

Disruptive Innovations on Digital Platforms: Lessons from *Epic Games v. Apple* in the U.S. and *Rappi v. iFood* in Brazil

By Victor Oliveira Fernandes | University of São Paulo



Edited By María Fernanda Vicens & Esteban Manuel Greco

Disruptive Innovations on Digital Platforms: Lessons from *Epic Games v. Apple* in the U.S. and *Rappi v. iFood* in Brazil

By Victor Oliveira Fernandes*

Invoking core insights from theories of disruptive innovation in order to explain competition among digital platforms has become commonplace in competition law literature.¹ Tales of how Google overtook AltaVista or how Facebook overcame MySpace² are often told to illustrate how market power in the digital world could be fleeting.

While these anecdotes do indeed help us understand there is a vital element of technological discontinuity in competition among digital platforms,³ it is not easy to translate these lessons into concrete proposals for competition policy. When investigating digital markets, antitrust agencies might struggle with whether past events of disruption are a reliable guide for antitrust purposes. Especially when facing today's highly concentrated market, it is not clear whether the iconic downfall of former market leaders reveals something about the future.

This article briefly claims that theories of disruptive innovation have little value as a normative policy guide for competition law.⁴ That is because the core purpose of these theories is to point out business behavior patterns, and not to serve as crystal balls. Instead, antitrust authorities could better incorporate these theories as analytical lenses, i.e. as descriptive frameworks to unveil the economic rationality of dominant platform strategies in a context of dynamic competition.

The article pursues a twofold goal. In part I, I review the core insights from Clayton Christensen's work on disruptive innovation and

show that there are relevant limitations on using these theories to support *ex-ante* predictions of market outcomes. In part II, I argue that insights from the theories of disruptive innovation might sometimes explain the rationale behind exclusionary practices. I provide two examples to illustrate this point. The first example comes from the *Apple Store vs. Epic Games* case in the U.S., while the second comes from the Brazilian antitrust case against *iFood*, Brazil's largest online food delivery platform.

I. On the Normative Limits of Theories of Disruptive Innovation

In several areas other than antitrust, the popularity of Clayton Christensen's writings have led to conceptual misunderstandings that make disruptions narratives artificially ubiquitous.⁵ As a result, rather than expanding the disruption approach to any succession of a new economic agent, theories of disruptive innovation describe more restricted phenomena.

In his early works, Christensen examined disk storage and computer processor markets to understand why some high-profile firms like IBM, Apple, and Xerox have failed to maintain their market leadership.⁶ These failures did not result from lousy management, but from wrong decisions when dealing with technological evolution within a given value network, understood as the context in which a company identifies and responds to customer needs.⁷

* Ph.D. Candidate in Competition Law at the University of São Paulo (USP).

¹ For all, see David S. Evans, "Why the Dynamics of Competition for Online Platforms Leads To Sleepless Nights, But Not Sleepy Monopolies," *SSRN Electronic Journal*, 2017, 1–37.

² Darren Tucker & Hill B. Wellford, "Big Mistakes Regarding Big Data," *Antitrust Source* 2973, no. December (2014): 7.

³ Nicolas Petit, *Big Tech and the Digital Economy: The Monigopoly Scenario* (Oxford: Oxford University Press, 2020), 126.

⁴ This paper aligns itself with studies as Alexandre Streel and Pierre Larouche, "Disruptive Innovation and Competition Policy Enforcement," *OECD Working Paper DAF/COMP/GF*, no. February (2015): 1–5.

⁵ Joshua Gans, *The Disruption Dilemma* (London: The MIT Press, 2016), 9.

⁶ Joseph L. Bower & Clayton M. Christensen, "Disruptive Technologies: Catching the Wave," *Harvard Business Review* 73, no. 1 (1995): 43.

⁷ Clayton M. Christensen, *The Innovator's Dilemma: When Technologies Cause Great Firms to Fail* (Boston: Harvard Business School Press, 1997), 32.

Christensen identified that leading firms tended to prioritize technology solutions that were less costly and allowed them to best serve their current customers with higher profit margins. These innovations, called "sustainable innovations," improved the performance of established products along performance dimensions that key customers valued historically.

By prioritizing this type of innovation, however, incumbents ended up serving customers with products that were more expensive and technologically superior to what consumers themselves demanded in a historical trajectory.⁸ As a result, fringe consumers formed at the bottom of these markets who were either unwilling to pay for the technologically superior products provided by the incumbents or, even if they did purchase these products, felt they were not worth as much.

A careful understanding of these theoretical lessons makes the examination of dynamic competition between digital platforms even harder.

First, disruptions describe processes of resource allocation that occur over time, so it is inappropriate to claim that a given product or service is itself disruptive. Disruption resides in the strategic choice to introduce the innovation in the market, not in the product's technical attributes.

Second, disruptive innovation does not necessarily represent a threat to incumbents at the beginning. Instead, disruptions usually address low-end customers' needs, or target new markets. These segments serve as true "footholds" so that the new entrant can focus on the fringe and, only after reaching some competitive quality level, attack the incumbents' conventional consumer groups. For this reason, disruptive innovations are usually of lower quality at the beginning.

Third, and related to the previous point, superior technology does not define a disruptive

innovation. Instead, its distinctive nature lies in how it addresses consumer preferences. Because of this, even when a technology appears superior in its technical attributes, it may not represent a deviation from traditional demand preferences.⁹

All these theoretical aspects raise doubts about whether one can predict disruption outcomes. Moreover, Christensen's work has been criticized for cherry-picking particular industries as examples.¹⁰ Although many studies have tried to develop *ex-ante* predictions, the results are mixed at best. A conservative way to assess the chances of disruption is to compare performance trajectories in the historical demand curve versus the trajectory of performance improvement supplied by the new technology.¹¹ However, this analysis requires speculation on how demand varies along multiples dimensions for some product. Even if we could draw some inferences by looking at the customers' past behavior, data on young technologies would be rarely available.

II. Assessing Single-firm Conduct Through the Lens of Innovation Disruption

The normative limitations of theories of disruptive innovation do not mean that they are useless for antitrust. On the contrary, these theories might illuminate new ways of conceptualizing market power and comprehending exclusion incentives, not from a normative approach but from a descriptive one.

A) Identifying New Disruptors

First, antitrust authorities should try to correctly identify competitors that pose a real risk of market disruption. Traditional market definition methods are insufficient for measuring dominant platforms' market power, and are unsatisfactory as a general method for assessing damages to competition within a given artificial space. Moreover, some market definitions cannot be taken in isolation.

⁸ Clayton M. Christensen, Michael Raynor & Rory McDonald, "What Is Disruptive Innovation?," *Harvard Business Review*, no. December (2015): 4.

⁹ Charitou & Markides, 55–63.

¹⁰ Erwin Danneels, "Disruptive Technology Reconsidered: A Critique and Research Agenda," *The Journal of Product Innovation Management* 21, no. 1 (2004): 250–51.

¹¹ Christensen, *The Innovator's Dilemma: When Technologies Cause Great Firms to Fail*, 206–7.

Disruptive innovations, in that sense, do not meet the historical preferences of consolidated consumers. Whether in digital markets or any other, the factor suggesting the presence of a disruptor is a product that either addresses low-end customers or even constitutes a new market. For this reason, the examination of market shares or even of recent entries within some timeframe can be misguided. Face-to-face competition on core digital markets is often just one aspect of the various dimensions of the competitive process, as much of the competitive forces are directed to new markets or against non-consumption.¹²

Disruptive competition between digital platforms develops from what Pierre Laourche¹³ has rightly identified as competition "on" the market – not "for" or "in" the market. The author highlights that disruptive competitors want to shift the value network or replace the dominant architectural design to gain control of a competitive bottleneck. Therefore, "the prize is not so much some amount of profit in a competitive market, but a commanding market position that enables the firm to reap a far larger profit."¹⁴

Assessing competition from a disruption approach requires looking for the decisions taken by current or potential challengers. More specifically, antitrust authorities should be vigilant with entrants' strategies that suggest a discontinuation between the historical preference trajectory of consumers and the demand curve at the bottom of the existing market. Of course, future scenarios are uncertain. But some recent examples might demonstrate that competitors are trying to find alternative ways to address low-end customers, even in the face of consolidated digital platforms.

Despite Google's strong dominance in the universal search engines market, it seems that competition against non-consumption comes

from the way customers value the services' other quality dimensions, such as privacy. As Google has become the target of antitrust investigations and increased regulatory scrutiny to protect users' privacy, some start-ups with high venture capital like Neeva are betting on creating a search engine paid by subscription.¹⁵

In social networks, competitors also seem to be trying to run sideways. Despite Facebook's long-established leadership, in the last decade we have seen significant entries from companies such as Instagram, Snapchat, and TikTok.¹⁶ These players appear to have bet on disruptive or alternative strategies, like investing in relevant architectural innovations and sophisticated photo and video capabilities accessible to non-professional users.¹⁷ They do not reproduce the exact characteristics or the marginal increments of the incumbent social network, which has even led Facebook to adopt similar novelties to those brought by these entrants.

When defining a relevant market, antitrust authorities cannot ignore that potential disruptors are unwilling to address the mainstream preferences of traditional customers of the incumbent platforms. Thus, even when we do not see face-to-face competition in the present, incumbents might try to impede the success of challengers that may shift their value network.

B) Platform Responses to Disruptive Challengers

Second, theories of disruption can explain how digital platforms might have incentives not to respond to innovative threats imposed by new disruptors. Dominant agents can use vertical agreements, predatory practices, or abuses of intellectual property "to make the access to the lower end of the consumers more difficult and/or render the interface between its value network

¹² Nicolas Petit, "Technology Giants, The 'Moligopoly' Hypothesis and Holistic Competition: A Primer," *SSRN Electronic Journal*, no. October (2016): 38–40.

¹³ Pierre Larouche, "Platforms, Disruptive Innovation and Competition on The Market," *CPI Antitrust Chronicle February 1*, no. 1 (2020): 18–22.

¹⁴ Larouche, 21.

¹⁵ Daisuke Wakabayashi, "A Former Google Executive Takes Aim at His Old Company With a Start-Up," *The New York Times*, 2020.

¹⁶ Hovenkamp, "Antitrust and Platform Monopoly," 36.

¹⁷ Bem Thompson. Clubhouse's Inevitability. *Stratechery*.

and another value network more difficult."¹⁸

Of course, it is not a simple task to determine when single-firm conducts aimed at protecting their dominant position will be unlawful or not. Nevertheless, some insight shared in this article can inspire new theories of dominant platform harm with regard to exclusionary conducts.

The narratives of successful disruption cycles assume that consumers at the bottom of the market who are unwilling to pay for sustainable innovations biased by the incumbent's historical trajectory can freely migrate or simultaneously adopt the new technology offered by the entrant. To prevent such migration from the value network, incumbents will seek to delay the migration or adoption of a new product.

III. Lessons from the Present – *Epic v. Apple* and *Rappi v. iFood*

While we cannot elaborate on all possible exclusion scenarios, it is interesting to look at two particular cases

First, take the ongoing battle between Epic Games and Apple in the U.S.¹⁹ As of August 2020, Epic Games launched a new direct payment system in their "Fortnite" game called "The Fortnite Mega Drop." Epic Games' primary goal in introducing this system was to prevent Apple Store from charging a 30 percent fee for each transaction between final customers and Epic Games. The new Epic Games payment system guaranteed permanent discounts on the game's currency, V-Bucks. In response, Apple banned Epic Games from the Apple Store for violating its rules.²⁰ Epic Games have argued that Apple engaged in unlawful monopolization practices both in the IOS app distribution market and in the market for payment solutions.²¹

But how could antitrust agencies frame *Epic Games v. Apple* as a tale of disruption? First, consider that Apple historically imposes fees for in-app purchases. Thus, under some

circumstances, we could see the introduction of Epic Games' payment system as a disruptive attack to "capture" low-cost customers. Most users who make purchases in smartphone apps might value the support features provided by Apple's App Store. People who own iPhones and iPads can make these payments using their own Apple Account valid for the entire Apple Ecosystem. Regular users can also make payments with a simple touch and secure personal identification system that involves the buyer's face or fingerprint recognition. These features provided by Apple seem to be positively valued on the preference curve of consumers who are at the "top end of the markets."

On the other hand, at the bottom of the market, big fans of the Fortnite game may not follow the same preference pattern. Fortnite players will probably not be willing to pay a higher price for V-Bucks just because the Apple Store brings greater convenience to transactions. While there is not enough data to elaborate on this point, one could imagine a case where demand curves show that V-bucks buyers do not give high value to parameters historically valued by most Apple Store users. In that case, Fortnite players would constitute a group of "low-cost" customers who might be a foothold for disruption.

If that is the case, Apple may be concerned not only about the free-rider effect provided by the Fortnite Mega Drop. The dominant firm may also fear a significant revolution in payment systems in general. If every highly-popular app creates its own payment system, app stores themselves may become obsolete as a medium to mediate payment between users and app developers. The likelihood of this market revolution depends on consumer behavior patterns, which should be closely examined.

Next, we look at a somewhat more obscure case, taking place in Brazil. In March 2021, Brazilian competition watchdog CADE issued

¹⁸ Steel and Larouche, "Disruptive Innovation and Competition Policy Enforcement," 7–8.

¹⁹ *Epic Games, Inc. v. Apple Inc.*, Northern District of California. Selected case documents of the case are available at <https://cand.uscourts.gov/cases-e-filing/cases-of-interest/epic-games-inc-v-apple-inc/>.

²⁰ For more details, see Sara Morrison, Apple's Fortnite ban, explained, Vox.

²¹ See Epic Games, Inc.'s Proposed Findings of Fact and Conclusions of Law, available at <https://cand.uscourts.gov/wp-content/uploads/cases-of-interest/epic-games-v-apple/Epic-Games-20-cv-05640-YGR-Dkt-407-Epic-Games-Proposed-Findings-of-Facts-and-Conclusions-of-Law.pdf>.

an interim decision prohibiting iFood, Brazil's most popular food delivery app, from signing exclusivity agreements with bars and restaurants.²² The investigation started after competitor Rappi filed a complaint in September of last year. Another competitor, Uber Eats, controlled by Uber Technologies Inc., also spoke against iFood's exclusivity agreements. In addition, an association of bars and restaurants complained before the authority asserting that iFood's bargaining power for exclusivity became stronger during the COVID-19 pandemic.²³

In its decision, CADE considered that iFood holds a dominant position in the food delivery app market due to its large market share (around 86 percent according to the Brazilian Association of restaurants and bars).²⁴ Moreover, CADE acknowledged that iFood benefits from a "first-mover" advantage, as it started as the first national food delivery app in the country.²⁵

As this is an interim decision, the authority did not elaborate further on a theory of harm, but mentioned that exclusive agreements with restaurants might lead to market foreclosure and higher barriers to entry. CADE deemed these market harms were imminent once the COVID-19 pandemic enormously boosted the food delivery market.

One of the central defensive claims put forth by *iFood* is that interim measures are misplaced as the national food app market is highly dynamic and subject to significant risks of disruption. However, even though this is a digital platform market, there seems to be little evidence of threats of market disruption anytime soon.

On the one hand, we could try to assert that iFood is a legitimate incumbent. The firm developed a new business model when apps did not seem to be a very reliable business partner for restaurants. *iFood* only started to face competition from other national platforms

(as Aiqfome, 99 Food, Delivery Much, Uber Eats, and Rappi) in Brazil's medium-sized cities over the last two years.

But it is not so simple to state that the new entrants shall be "disruptors" in the market. Most of iFood's competitors seem to represent face-to-face competition instead. Others seem to be betting on differentiated business models that are even more sophisticated and do not seem to address "low-end customers." Rappi, for example, offers various forms of delivery service – not only food-related. The platform's partner portfolio is much more pluralist, including supermarkets, drugstores, and specialized retail stores. The platform even offers personalized deliveries of virtually anything. On the other hand, Uber Eats exploits a strong brand name in logistics and its high reputation among drivers. In both cases, however, there is no clear sign of competition outside the value network.

As there is little room for framing the case under a dynamic competition approach, CADE will probably assess the practice under its traditional legal criteria for exclusionary practices as developed in the case law. The authority will evaluate whether the alleged efficiencies of the practice, namely the potential for avoiding free-rider effects, can overcome these concrete and potential exclusionary effects.

IV. Final Remarks

These are just a few examples of how disruptive innovation theories can rewrite (or not) the checklist of exclusionary abuses. For all the reasons set above, this brief article attempts to show the importance of advancing a research agenda that firmly grasps the core insights of theories of disruptive innovations in order to strengthen the antitrust analysis.

²² CADE's official press release is available at <https://www.gov.br/cade/pt-br/assuntos/noticias/cade-impede-ifood-de-celebrar-novos-contratos-de-exclusividade-com-restaurantes>. The decision imposing the interim measures is available at https://sei.cade.gov.br/sei/modulos/pesquisa/md_pesq_documento_consulta_externa.php?DZ2uWeaYicbuRZEFhBt_n3BfPLlu9u7akQA8mpB9yOCJ9vWq91OyBFjKhqOPfAlxse1Xr_t_z6Ut7QkHkbFWy1QyTXBgSq6jEeE2suP3u9vuf6vhDmcjGqPzqb3EThF.

²³ <https://www1.folha.uol.com.br/colunas/painelsa/2020/11/restaurantes-entram-na-disputa-do-rappi-contra-o-ifood-no-cade.shtml>.

²⁴ CADE. Preliminary Proceeding 08700.004588/2020-47, SG decision, § 29

²⁵ CADE. Preliminary Proceeding 08700.004588/2020-47, SG decision, § 33.

Disruptive Innovations on Digital Platforms: Lessons from *Epic Games v. Apple* in the U.S. and *Rappi v. iFood* in Brazil

By Victor Oliveira Fernandes*