraging of advantages from one line of business to another.

The recent rise in industrial monarchs can be traced back to a change in legal thinking and practice a half-century ago, when antitrust law shifted to the evaluation of competition based on the short-term effects on consumers rather than on the longer-term effects on all market (and political) actors. The industrial monarchs of today played upon the wind, hubris, limited foresight, and blindspots of the courts and economists who have set poor precedents in CP up until today. Chicago School economists (and their followers in the judiciary and governmental oversight agencies) argued that predatory pricing, vertical integration, and tying arrangements cannot reduce consumer welfare and ‘thus’ competition. That argument significantly reduced the effectiveness of antitrust law and enforcement. That argument has been proven wrong, especially in the digital age. In the digital age, predatory pricing is a very effective way to gain scale and its benefits (e.g., in learning effects, in network effects, in data access, in bargaining power, in crippling rivals, in deterring competition—see Vaheesan 2015; Zerbe and Mumford 1996), vertical integration is a very effective way to apply leverage and foreclosure (i.e., to use dominance in one line of business to establish dominance in another, and to use one line of business to disadvantage rivals in another), and tying is an effective way to hide price increases and disadvantage rivals. Firms in the digital age simply have access to much more sophisticated ways to abuse their power than courts normally consider (e.g., Amazon changes prices millions of times each day and can tailor and personalize an online shopping experience for each buyer, so it can recoup its predatory pricing losses in ways that are not easily detected) (Khan 2017).

So, to begin with, SM scholars need to learn from the past. We need to help CP return to a more holistic and market structure-based approach to ensure it does what it is supposed to—deter the formation of industrial monarchs. That means not only overturning the narrow and myopic ideas of the past—those based almost entirely on consumer effects (e.g., because they are inapplicable in markets where prices are zero)—it also means updating the ways to measure the impacts of firm actions (e.g., in predatory pricing, in vertical and horizontal mergers) that can be more effectively hidden in the digital age.

This leaves us with the challenge of what to do with the industrial monarchs of today. One approach mentioned above is to treat the firms that have established themselves as essential (digital) infrastructure as actual utilities. That would entail spinning off that part of the firm and applying common carrier obligations and duties to it (e.g., enforcing nondiscrimination in price and service, setting rates, requiring suitable capitalization and investment), and managing it so that society benefits from its scale economies (Khan 2017). Another approach is to treat these firms differently—because they are different in terms of the scale of their potential effects on important markets (let alone on political and social practice). The DMA attempts to do so. Such industrial monarchs see greater oversight (e.g., in acquisitions, in tying) so that their power is less likely to be abused (e.g., with harm to consumers, suppliers, complementors, and so on). A more radical approach—one with historic roots (AT&T)—is to force a break-up of these corporations into separate,

competitive entities in different lines of business. What we can do as SM scholars, then, is to provide clear models, simulations, cases, and empirical evidence for what the best alternatives are for which firms for which periods of time (and under which technological contexts). And, do so with greater humility, wider sensitivity, and longer vision than our peers did in the past. The future of our ‘free’ (read competitive) markets deserves no less.

5. Concluding Thoughts

Teece’s recent work on antitrust—as summarized in his AMP essay—lays out an enticing call for action to SM scholars, specifically for ‘us’ to pursue more research relevant to CP in order to alter existing policies so that the operational environment that spurs BT firms to innovate can be improved. He appeals to ‘our’ differentiated expertise as a basis for correcting outdated ‘textbook economics’, expressing strong faith in ‘our’ ability to conduct the needed research to support the necessary alterations to existing CP. Unfortunately, he provides no evidence that the current CP is broken, that BT’s success is actually based on socially beneficial innovation, or that ‘we’ have the ability to provide the quality and quantity of evidence and influence that would actually sway legislators or the enforcers of relevant policy. That said, we certainly agree with the larger goal—to update and adjust policies based on scientific research—and the desire to see the SM field reach the point where we can contribute meaningfully to that process. We appreciate his bringing such ideas, contrasts, and challenges to the forefront. We look forward to seeing actions to improve the performance of all the relevant entities, not just in the interests of BT, not just for science or the functioning of markets, but also for the benefit of society’s many stakeholders.

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Notes

- ¹ Given the nature of the opinions raised in the essay and this exchange, disclosure over potential conflicts of interest is appropriate. The authorship of *this* essay has no conflicts; we have no business, financial or otherwise, in BT or over its regulation. The *Berkeley Research Group*—Teece’s consultancy may, however, have significant conflicts, given it is one of the handful of firms that “control the lion’s share of the market for expert witnesses and economic reports in antitrust cases and merger reviews” [<https://www.yahoo.com/now/inside-compass-lexecon-one-top-080000400.html>] (accessed on 5 November 2023). It is difficult to fathom why such a conflict of interest was not explicitly provided to readers of that COPE journal, however.
- ² We question why there is any need to take swipes at unnamed economists, or to make CP an us-as-SM versus them-as-competition-economists narrative. Nothing is gained in terms of such framing [either BT is good for innovation or it is not, separate from any economist’s opinions]. Further, that framing is false; economists have been studying dynamics, even involving digital platforms, for decades (e.g., [Davis 2011](#); [Evans 2003](#); [Rochet and Tirole 2003](#)).
- ³ Recent SM empirical work (e.g., [Thatchenkery and Katila 2023](#)) indicates regulation is *good* for innovation. And, a cursory literature review of a half-dozen top SM journals [with BT firms mentioned in the abstract, as well as either antitrust, competition, or innovation as search terms] indicates a mainly even split on positive and negative attributions.
- ⁴ As of mid-August 2023, the markets indicate that BT is expected to do well: among the top five US platforms (*AAPL*, *AMZN*, *GOOG*, *MSFT*, and *META*), the median P/E is 35 (max 328), the market value is USD 1.65T (max 2.8), and the operating margins are 26 percent (max 41). Between 2015 and 2020, about 80 percent of revenues were derived from each firm’s core business ([Anonymous 2021](#)).
- ⁵ We do not formally define such terms here, not to be hypocritical, but rather because our precision lies in describing the targeted ideas and not with the terminology of the SM field itself.
- ⁶ Note that the very idea that a select few general concepts from SM should dominate CP thinking seems overly hopeful. Taking just the M&A application, there are a myriad of other issues that can be involved, from multi-market competition to social dumping and camouflage, to job market effects countering efficiency arguments, to effects on local cluster strength, and so on. In other words, suggestions for improvements to CP should come from *many* sources, not just a profit-performance-oriented SM.

- 7 Not only are the specifics lacking, but neither the message nor the arguments are new. In the past few years there has been a marked uptick on this subject by Teece and his consulting firm (*Berkeley Research Group* [BRG]), especially as it relates to BT (see, for example, Teece's (2021) paper's similarities in the Table 1's; the commonalities here with the Petit and Teece (2021) piece in the journal he co-edits, specifically in Section 2's comparison of static and dynamic competition, Section 3.3's focus on digital firms, Section 4's analysis of BT's rent types, and Section 5.2's messages on the dynamic competition paradigm; the supplementary materials on BRG's website with analogous messages—<https://www.thinkbrg.com/insights/news/comp-disputes-big-tech/>, and <https://www.thinkbrg.com/insights/publications/ts-big-tech-antitrust-legislation-digital/> (accessed on 5 November 2023); or, the recent *Academy Proceedings* (Jacobides et al. 2021) that featured a distinguished forum—including Teece—where many of the same issues were discussed).
- 8 Note that most of the firms and their digital processes alluded to by Teece are embedded in consumer-driven data and consumer manipulation, often leveraging private information that most consumers, if they had a real choice, would refuse to provide.
- 9 Note that in Internet time, BT firms have 'lasted forever'—*Apple* and *Microsoft* are over 40 years old, and *Google* and *Amazon* are over 20; even *Meta* is over 15 years old. Obviously, the ability for platforms to endure is a newer phenomenon, but one based on established ideas, like network effects and anticompetitive actions (e.g., tying), that have not been well investigated or enforced for decades.
- 10 Setting aside the preceding concerns over the rationale, logic, originality, and specifics of Teece's call to action for SM scholars, it is worthwhile to just consider for a moment the limits involved in the processes implied. Even if 'we' could provide new, evidence-based advice to improve CP, its translation into reality—in law and in enforcement—is likely to be severely restricted by the real legal and political issues involved (e.g., Rainey 2019). Also, consider 'our' own limitations before even providing that new, evidence-based advice to potentially improve CP in the first place. SM scholarship faces many challenges in doing so: We have an overflow of questionable, partial, and mostly untested theories that span a very wide and growing set of loosely related phenomena. Such theorizing has too often been critiqued for lacking any practical value, which is unsurprising given current incentives that motivate conceptualizations at a more generalizable and citable level (e.g., Cronin et al. 2021). And, we have no recognized system to critique, assess, and remove 'bad' theory (e.g., Arend 2022). We put our faith in a very flawed 'marketplace of ideas'—one that has too often been revealed as trendy and commercial (e.g., Ghemawat 2002). And, for some unspoken reason, our associations outright refuse to generate a database of the field's knowledge—one that is searchable and exploitable by AI (e.g., to identify gaps and conflicts in our current knowledge).
- 11 Additional and often more subtle advantages BT has over new rivals include the following: being able to shape consumer expectations (e.g., in website aesthetics, functions, inter-operability) to their strengths and rivals' weaknesses; being able to push the edges of performance more based on having access to more data and more levers to alter conditions near that data's local inputs; having more confidence in the AI/ML tools being used because they were developed in-house; being able to hire more specialists and gain from their inputs and automated coordination; and being more able to leverage the legal systems to delay enforcement and drain plaintiff rivals of funds and of time to pursue their limited opportunities.
- 12 While BT can act in ways to enhance innovation (e.g., by providing stability in the market for complementors) (e.g., Gavetti et al. 2017; Gawer and Henderson 2007), they often behave in other ways to depress it (e.g., through tying and otherwise advantaging their own offerings over those of would-be rivals) (e.g., Eisenmann et al. 2011; Kamepalli et al. 2020; Ozcan and Hannah 2020; Wen and Zhu 2019). Regulatory action—in the few cases it occurs—often has had pro-innovation effects not noted until years later (e.g., Google not being crushed by Microsoft because Bing was not tied to Office—see Lohr 2019).
- 13 Note that CSR-related, DEI-related, and other such scores (e.g., for assessing B-Corp eligibility [<https://www.bcorporation.net/en-us/certification/>] (accessed on 5 November 2023)) are here and expanding, whether we participate or not. We need to be part of, if not lead, those conversations, or we risk being left behind in our own area of expertise, and that is not good for society or science because inevitably, when such measures are not based on objective research, they end up being bent towards private ends rather than public interests.

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