THE PROMISES OF INTEROPERABILITY IN SOCIAL MEDIA PLATFORMS, TOO GOOD TO BE TRUE?

A Dissertation

Presented to the Faculty of the Graduate School

of Cornell University

In Partial Fulfillment of the Requirements for the Degree of

Doctor of the Science of Law

by

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August, 2022

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Cornell University 2022

ABSTRACT

Interoperability has been at the center of the regulatory debate surrounding digital platforms. Proponents of this regulation understand interoperability as a solution to market concentration, particularly in social media markets. The DMA in the EU and the ACCESS Act in the US both include interoperability provisions. Policymakers and academics have praised interoperability for its easiness of application and the low-level of involvement of the regulator that this rule would imply. Nonetheless, this belief collides with historical examples of interoperability regulation in telecommunications and platform markets.

Contrary to this understanding, this dissertation develops four case studies that show that interoperability has not been easy to implement or police by regulators. The case studies include the Kingsbury Agreement granting this company a monopoly on the telephone market, the 1996 Telecommunications Act, and the Microsoft antitrust cased developed in the 00s'. These case studies show the complexities of implementing and designing interoperability regulations, particularly in three aspects: (i) Regulators struggled to determine the conditions under which interoperability will function; (ii)

Regulated companies have a high-level of influence on how the mandate is implemented; (iii) Interoperability spurs judicialization, delaying its implementation.

Implementing interoperability in social media platforms will not only face these complexities, but given the obscurity of social media platforms' operation and business models, implementing interoperability regulation will be even more challenging. By applying the lessons learned from historical experiences, it is clear that interoperability will be complex and cost-intensive to implement.

This dissociation between how interoperability is being framed and the complexities of its implementation is a direct consequence of how interoperability proposals were designed. By distancing itself from what Werbach (2007) categorized as interconnection regulation and falling into a non-discrimination framework, interoperability proposals fail to account for competitors' needs, which undermines their chances of impacting social media markets.

Framing interoperability as an easy-to-implement requirement not only undermines the possibility of promoting competition in social media markets. But it will also underfund regulators who would face a titanic task without the proper tools to conduct such a mission.

BIOGRAPHICAL SKETCH

Ana Ruival is a J.S.D. student at Cornell Law School. She specializes in antitrust law in digital platform markets. Ana obtained her LL.M. at Cornell Law as a Fulbright scholar.

Ana holds a law degree from the University of Buenos Aires, where she was granted a full scholarship to pursue a semester at the Universitá degli Studi di Milano in Milan Italy, and a master's in Law and Economics from Torcuato Di Tella University. Before joining Cornell Law School, Ana worked in the Argentinean Competition Commission as an analyst specializing in complex cases in telecommunication markets. She also worked as an analyst in CIPPEC, one of Argentina's most renowned think tanks specialized in the implementation of public policies. As a J.S.D. student, Ana received the Berger Summer Fellowship to contribute to the World Bank's Digital Development Program in projects related to competition in digital platforms markets, and telecommunication policy in developing economies.

To Agustin, who transforms every day into the happiest of adventures.

ACKNOWLEDGMENTS

To Professors Hay, Grimmelmann, and Lasser, whose dedication and thoroughness helped me develop this dissertation from its initial stages to this final draft. I will be forever grateful for all the time you dedicated to helping me and all your comments and suggestions.

To all the organizations that supported me in this journey. To Cornell Law School, not only for the financial support during these doctoral years but for the space to think, learn, and critique. To the Fulbright Scholarship, without which I would have never embarked on this academic journey. To the University of Buenos Aires, that provided me with an excellent, public, and free education that allowed me to dream beyond what I had ever imagined before.

To my family, especially Alejandro, Carmen, Julia, Juan, and Jose. Nothing would have been possible without your constant support, love, and encouragement. You will forever be my guiding star.

To my friends back home, in Ithaca, and those around the world. A doctoral program has many ups and downs, but your laughs, love, support, and all the long dinners and calls, calmed me when I was stressed and brought joy to all my challenging moments. I am immensely grateful to share every day with all of you.

To Agustin, who fills my days with laughter, love, and tenderness. This dissertation, and everything we accomplished throughout these years, would not have been possible without your unconditional support. May we enjoy many more days filled with challenges and dreams to overcome and reach together.

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INTRODUCTION

The current development of internet-dependent business models and, particularly, digital platforms, present new and fascinating challenges to the legal and economic fields. Digital platforms have grown from being the paladins of innovation that disrupted established and stagnant markets or created new markets altogether to the most valuable companies in the world, reaching record-high market values. Their dominance has been at the center of the antitrust debate in the last five years, reaching a surprising level of consensus in 2020 and 2021. Since 2020, the leading competition authorities in the world either presented regulation proposals to deal with concentration in digital markets or initiated administrative and legal proceedings to challenge anticompetitive conducts by dominant digital platforms.

The transition from debating how and if digital platforms are damaging to competition to how they should be regulated is relevant, and the speed at which proposals have sprouted in all corners of the world cannot be overlooked. From more voluntary transparency-oriented guidelines in Japan, to content moderation in China, and finally to new powers granted to the competition authority in Germany, policymakers have presented a broad array of proposals that aim at curbing the dominance of digital platforms.

Nonetheless, two jurisdictions have dominated the debate surrounding digital platform regulation: the package of six bills introduced in the United States House of Representatives by a bipartisan group of legislators[1] and the Digital Markets Act (DMA)

[1] These bills include the following ones:
Merger Filing Fee Modernization Act, HR 3843, 117th Cong. (2021)
State Antitrust Enforcement Venue Act, HR 3460, 117th Cong. (2021)

proposed by the European Commission in 2020, and approved by the EU parliament in 2022. These regulations have much in common. They are both designed to regulate the conduct of dominant digital platforms through a combination of ex-ante regulations that mandates them to behave in a certain way. Both proposals also grant new prerogatives to the antitrust authorities.

One obligation included in these proposals has been particularly central to the antitrust debate: interoperability. Interoperability regulation is not a new tool in the regulatory debate, with many examples of industry and regulatory-led regimes in various sectors and markets. Interoperability, as described in more detail in the next section, is quite simple in theory: it is the ability of a network to interconnect to another one transmitting data without a detriment to the service provided to consumers.

Policymakers and academics have praised interoperability in the digital ecosystems as it would give competitors access to the dominant platform allowing them to overcome "(…) the network effects that protect the incumbent from entry, maximizing the potential for new entrants to enter at minimal cost, compete in the market, and take share from the incumbent." (Kades & Morton Scott, 2020, p. 2).

The debate surrounding interoperability regulation has gained salience as the most hands-off approach by which policymakers could promote competition in digital markets. Authors like Kades & Scott Morton (2020), and Scott Morton, Crémer, et al. (2021), among many others, have highlighted how interoperability offers the possibility

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Augmenting Compatibility and Competition by Enabling Service Switching (ACCESS) Act, HR 3849, 117th Cong. (2021)
Platform Competition and Opportunity Act, HR 3826, 117th Cong. (2021)
American Choice and Innovation Online Act, HR 3816, 117th Cong. (2021)
Ending Platform Monopolies Act, HR 3825, 117th Cong. (2021)

of generating competition without much involvement by the regulators. This regulation would set the basics of the relationship between the platform that opens their network and the competing platforms that may provide an interconnected service.

Policymakers and scholars have presented interoperability proposals for all the big tech platforms. Still, it has been particularly central to the debate surrounding how to promote competition in social media and messaging platforms, particularly Facebook, Instagram, and WhatsApp. This dissertation will focus on how interoperability, implemented as proposed by scholars and detailed in the Augmenting Compatibility and Competition by Enabling Service Switching (ACCESS Act[2]) and the DMA, would operate in social media and messaging markets. The debate surrounding interoperability in social media markets will be the core of this dissertation. Although we could extend much of the analysis to other digital platforms, the center of the analysis will be on the consequences of interoperability for social media and messaging platforms.

The proposals to regulate interoperability in social media platforms have varied, but the central idea is that a user in one social media platform (Platform A) would be able to see their friends' posts in Platform B even if they are not users of that platform. As explained by (Kades & Morton Scott, 2020), "(…) a user would be entitled to send and receive friend requests from outside her network. She could accept or deny each friend request. Subsequently, her own social network would be required to pass her posts to

[2] The terms ACCESS Act and ACCESS Bill will be used in this dissertation interchangeably.

her friends' networks, and their networks would display her posts to her previously designated friends." (p.20)

Authors praising interoperability as an adequate tool to regulate digital platforms base their arguments on previous instances of interoperability regulation. The primary example cited is that of telecommunications regulation. Interoperability in various forms and instances is seen as having reduced barriers to entry to the formerly regulated telecommunications market, allowing competitors to connect to the networks of the dominant providers (Kades & Morton Scott, 2020).

Nonetheless, the implementation of interoperability regulations in telecommunications in the United States paints a cautionary tale compared to the hands-off approach that interoperability is being praised as involving. The implementation of interoperability in telecommunication markets was complex and led to a long judicialization process. This delay diminished the potential of interoperability to influence competition in the market. By the time the specifics of the regulation were decided by the judiciary, years after the passing of the Telecommunications Act of 1996, the technologies that had been the center of the interoperability debate were no longer the most relevant to allow for competition in the telecommunications market.

Learning from these experiences is central to understanding which are the elements that regulators need to properly define for an interoperability strategy to succeed and also, which are the aspects that policymakers should take into account to prevent interoperability from failing to positively impact competition in digital markets. Digital platforms have grown enormously, becoming the center and base of the Internet. They are structures that cannot be avoided if you want to interact, buy, promote your product

or use a mobile device. Despite the novelty and innovation that characterizes digital markets, there is much than can be learned from previous regulatory experiences, particularly as interoperability gains traction as one of the proposed regulatory mechanisms.

Criticizing how advocates of interoperability have framed this remedy and the impact that its implementation could have in social media markets should not be read as a challenge to the fact that regulators should address concentration by digital platforms. The underlying claim of those advocating for interoperability regulation: that concentration by dominant digital platforms generates negative consequences that the current regulatory tools cannot sufficiently address is valid and should be prioritized. Nonetheless, interoperability may not be an adequate tool to deal with concentration in digital markets.

In the following sections, this dissertation will briefly introduce the concept of interoperability, and how it was implemented and designed in the telephone and platform markets depicting the prominent historical examples of interoperability regulation. Following that analysis, Chapter 2 presents how interoperability is presented in the current regulatory proposals, both from a regulatory and scholarly perspective. This descriptive section aims to provide a solid base to its core argument. Chapter 3 introduces an analysis of how presenting interoperability as a "light" regulation, resembling more a non-discrimination requirement that an actual interconnection mandate will condition the implementation of such regulations and will prevent it from fulfilling the potential of spurring innovation and promoting competition in the market.

CHAPTER ONE
INTEROPERABILITY IN TELECOMMUNICATIONS

a) What interoperability is

Interoperability is at the center of the regulatory debate both in Europe and the United States. Academics and policymakers alike have praised the possibility of making digital platforms more interoperable to promote competition, allowing new companies to flourish around these dominant incumbents instead of competing to generate similar networks. In this sense, the Competition Policy for the Digital Era report commissioned by the EU Commission, which served as a base for the design of the DMA, argued that "[w]hen the platform is part of an ecosystem, the lack of interoperability with other services of the same ecosystem and the absence or limited access to historical and future ecosystem data will make it difficult for a new entrant to compete on the merit of the specific service and/or algorithm." (Crémer, et.al, 2019, p. 36) Meanwhile, Representative Scanlon, one of the cosponsors of the package of bills introduced in the House of Representatives, has argued that "[t]he ACCESS Act opens up digital markets to greater competition, which increases pressure on large online platforms to improve quality, privacy, and security. It's past time to expand opportunities for consumers, workers, and small businesses by holding Big Tech monopolies accountable." (Cicilline, 2021)

Interoperability has been a regulatory strategy in the US since the Supreme Court decided that dominant railroads had to share their basic infrastructure to promote competition in that market (Nuechterlein & Weiser, 2013). Interoperability allowed for

the development of competition without the need to build a second set of railroad infrastructure that would have been prohibitive for said development.

Nonetheless, interoperability is not by itself a self-explanatory policy, and there is a need for more precision when it comes to such proposals. Consequently, this brief section will focus on providing a general overview of what interoperability regulation entails and how it can be categorized. This chapter does not aim to present a static definition of interoperability but to provide the reader with a general overview of how the specialized literature understands interoperability regulation.

The main difficulty when we try to develop an idea surrounding interoperability is that there is no clear and unanimous definition of what interoperability is (Kerber & Schweitzer, 2017). Kerber and Schweitzer (2017) broadly define interoperability as the "(…) the ability of a system, product or service to communicate and function with other (technically different) systems, products or services." (p.40).

Interoperability has been particularly relevant for the growth of telecommunications and is in this realm where we find many definitions of the term. In this sense, the United States National Telecommunications and Information Administration's (NTIA) Institute for Telecommunication Sciences' glossary of telecommunications terms, defined interoperability as "the ability of systems, units, or forces to provide services to and accept services from other systems, units or forces and to use the services so exchanged to enable them to operate effectively together" (Teixeira de Sousa & Stuckmann, 2009, p. 266).

Allowing for a telecommunications network to be interoperable could be beneficial to the entirety of the ecosystem in which it is implemented as presented by De Sousa and

Stuckmann, “[t]he user benefits because he can communicate with whom he wants or needs anywhere and anytime, with a single terminal. The network operator benefits because it can select the best equipment from different manufacturers according to the best price and performance. The manufacturer benefits because it can sell the same equipment to different countries or operators, and benefit from economies of scale in fabrication and marketing. Public authorities benefit because they can coordinate responses from different critical infrastructures networks.” (Teixeira de Sousa & Stuckmann, 2009, p. 271) In this sense, interoperability allows for more interconnected networks that generate advantages for both users and the interconnected companies.

Interoperability can be divided between horizontal and vertical interoperability. A network can be horizontally interoperable when it allows for the interconnection of competing services or platforms, such as the case of interoperability between different email or telephone providers. Vertical interoperability involves the interconnection of the main platform with complementary services, for example, the possibility of interconnecting a telephone produced by a third-party to the telephone network (Kerber & Schweitzer, 2017).

As can be concluded from this brief definition, for a system to be interoperable involves "(…) "the ongoing and continuous capability to send and receive data in the interconnected networks, providing the quality level expected by the concerned user without any disturbance to the interconnected networks.” (Azeem & Sharma, 2017, p. 697) With this brief and not-exhaustive definition of interoperability, this dissertation aims to provide the reader with a general understanding of what this policy would

mean. This introduction will give the reader more tools to understand the historical and current examples of interoperability regulation in different markets.

b) Interoperability in telecommunications

Interoperability policies have been at the center of telecommunications in the US and worldwide since the very beginnings of telecommunication regulation, even before the provision of telephone services became a regulated monopoly. The characteristics of the telecommunication services make it ideal for implementing an interoperability policy since interconnection in such services is possible across all elements of the telecommunication chain. For example, " i. A user can communicate with whom he wants to with a single node. ii. Operator can select the best equipment from available choices. iii. A product/service manufacturer can sale the same equipment set to others." (Azeem & Sharma, 2017, p. 697)

Interoperability has been so central to telecommunications regulation that even the categorization of AT&T as a regulated monopoly, with the Kingsbury agreement of 1913, came with an interoperability mandate to allow for the development of small providers in areas where AT&T did not provide telephone services.

Telecommunication regulation has flourished in the quest for interoperability. The implementation of this policy has, since 1913, spurred countless debates surrounding the specifics of how interoperability was going to be implemented. Additionally, this dissertation will draw from a regulatory experience outside of classic telecommunications markets. The Microsoft antitrust case has been praised by proponents of interoperability as a successful example of this mandate spurring

competition. Consequently, it will prove useful to see the implementation of interoperability in the context of digital platforms.

In the following sections, this dissertation will present four regulatory experiences: (i) the decision to grant AT&T a regulated monopoly over the telephone service in 1913; (ii) the break-up of AT&T; (iii) the interconnection mandate imposed in the Telecommunications act 1996; (iv) the Microsoft antitrust case in the early 00's. These regulatory experiences have been the pillar of interoperability regulation and have been widely presented as successful examples of interconnectivity that could serve as models for the regulation of digital platforms.

i) Interconnection in the Long Lines.

When debating interoperability in digital platforms and, particularly, interoperability in social media markets, a comparison that has come naturally for many authors is the ability to telephone or message users that are not customers of the same telecommunication provider. In this sense, Authors like Scott Morton and Kades (2020), and Crémer (2019) have called for a similar interconnection of social media platforms that would allow users to message people outside of the platform they are using or posting on a platform in which the user does not belong. This section will present a brief description of how interconnection[3] in the long-line, services came to

[3] Interconnection, as described by Kerber and Schweitzer, refers to interoperability when it involves the "physical and logical linking of public communication networks used by the same or a different undertaking in order to allow the users of one undertaking to communicate with users of the same or another undertaking, or to access services provided by another undertaking - see Art. 2 lit. (b) of the Directive 2002/19/EC of the European Parliament and of the Council of March 7 2002 on access to, and interconnection of, electronic communication networks and associated facilities, oJ 2002 No. L 108/7 ("Access Directive")." Further in this dissertation, the concept of interconnection will be explicitly used to differentiate how the proponents of interoperability view the interoperability requirement. So far, the concept is used alternatively with interoperability when referring to physical networks.

be and the context of this decision. This brief presentation would allow for a more detailed analysis of the similarities and differences between the telephone case and what could be expected from implementing a similar strategy for social media platforms.

As natural as it may seem today to call without having to worry about whether the person you are reaching contracted the same provider as we did, this was not the case at the inception of telephone service. Competing telephone providers in 1900 would only connect its users among themselves, and a user would not be able to contact anyone outside of this network. This lack of interconnection between different providers limited customers' ability to contact one another and reinforced the network effects that the dominant provider had in the market. Networks effects are a shared market condition that characterizes digital platforms and telecommunication services. There are network effects when the more people connected to a network, the more valuable that network is (Khan, 2019). As the network grows bigger and bigger, it becomes more attractive to potential users, as this would be the platform with more connections to offer.

If telephone providers could only connect those users subscribed to their network, the provider with the most significant number of users would have a comparative advantage over smaller providers. A more extensive network involves more users that can communicate among each other, while, quite obviously, a smaller network allows users to communicate among a lower number of people. This comparative advantage leads to the reinforcement of the dominant network as it would be more attractive to potential users. This denial of interconnectivity between telephone providers led to

"(…) a cutthroat race to build the largest customer base in the shortest time frame - and then put all rivals out of business by pointing out the limited value of their smaller networks." (Nuechterlein & Weiser, 2013, p. 4).

The different local markets in the United States were served by a dominant telecommunication provider that controled service provision for most local consumers. Most of those local telecommunication providers in populated areas of the country were overseen by the Bell System, controlled by AT&T. Through contractual agreements or mergers, the Bell corporations had instituted itself as the dominant telephone providers in the United States. The AT&T local exchanges were connected by what was known as the long lines. By 1894 AT&T had interconnected "most major cities in the Northeast and Midwest, including New York, Chicago, Boston, Cleveland, Detroit, Toledo, Milwaukee, Cincinnati, Dayton, Indianapolis, and most of the larger cities in between." (Evans & Bornholz, 1983, p. 10)

Nonetheless, with the expiration of Bell's basic patents in 1893 and 1894, independent providers arose where AT&T did not provide services or where service provision was deficient, which were mainly less populous areas. These competitors established exchanges in these rural areas that had been left unattended by AT&T. In 1894, eighty-seven providers were established, and that number grew to 4000 by 1902 (Stehman, 1967, p. 54). By 1902 44% of all telephones in the United States were operated by a provider other than AT&T. This nascent competition led to the expansion of the Bell network that vigorously established new exchanges and extended its long-distance system (Evans & Bornholz, 1983). At this point, AT&T had tried and failed to prevent the development of independent providers, which the company understood was

developing in areas where AT&T was providing "either no service, or poor service" in the words of Theodore Vail, who was to become the leading figure at AT&T years later (Danielian, 1939, p. 58).

Independent providers entering markets in which AT&T had been dominant for years had led the incumbent to lower access fees and the prices paid by users. In highly populated cities like Columbus, business users opted for a duplicate strategy in which they subscribed both to AT&T and the independent provider. Even paying for both subscriptions, the price was lower than what they paid before the independent entered the market. Particularly in Columbus, a user that decided to pay for two services paid "(…) $54 for one and $40 for the other, or a total of $94 per year, $2 less annually for two than one cost him before competition" (Evans & Bornholz, 1983, p.19)—getting access to more consumers for a lower cost.

Independent providers, in consequence, were growing locally, forcing AT&T to lower prices and improve the service provided. Nonetheless, independent providers had a clear weak spot in their strategy. Long-distance services had become more relevant as AT&T developed new technologies that improved this connection. Independent providers soon realized that to compete with AT&T, they needed to interconnect among themselves to attempt to build a long-distance service that would allow them not to depend on AT&T to provide both local and long-distance communications.

Up to 1907, AT&T had implemented several methods to impede the development of independent telephone providers, particularly “(…) Its manufacturer was prohibited from supplying the independents. Its patent arsenal permitted numerous patent suits against the independent. It reduced its prices for telephone services.” (Evans &

Bornholz, 1983, p. 15) These strategies had little effect on the growth of independent providers that continued to expand. In consequence, AT&T opted for a more direct response to this phenomenon. In 1907 it secured enough capital to acquire competing and non-competing providers aggressively. AT&T was particularly interested in acquiring those local exchanges that were strategic links in all the independent regional systems, amplifying the relevance of its long lines networks.

AT&T forced many of these independent competitors to join the AT&T network. By refusing to interconnect the networks of these smaller providers with AT&T's long-lines and by acquiring the networks that had been essential for the development of independent providers, AT&T became the only long-distance network in the United States at that time. As more and more independent companies decided to interconnect to AT&Ts network, the objective of independent providers of interconnecting among themselves to provide an autonomous service slowly disappeared. Independent providers interconnecting to AT&T's long line implied one less independent operator that provided its lines to interconnect independent providers among themselves. AT&T's long lines network became essential for independent operators to provide their consumers with an integral telephone service that included both local and long-distance calls. The cost of not interconnecting to AT&T became unbearable for many independent providers that prefer not to interconnect to the independent providers in favor of AT&T.

Absent an interconnection with AT&T's national network, and with more independent providers joining AT&T's lines, it became economically infeasible for independent companies to "(…) provide their customers with satisfactory telephone service – that

is, service extending beyond the local serving area – unless they could somehow duplicate the nationwide physical infrastructure the Bell System had built up over several decades of sharp dealing and self-reinforced good fortune.” (Nuechterlein & Weiser, 2013, p. 5).

Through this combination of denying interconnection and acquiring competing and non-competing operators, AT&T was able to effectively lower the number of users connected to the independent networks, which lowered from "51% in 1907 to 45% in 1912 and the percentage of all telephones operated by independent telephone companies that did not connect with the Bell System declined from 37% in 1907 to 17% in 1912" (Evans & Bornholz, 1983, p. 13)

AT&T's actions against independent providers did not go unnoticed as, in 1912, the leading representatives of the independent providers filed a complaint to the Department of Justice and the DOJ decided to prosecute AT&T for its coercive practices. At the same time, the Interstate Commerce Commission, which had jurisdiction over the telephone industry since 1910, also launched an investigation into the conduct of AT&T. This attention to AT&T's practices led to the Kingsbury Commitment in 1913. Under this compromise, AT&T agreed to open its long lines division to interconnection with the independent providers and to stop its practice of acquiring competing independent providers. On the other side, the government agreed to provide AT&T with the monopoly of the telephone market in the United States. Independent companies continued to provide services in areas not served by AT&T, relegating them to a minority position in the US market.

AT&T repeatedly argued that only through a monopoly of the telephone service could universal service be accomplished during this process. AT&T did not refer to universal service in the terms that we think of universal service now. The basic argument at that time was that only AT&T could provide long-line services and provide such a universal connection between callers.[4]

The Kingsbury Commitment was the final stroke to independent providers as the percentage of telephones operated by independent companies declined from 36% in 1921 to 21% in 1934, and by 1934 all telephones operating in the US, even those provided by independent providers, were connected to AT&T's network to provide for long-distance calls (Evans & Bornholz, 1983).

As explained by Werbach (2007), "(…) it was AT&T's refusal to serve customers of some independent telephone companies, or to give them comparable service to its own customers, that gave it the economic leverage to cross-subsidize its own deployment and pricing efforts.' "Universal service" was built on non-universal interconnection." (p. 1249)

The aggressive practices developed by AT&T led the regulator to establish that AT&T should have the monopoly of the areas in which it provided services, with smaller areas of the country served by other independent providers that interconnected to AT&T to provide long-distance services. This definition came from the understanding that one

[4] The concept of Universal Service has evolved since AT&T argued the need for one provider that controlled the long lines. It is now understood as the obligation of a monopolistic provider to assure telecommunication services in all areas of the country, even those that may not be profitable. Nonetheless, at the time of the Kingsbury agreement, universal service was the basis of AT&Ts request to control the telephone market as the only provider that could connect users across the board.

company could provide telephone services effectively given the network effects, economies of scale, and scope of the telephone system.

This agreement was formalized by the 1934 Communications Act in which “[t]he government acquiesced in AT&T's refusal to offer universal and non-discriminatory interconnection to rivals, in return for the ability to impose price regulation and non-discrimination obligations on the monopoly phone provider” (Werbach, 2007, p.1249) The interoperability requirement came late and as a complement to the regulatory monopoly, with the sole objective of allowing the few independent providers to provide long-line services. Given the regulated monopoly that AT&T was granted, interoperability did not have the effect of helping competition grow but to maintain services where the monopolist did not provide it.

ii) AT&T’s Consent Decree

AT&T’s monopoly developed fast and mainly unchallenged for decades. Protected by both its own patents and the legal protection granted as the main provider of telephone services, AT&T expanded its services to other markets. The primary market in which AT&T was dominant was the one for telephone-related equipment such as telephones.

AT&T mandated that telephone users could only connect AT&T’s equipment to the telephone network claiming that the interconnection of other equipment would negatively impact the system, risking the provision of telephone service. This lack of equipment interoperability fostered by AT&T denying the possibility of using third-parties telephone equipment caused the first judicial challenges to AT&T's market power and its regulatory protection.

Hush-a-Phone Corp presented the first of these cases. Hush-a-Phone manufactured and sold a device that users could plug into the telephone receiver to limit background noise. AT&T had long argued that interconnecting its lines with hardware built by other than AT&T could have severe consequences for the functioning of the telephone lines – and continued to argue so until the break-up of AT&T in 1982. The company went as far to say that "[i]f consumers can plug anything they want into the network, - any old piece of junk made who knows where – the system will break down, a faulty telephone in one house could conceivably disrupt service in an entire city" (Nuechterlein & Weiser, 2013, p. 42). Hush-a-Phone claimed that its product had no interference in the network and implied no threat to the telephone system as a whole it essentially was the equivalent "of covering the receiver with one's hand" (Nuechterlein & Weiser, 2013, p. 43) to prevent external noises from interfering in the conversation. After Hush-a-phone challenged AT&T's denial of interconnection in front of the FCC, the FCC sided with AT&T and argued that plugging such a device into the network threatened the provision of the telephone service and should not be allowed (Hush-A-Phone Corporation v. United States, 1956).

This decision was reversed a year later by the Court of Appeals. The Court argued that the FCC's decision to deny interconnection was not justified by reason. In a brief decision, the Court of Appeals expressed that "[t]o say that a telephone subscriber may produce the result in question by cupping his hand and speaking into it, but may not do so by using a device which leaves his hand free to write or do whatever else he wishes, is neither just nor reasonable." (Hush-A-Phone Corporation v. United States, 1956)

The Court of Appeals decision was the first successful challenge to AT&T's monopoly and a significant setback to the FCC, whose arguments and reasoning were strongly and unequivocally dismissed by the Court.

The FCC seemed to have learned the lesson of the Hush-a-Phone decision during the 1970s, as this case was the base for the Carterfone decision in 1968. The Carterfone case definitely opened interoperability for third-party equipment to the telephone line. While the device manufactured by Hush-a-Phone did not connect to the line, Caterfone provided a service that needed such a connection. Carterfone's product allowed radio-users to access the telephone service by connecting a telephone line to a two-way radio system. When presented with this product, AT&T continued in its strategy of denying interoperability claiming that it could affect the functioning of the telephone service. In this sense, AT&T "(…) advised their subscribers that the Carterfone, when used in conjunction with the subscriber's telephone, is a prohibited interconnecting device, the use of which would subject the user to the penalties provided in the tariff. (…) No equipment, apparatus, circuit or device not furnished by the telephone company shall be attached to or connected with the facilities furnished by the telephone company, whether physically, by induction or otherwise" (Use of the Carterfone Device in Message Toll Telephone Service, 1968). AT&T denied interoperability to Carterfone by directly punishing the users that could benefit from the service.

The FCC sided with Caterfone, claiming that AT&T had not effectively proven that the interconnection of such equipment could affect the network or that it generated a risk to the provision of the telephone service. The FCC decided that if a customer desired to use the devices provided by a third-party, they should be able to do so without any

interference from AT&T. The broadness of this decision amplified the effects beyond just Carterfone and it applied to all devices at the time and in the future. Both the Hush-a-Phone and Carterfone interoperability cases were the first successful challenges to the power of AT&T and laid the ground for the growth of MCI and the dawn of AT&T's monopoly.

While Carterfone and Hush-a-Phone generated competition in the manufacturer aspect of AT&T's business, they did not challenge AT&T's regulated monopoly in the local telephone market nor its dominance in the long-distance calls market. MCI did challenge AT&T's lucrative long-distance business, and the development of this company generated an intense and judicially challenged reaction by the monopolist in which interoperability was, again, key.

Long-distance and local telephone services in the 70s' were provided and sold as separate services. A household or company could choose between hiring only a plan for local telephony services or adding a second plan for long-distance calls. As was explained earlier, AT&T controlled the major city-to-city transport facilities as the primary provider of long-distance calls, as this service was included in AT&T's monopoly.

Universal service is key to understanding why competition developed in the market for long-distance communications and not in the one involving local calls. AT&T provided the first one at above-cost prices that allowed for the provision of subsidized local telephone services, particularly in areas where the provision of the service was not profitable. The higher prices charged for long-distance services were the tool that

allowed for the fulfillment of the promise of universal service.[5] Nonetheless, the idea behind universal service had evolved from what AT&T argued in 1913. As understood in modern telecom regulation, universal service implied the dominant provider's obligation to offer services across the country, even in those areas where it was not profitable to develop a telephone network. This mandate came from the understanding that where there was a higher concentration of users, the provision of the service was more lucrative for a provider since once the physical network is installed, it would have more customers to make use of it, which would, in turn, generate a more significant profit. On the contrary, a remote area in which few consumers would use the network may not be profitable for the provider. To allow for everyone to be interconnected to the network, telecommunication providers were allowed to charge more to customers in highly profitable areas to finance the provision of the service in areas that were not as lucrative.

Microwave Communications Inc., later known as MCI, developed as the main challenger to AT&T's monopoly position in the long-distance market. Thanks to this cross-subsidization strategy, challenging AT&T's dominance in this market implied a disruptive AT&T's pricing structure as a whole. Unsurprisingly given the centrality of interoperability in telecommunications regulation, the debate surrounding competition in the long-distance market was essentially an interoperability debate. Access to the

[5] Whether cross-subsidizing local services through higher prices was a successful strategy to allow for universal services exceeds the scope of this dissertation, but the reader can find a complete analysis of this in Mueller, M. (1997). *Universal service: competition, interconnection, and monopoly in the making of the American telephone system*. Cambridge, Mass.: MIT Press.

network collided with universal service, which had been a central pillar of telecommunication regulation until that moment.

In its inception, MCI offered quite a modest service, as it began offering only "private lines" in closed point-to-point circuits that connected mainly different city branches of the same company. MCI wanted to bypass AT&T's monopoly over long-distance communications by providing city-to-city communications through microwave relay towers.

In December 1963, MCI filed an application with the FCC asking for authorization to construct and operate a system of microwaves between Chicago and St. Louis. The FCC approved this application in August 1969. This approval generated a flow of requests from private line services and generated the Specialized Common Carriers inquiry to evaluate the policy issues raised by these applications. The FCC finally granted a "specialized common carrier" to 17 MCI affiliates, claiming an unmet demand for private line service. AT&T highly resisted this approval, claiming that the private lines were a threat to its more profitable business. AT&T argued that providing this service would allow its competitors to *creamskim,* meaning that they would only provide profitable services without the burden of universal service. The FCC concluded that the benefits provided by higher competition exceeded the possible, and unlikely, adverse effects.

MCI did not stop at private line connections. Once this service started to develop, MCI presented new improvements to its technology and convinced the FCC to allow them to provide foreign exchange (Generally known as FX) lines to its business clients. As described by Nuechterlein and Weiser (2013), "[t]hese were private lines with a twist:

one end connected to the Bell System's local exchange,[6] Thus, MCI's FX line might connect two offices of the same company – say, one in New York and one in Chicago – but in New York, the line was assigned a local telephone number, and calls to that number appeared, from the perspective of the Bell company switch, to be ordinary local calls" (p. 45). Thanks to these improvements, employees in the New York office could easily be connected to the Chicago offices for the cost of a local call and, central to the antitrust debate, without having to pay AT&T's long line toll.

Despite this development, MCI continued to provide its services exclusively in the private lines market and not general long-distance communication services. This changed in 1975 when MCI developed Execunet, which implied open private lines. Under this service, the "private lines" were connected to a Bell local exchange on both ends, which allowed for "anyone authorized to gain access to the private line could call from anywhere in Chicago to anywhere in New York and vice versa without paying toll charges to AT&T" (Nuechterlein & Weiser, 2013, p. 45). Not long after this innovation was presented, MCI was able to provide long-distance communications to the public at large and not only to those businesses that contracted private lines services.

The services provided by MCI were dependent on the interconnection with AT&T's local exchange since duplicating such infrastructure would have been economically unfeasible for a new entrant. AT&T understood this from the beginning and, once again, planned to use its interconnection policies to limit the growth of MCI.

[6] Highlighted is my own.

In 1973, following MCI's successful $100 million stock offering, AT&T's management decided to modify how it would price MCI's access to AT&T's access points. MCI had initially planned, and discussed with AT&T, that they would rent the network paying the price depending on the number of customers that MCI interconnected. Nonetheless, when negotiations started, MCI was informed that AT&T had opted for a "capital contribution" model, through which MCI had to contribute to the maintenance of AT&T's extensive network, significantly increasing MCI's costs (Coll, 1986, p. 19). Increased costs were not the only problem that this approach would bring to the new competitor. Determining the price to pay would imply a long and delayed process that AT&T intended lasted as long as possible. Additionally, AT&T took another turn in response to the competitive pressure presented by MCI, a change in its pricing strategy lowering the price of long-distance calls that would imply an average 30% decrease in price in those areas where MCI was providing services (Coll, 1986). Given AT&T's strategy, MCI decided to contest the incumbent through lobby in Congress, antitrust lawsuits in the Courts, and complaints to the FCC (Coll, 1986).

Given the delays in the negotiations, MCI and AT&T entered an interim agreement that allowed MCI to interconnect to AT&T's network while negotiations for a more permanent agreement took place. This temporary agreement, combined with AT&T's regulatory advantages as a regulated monopoly, allowed the telephone giant to simply set the terms, under the umbrella of a tariff filed with the FCC and state regulators, if an agreement was not reached. As Coll (1986) described, given the fear that AT&T would stop the negotiations and follow this tariff strategy, MCI intensified its negotiations with the FCC to approve FX lines. Finally, in October 1973, the FCC

approved this request and blew the first punch at AT&T's monopoly. The next blow to AT&T came shortly after as MCI filed an antitrust lawsuit against AT&T in March 1974. This lawsuit was followed by a complaint presented by the DOJ in November of that same year.

The first years of the AT&T case litigation were slow and with no substantial progress. It was not until the 80s that the case was finally brought to trial under Judge Harold Greene. As the case progressed, generating millions of dollars in litigation costs both for AT&T and the DOJ, it became more evident for AT&T's management that the DOJ was more effective in convincing the Judge of AT&T's wrongdoing and started worrying about losing control of Western Electric. Western Electric was the manufacturing arm of AT&T and one of the major sources of revenue for the company (Coll, 1986, p. 274). To prevent this split, at the end of 1981, AT&T negotiated a Consent Decree with the DOJ through which AT&T divested its local telephone business into seven local companies, known later as the Baby Bells, while AT&T kept the long-distance part of the business together with Western Electric, and Bell Laboratories. This strategy was known throughout the AT&T management as the inter-intra split as it completely separated the intracity communications with the intercity ones, keeping the latter, and more lucrative ones, under the control of AT&T.

The deal was announced in January 1982. It was seen as a step forward in promoting interoperability. The newly formed Baby Bells would have no incentive to discriminate in favor of AT&T's long-distance services, allowing all competitors to access similar interconnection charges.

Nonetheless, this case highlights one aspect that will be crucial to understanding the failure or success of all the telecommunication examples presented in this dissertation: AT&T was committed to the company's break-up and had a leading role in designing this remedy. It was AT&T who filed the divestment plan to Judge Greene two years later, dividing the company into different pieces and determining how they would operate and which lines of business each could exploit.

The AT&T case is also another example of the length of antitrust judicial processes that linger in time with more than a decade since the actions that motivated litigation to a final resolution of the case. In this note it is also worth noting that AT&T and the DOJ agreed to a Consent Decree, shortening the length of a case that, if not agreed upon among the parties, would undoubtedly have gone through a lengthy appeal process.

The break-up of AT&T started a new era in telecommunications regulation that led to the development of the 1996 Telecommunications act a decade later in the quest for a more competitive telecom market.

iii) 1996 Telecommunications Act

When in 1996, the US Congress decided that competition was the way to promote a more efficient local telephone market and move beyond public utility regulation, interoperability was also the chosen path. Under this proposal, the telephone grid was divided into segments, competitors, both existing and nascent, could negotiate access to these segments by mixing and matching the ones they found helpful for their development. Additionally, Congress mandated a forced interoperability strategy for the dominant telephone operators that needed to open their physical networks to

competitors that could decide which service they would provide based on their objectives and needs.

The Telecommunications Act of 1996[7] had three objectives "(…) eliminating economic barriers to entry in local telecommunication markets, eliminating regulatory barriers to entry in all telecommunication markets, and universal service reform" (Nuechterlein & Weiser, 2013, p. 52). To accomplish these objectives, Congress designed three central policies. The first, as was mentioned previously, mandated interconnection between rival carriers, allowing them to lease the incumbent's network to provide services.

The second objective was addressed by eliminating exclusive franchise agreements that were in place in many states, which essentially provided some telephone companies with a monopoly that could not be challenged by competition. Congress further limited the ability of states or local authorities to prohibit any telecommunication entity from providing services in that jurisdiction.

Additionally, to fulfil this second objective, Congress struck a final blow to the 1982 AT&T consent decree. As previously described, the AT&T consent decree divided the company into seven regional companies oriented toward local telephone services spread across the country. AT&T retained the provision of long-distance services, limiting the ability of local providers, such as the newly formed Baby Bells, from entering the long-distance market, and preventing AT&T from providing local services. The Telecommunications Act of 1996 eliminated this differentiation allowing all

[7] The Telecommunications Act of 1996 is technically an amendment to the Communications Act of 1934, in consequence, the sections mentioned in this dissertation are sections in the amended 1934 Act. For more clarity on this see (Nuechterlein & Weiser, 2013, p. 52)

providers to both offer local and long-distance services, nullifying the provisions established in the 1982 Consent Decree.

Finally, as mentioned previously, universal service had been a pillar of telecommunication regulation. Such a strategy could only operate under a regulated framework in which a regulator sets the price that needs to be paid to cover such costs. The risk of competition was that the new providers would offer the service in the competitive areas for a lower price compared to the price of the incumbent, eroding the clientele of the formerly regulated provider in such areas and, in consequence, limiting its ability to finance the provision of the service in non-profitable areas. To prevent this, Congress created the "universal service fund" that essentially operated as a "tax" in which "(…) carriers contribute money into the fund on the basis of their retail “interstate” revenues, and a federal administrator then doles out the money in the form of explicit subsidies to ensure “affordable” and “reasonably comparable” rates throughout the country.” (Nuechterlein & Weiser, 2013, p. 54)

Coming back to interconnection, the 1996 Telecommunication Act established a regulatory framework that divided companies into two main categories, CLECs (competitive local exchange carriers) and ILECS (incumbent local exchange carriers). The main difference between the two was that the latter had traditionally held market power in local telephone markets and consequently were more heavily regulated than their non-dominant counterparts (Nuechterlein & Weiser, 2013, p. 56). In Sections 251 (c)(2) and (c)(6), the Act established a series of mutual or reciprocal obligations, such as cooperation towards number portability by users, and all LECs - whether competitive or incumbent - could allow other carriers to purchase the services they offer for resale

to the public and to interconnect with other carriers. Nonetheless, only ILECs were set to a particular set of interconnection rules as they were mandated to share their facilities, not only when they decided to do so but whenever a CLEC required it.

This interconnection obligation essentially allowed CLECs to make use of and pay for any of the installations of the ILECs, including renting physical space in the offices where ILECs controlled their equipment. This space could be in the central office – or any other – and it could be used to place the equipment that would allow CLECs to interconnect to the ILECs network. This point was one of the elements of this law that was highly contested in courts and was only settled in 2002. The DC Circuit Court ruled that office space usage needed to be essential to the interconnection to be legitimate and that any additional functions beyond the interconnection should be related to that primary objective and not increase the burden on ILECs' right to make use of its property" (US Telecom Ass'n v. FCC, 2002).

As described, the Telecommunications Act of 1996 provided that the non-dominant CLECs should be allowed to make use of physical space, in the form of office space and the services adjacent to this space, and obtain access to the networks through which ILECs provided telecommunication services. To provide access to the networks, the Act established that CLECs should get access to unbundled network elements (UNEs), which means that the competitor could divide the network into different units and lease only those pieces individually or combined. This obligation is colloquially referred to as the right of CLECs to lease the network of the dominant ILECs, nonetheless, this is not technically correct as what CLECs are leasing is not always the network itself but capacity of that network. As described by Nuechterlein & Weiser

(2013), the companies that required access to the network of dominant providers did so not by leasing one fiber-optic cable but through increments of capacity to make use of that network, together with its "features, functions, and capabilities" (47 U.S. Code § 153 – Definitions 35).

This interconnection essentially allowed for competitors to transmit communications between their users through the network of the incumbents. The idea behind this regulation was that new providers could compete by offering lower prices than the incumbents or innovating by providing new services oriented towards specific sectors of demand.

Knowing the importance of the price at which this interconnection would be provided and the effects that it would have in effectively promoting competition in the market, Congress did not leave it only to ILECs and CLECs to negotiate such a price but mandated that the FCC developed a methodology through which State Regulators should determine the access tariff if the contracting parties did not reach an agreement. According to the Telecommunications Act, the methodology chosen by the FCC to determine the cost of the service should permit the incumbents to cover the cost of providing the interconnection, allowing them to recover a reasonable profit for the use of their networks, but at the same time not be discriminatory for new competitors.

Just six months after the approval of the Telecommunications Act of 1996, the FCC issued its "Local Competition Order" that implemented the provisions of the Act. Among other factors, the Order included putting in place procedures for number portability and dialing parity allowing users to choose carries with no need to dial extra digits. Additionally, "(…) the Order assures competing carriers equal access to telephone

numbers, operator / directory services and timely disclosure of ILEC network changes and conditions.” (Krouse & Park, 2003, p. 227)

Additionally, concerning what should be shared the FCC's Local Competition Order, the regulator determined seven unbundled network elements: "(1) local loops, (2) network interface devices, (3) local and tandem switching, (4) interoffice transmission facilities, (5) signaling networks and call related databases, (6) operations support systems, and (7) operator services and directory assistance" (Bauer, 2005, p. 62). This list of what should be shared changed subsequently with the different judicial challenges. Finally, and one of the most contested points of the 1996 Order, the FCC determined that the States Regulators should price access to the ILECs networks through the total element long-run incremental cost (TELRIC) methodology.

Determining the cost of the provision of a service through any methodology involves balancing different aspects of the cost involved. In this particular case, the FCC focused on the following cost dimensions: “(1) any costs directly attributable to the CLECs' use (incremental or marginal costs); (2) a proportional share of the depreciation in the elements value from use over time; (3) a proportional share of joint and common costs, otherwise called overhead costs, associated with element use (i.e., personnel costs, billing costs, etc.); and (4) a share of the cost of the capital invested in the network element” (Legg, 2004, p. 567).

After determining which cost dimensions would be included in the tariff for network sharing, the other aspect that the methodology needs to cover is whose costs will be taken as the base of the analysis. This was one of the most contentious aspects of the TELRIC methodology as the State Regulators were not supposed to consider the

actual costs of the ILECs when they made the investments to set the physical network, but the cost of a hypothetical efficient carrier to set a new network from scratch. Thanks to technological development, it was assumed that the costs of this hypothetical provider would generally be lower than historical costs.

The FCC argued that TELRIC would allow for the entrance of new providers into the market and, at the same time, it would provide ILECs with enough incentives to invest in the improvement of the network. The reasoning behind promoting TELRIC over other methodologies was that ILECs would strive to make their networks more efficient to align with what CLECs were paying to access the network. The FCC argued that this methodology fulfilled both objectives allowing CLECs to access the existing networks at a cost that permitted them to grow without disincentivizing investment from dominant companies. Nonetheless, these estimations often produced access fees, that, according to ILECs, did not cover the cost of providing the interconnection or allow recoupment of the investments done by ILECs to build the existing networks.

The first judicial challenge to the Order came shortly after and challenged the power of the FTC to issue such regulation as, according to the view of the Iowa Utilities Board and others, the States were the ones that should set rules and prices according to the Telecommunications Act and not the FCC. Through a certiorari request of the FCC, in Corp. v. Iowa Utilities Board the Supreme Court decided in January 1999 that the FCC was, in fact, responsible for determining whether ILECs pricing strategies were in accordance with the cost standards mandated by the Telecommunications Act. In this sense, the TELRIC standard was partially challenged from a procedural perspective as the plaintiff understood that only states could determine the rates paid by CLECs

with no intervention from the FCC. Besides the procedural challenges to the Order the plaintiffs argued that the FCC had exceeded the mandate of the Act by determining that any cost increased imposed by ILECs by denying access to a UNE could be considered a violation of the 1996 Telecommunications Act. The Supreme Court ruled that "(…) *any* increase in cost (or decrease in quality) imposed by denial of a network element renders access to that element "necessary," and causes the failure to provide that element to "impair" the entrant's ability to furnish its desired services is simply not in accord with the ordinary and fair meaning of those terms." (AT&T Corp. v. Iowa Utilities Board, 1999, p. 22). The Supreme Court understood that the seven-tier approach presented by the FCC determining what should be shared by ILECs was excessively broad and should be limited. Because of this resolution, the FCC modified the Order by issuing the UNE Remand Order in November 1999, in which it eliminated operator service and directory assistance from the network elements.

A second judicial challenge targeted specifically the TELRIC methodology. In Verizon Comm., Inc. v. FCC, incumbents challenged the very base of the TELRIC approach and argued that it did not adequately consider the costs that ILECs had incurred to establish the networks. In particular, the Court analyzed the arguments presented by the incumbents (i) TELRIC could stimulate competition, but it did not induce it; (ii) TELRIC did not allow for enough depreciation and allowance for capital costs to stimulate competition; and (iii) TELRIC was unreasonable complicated and impracticable (Verizon Communications Inc. v. FCC, 2002).

The first argument was potentially the strongest one. ILECs argued that the low prices resulting from TELRIC would simulate a perfectly competitive environment with prices

so low that there would be no motivation for CLECs to actually build their own infrastructure. This allegedly contradicted the aim of the Telecommunications Act, which understood infrastructure sharing as a possibility for competitors to develop in the initial stages and then build their own networks. The Supreme Court determined that this was not the case as the FCCs cost determination included elements that would not be present in a perfectly efficient market. Considering those elements would prevent the implementation of the TELRIC methodology to issue a competitive price that would disincentivize investments by CLECs.

Regarding the second and third challenges, the Supreme Court argued that the decision of the FCC to prioritize the TELRIC standard was not unreasonable compared to other possibilities. Particularly, the majority argued that "(…) battles of experts are bound to be part of any ratesetting scheme, and the FCC was reasonable to prefer TELRIC (…)" (Verizon Communications Inc. v. FCC, 2002).

As can be concluded from this brief description, judicialization in the case of the 1996 Telecommunications Act was determined by: (i) the structure of the Act that left the responsibility of designing the mandate to the regulator; (ii) the interpretative nature of the general principles set in the regulation. The FCC was in charge of determining how the requirement would operate following vague directives from the regulation that finally opened the door to litigation by ILECs.

Litigation that arose because of this regulation delayed the final implementation of the statute, with few entrants providing services through the tools included in the 1996 Telecommunications Act. The judicial delay in implementing this policy, and the long period that the FCC needed to determine the effective way in which the statute was to

be implemented diminished its relevance. The technological innovations that took place during the 10-year gap between the Telecommunications Act and the effective confirmation of the FCC's guidance made the telephone services less relevant, diminishing the importance of the interconnection services in the US. This delay also damaged potential competitors, given the "(…) uncertainties, and expense of the battle proved too great for most of the new entrants in the local phone market to bear. Many of these companies rode the venture-capital-fueled late-1990s boom, and crashed when public markets decided no longer to reward potential over profits. The failure of the UNE pricing regime dragged down the entire competitive vision of the 1996 Act." (Werbach, 2007, p. 1261)

In this sense, Krouse and Park (2003 p. 227) concluded that the uncertainty that the Order generated and its subsequent judicialization were one of the causes that prevented the Act and the subsequent orders by the FCC from actually promoting competition in the market, as revenue from Local Exchanges and CLECs lowered the more litigation lagged in time.

The level of conflict surrounding the implementation of the interoperability regulations should be a cautionary tale for regulators and academics alike, as interoperability regulations may seem more straightforward to implement in theory than they might be in practice. The judicial debate surrounding unbundling the telephone services has mainly focused on two aspects: the cost of the service provision and which elements of the network should be shared. Both will likely be contested in courts as digital platforms, regulators, and potential competitors battle to define how interoperability should be applied in the digital environment.

c) Microsoft case

Finally, the last case that will be presented to illustrate the complexities of regulating innovative markets involving dominant companies in the Microsoft antitrust litigation (United States v. Microsoft Corp., 2001) that led to the 2001 Court of Appeals decision. Although this case is not part of the telecommunication examples presented so far, it will be illustrative to show the power that technology-related platforms have in implementing regulation, whether a law or a consent decree in a judicial case.

The Microsoft case is one of the most recent examples of remedies imposed on a dominant technological platform. Similar to digital platform regulation now, this case was a judicial effort that took place at the same time in Europe and the United States, highlighting the similarities and differences between the two systems. To simplify the analysis, this dissertation will focus on the US case, to begin with and then highlight the differences between the EU litigation process and result.[8]

Antitrust litigation involving Microsoft started in the early 90s' when the company was investigated by both the FTC and the DOJ over the licenses and bundling of Windows operating systems. In 1994 Microsoft reached an agreement with the antitrust authorities, according to which the company would not bundle Microsoft products to the purchase of Windows operating system licenses. Microsoft held, through Windows, the monopoly of the operating system for Intel computers, and the FTC and the DOJ feared that such a dominant position could be leveraged to impose dominance in other related markets.

[8] This analysis will not cover all the aspects of the Microsoft litigation process. For more details on this, see Gavil, A. I., & First, H. (2014). The Microsoft antitrust cases: competition policy for the twenty-first century. Cambridge, Massachusetts: The MIT Press.

The most renowned antitrust case against Microsoft directly resulted from this settlement. In 1995, just one year after the agreement, Microsoft presented its new operating system, Windows 95, in which Internet Explorer was included as the default web browser and, according to the DOJ, made it extremely complicated for any user to uninstall it. This practice of integrating Internet Explorer to the Windows operating system became even more entrenched in 1998 when Microsoft not only licensed to Original Equipment Manufacturers (OEM) it's Windows 98 with Internet Explorer fully incorporated, but it also did not permit the hardware manufacturers to delete or hide the Internet Browser

The case did not only involve bundling Internet Explorer to Windows 95 and 98 but also how Microsoft was handling interoperability with Java, a software that was developed and owned by Sun Microsystems. As described by Gifford (1999), "Java possesses a number of remarkable capabilities, one of which is interoperability. A program written in Java is capable of running on any platform possessing a Java interpreter or a Java virtual machine (i.e., software that converts the program from Java code into the machine code specific to the user's platform). This capability allows a program written in Java to run on numerous platforms. The same software thus can be marketed to the Windows, Macintosh, OS/2, Linux and UNIX segments of the personal computer market." (p. 75). Microsoft went to the core of this compatibility by designing a Windows-specific version of Java that did not interoperate with other platforms or operating systems. A developer that developed an application for Windows would not be able to offer it in a different platform unless it redesigned it in the general Java

version (Page & Lopatka, 2007, p. 27). Finally, the DOJ and 20 state attorneys sued Microsoft in 1998, accusing the company of violating the terms of the 1994 agreement.

Mainly related to the bundling of Internet Explorer, the DOJ was concerned with the impact these practices could have on the browser market, which had faced competitive pressure from companies like Netscape. Netscape had grown significantly and held a 70% share of online traffic. As the Internet developed and became more relevant in the US and the world, holding a dominant position in the entrant port to internet services was highly relevant. As was described by Bill Gates himself in a 1995 internal company document: "[a] new competitor “born” on the Internet is Netscape. Their browser is dominant, with 70% usage share, allowing them to determine which network extensions will catch on. (…) One scary possibility being discussed by Internet fans is whether they should get together and create something far less expensive than a PC which is powerful enough for Web browsing.” (Luckerson, 2018) The development of an ever-growing online space threatened Microsoft's dominance as access to applications such as Word, Excel, or PowerPoint could eventually, such as we can do now, be accessed through a browser rendering the Windows license worthless.

Microsoft's decision to bundle Internet Explorer to Windows 95 was highly contested by Netscape, which shortly after started to lose market share as users opted for Microsoft's web browser. By the time the antitrust lawsuit was filed, three years later in 1998, Netscape was about to be acquired by AOL with an insignificant market share compared to their relevance before 1995. The DOJ and the state attorneys claimed that the growth of Internet Browsers, like Netscape, could eventually generate a more competitive operating system market and that preventing that competition was

Microsoft's motivation to drive Netscape out of the market. As explained by the DC Circuit:

> *"(…) If a consumer could have access to the applications he desired — regardless of the operating system he uses— simply by installing a particular browser on his computer, then he would no longer feel compelled to select Windows in order to have access to those applications; he could select an operating system other than Windows-based solely upon its quality and price. In other words, the market for operating systems would be competitive.*
>
> *Therefore, Microsoft's efforts to gain market share in one market (browsers) served to meet the threat to Microsoft's monopoly in another market (operating systems) by keeping rival browsers from gaining the critical mass of users necessary to attract developer attention away from Windows as the platform for software development" ."* (United States v. Microsoft Corp., 2001)

In a highly mediatized case, the District Court Judge found Microsoft liable of protecting its monopoly in the Intel-compatible PC operating system through the monopolization of the Internet Browser market and the denial of interoperability of Java-based applications. In the Final Judgment, the Judge mandated that Microsoft should present a divestiture plan to split the company into an operating systems business and an applications business. Additionally, the District Court contained several interim restrictions on Microsoft's conduct.

This remedial decision did not survive Microsoft's appeal, as in 2001, the DC Court of Appeals remanded the case to a new District Judge. Although the Courts of Appeals partially agreed with the district judge that Microsoft had effectively violated antitrust law, it did not consider that the imposed remedies were appropriate. The Court of Appeals remanded the case to a new District Court to determine new remedies in this

case. This new remedial process concluded in an agreement between the DOJ, a portion of the states, and Microsoft. Before continuing to what was effectively agreed between Microsoft, the DOJ, and – most – of the state attorneys, it is relevant for the purposes of this dissertation to highlight how the Court of Appeals saw the complexities of remedial design in technology-related markets. This Court highlighted the quick resolution of the case by the District Court. Nonetheless it concluded that:

> *"What is somewhat problematic, however, is that just over six years have passed since Microsoft engaged in the first conduct plaintiffs allege to be anticompetitive. As the record in this case indicates, six years seems like an eternity in the computer industry. By the time a court can assess liability, firms, products, and the marketplace are likely to have changed dramatically. This, in turn, threatens enormous practical difficulties for courts considering the appropriate measure of relief in equitable enforcement actions, both in crafting injunctive remedies in the first instance and reviewing those remedies in the second. Conduct remedies may be unavailing in such cases, because innovation to a large degree has already rendered the anticompetitive conduct obsolete (although by no means harmless). And broader structural remedies present their own set of problems, including how a court goes about restoring competition to a dramatically changed, and constantly changing, marketplace."* (United States v. Microsoft Corp., 2001, p.427)

A final settlement between the DOJ and nine state attorneys was reached in November 2001, while nine states and the District of Columbia proposed a more severe remedy. This led to an evidentiary hearing that delayed the approval of the settlement, which was finally approved in November 2002. The fluctuations in the debate surrounding which would be the most appropriate remedy only reinforce the remarks of the Court of Appeals on the complexities of designing an effective remedy for such innovative markets.

The remedy targeted the practices that Microsoft had implemented to diminish Netscape market share, including: (i) threatening any Original Equipment Manufacturers (OEM) with discontinuing Microsoft licenses if it contracted with any service provider that competes with Microsoft; (ii) prohibiting Microsoft from individually negotiating royalties with OEMs and instead forced the dominant provider to publish the terms of this royalties online; (iii) OEM should be allowed, and Microsoft could not prevent them, to include shortcuts or menu entries for any non-Microsoft applications, product or services; (iv) to address the interoperability challenges Microsoft agreed to provide early access to "APIs used by Microsoft Middleware to interoperate with a Windows Operating System Product".[9] This last requirement, established in section II.E,[10] required that Microsoft made available through APIs certain communications protocols that Microsoft's clients would use to interoperate with Microsoft's server operating systems (Page & Childers, 2009, p. 240). This was the most contested aspect of the final Consent Decree and the one that generated more conflict in its implementation. As it pertains to the implementation of interoperability requirements, it will illuminate the difficulties of implementing such a requirement.

The Microsoft case is relevant for this dissertation in two aspects. The first one is that by the time the DOJ and the state attorneys filed the lawsuit, Netscape was in financial distress, given the losses in usage and revenue it had faced since the launch of

[9] For a detailed analysis of the remedies included in the Microsoft case, see Evans, Nichols & Schmalensee (2005, p. 517)

[10] The debate surrounding section II.E went beyond its implementation as many experts argued that this remedy was not connected to the antitrust litigation that had taken place, nor was it a consequence of any of the proven violations. This debate goes beyond the scope of this dissertation. To read more about this debate, see Page, W. H., & Childers, S. J. (2009). Measuring compliance with compulsory licensing remedies in the American Microsoft case. Antitrust Law Journal, 76(1), 239-270.

Windows 95. The second one is Microsoft's influence in shaping the effective implementation of the antitrust remedy. Contrary to what was praised when an agreement was reached, the Consent Decree did not impulse many changes to Microsoft's actions, and it proved challenging for the authorities to patrol and sanction non-compliance.

The Consent Decree included the creation of a Technical Committee (TC) that would monitor the implementation of this interoperability requirement. The TC was integrated by experts in "software design and programming"(New York v. Microsoft Corp., 2006) and would ““(…) assist in monitoring Microsoft’s decree compliance. Funded by Microsoft, the TC consisted initially of three software engineers who set up full-time offices in Bellevue, WA, near Microsoft’s Redmond campus, and Palo Alto, CA” (Himes, Nieh, & Schnell, 2021, p. 68).

To comply with this remedy, Microsoft created the Microsoft Communications Protocol Program (MCPP). The MCPP provides the technical documentation of the covered products and also licenses to use the protocols on the terms specified by Microsoft. Microsoft was allowed to charge a fee for these licenses in fair and reasonable terms. Nonetheless, the application of this remedy was not easy, and it was delayed in time.

Implementing this remedy was complex, particularly in aspects related to the quality of the documentation and the terms under which it was promoted. By January 2004, the DOJ complained to the remedy Judge that the technical documentation provided by Microsoft was not sufficient nor complete and that the Court should intervene to assure compliance with the Decree (Joint Status Report on Microsoft's Compliance, 2004). The slow adoption of the licenses provided by Microsoft and requested by competitors

questioned the efficacy of the remedy, and it generated reactions from the TC and the DOJ that imposed new conditions on Microsoft and its license practices. The TC even hired engineers to develop projects to test the protocols and identify difficulties with the protocols, which the TC then asked Microsoft to solve. The TC reported that in February 2006, it had submitted more than 1000 issues to Microsoft, and than only 300 had been solved. The license requirement was not considered a successful one as "[d]espite (…) of the thousands of firms developing applications for servers, only twenty-nine have taken royalty licenses for Microsoft's protocols while twelve more have signed the royalty-free licenses for published and industry-standard protocols. Only fourteen products have been introduced using the protocols, and none apparently has platform potential." (Page & Childers, 2007, p. 128) Beyond presenting an example of the failure of a judicially-impose interoperability requirement, there is one more aspect relevant for this dissertation, the role that Microsoft had to play in the implementation of this requirement.

One of the main conclusions that came from the work of the TC is the inability to design an interoperability protocol for such a high-tech platform as Microsoft without the cooperation of the company whose system is being made interoperable. The Microsoft interoperability requirement was entrenched in the internal process of the company. Consequently, it required detailed knowledge of how the company operated, the drivers of its functioning, and the technical specifications of the software that only Microsoft had. Despite the knowledge of the market that the TC had, the information that had been collected during the judicial procedures, and the cooperation of third-

parties that would eventually be users of such licenses, the cooperation of Microsoft was absolutely essential to the design of an interoperability requirement.

Despite how straightforward it may seem to conclude that the implementation of this requirement would not be simple in practice, as it would require the interaction of different actors and complex technical concepts, this was not the vision of the regulators at the moment of imposing this requirement. The DOJ, for example, argued that "Microsoft already routinely documents and distributes technical information, so the provision will not place a significant burden upon it." (Plaintiff's Memorandum in Support of Proposed Final Judgment, 2000) The imposition of this requirement was seen as simple to implement, contrary to the experience in practice, as will be developed in more detail later this is similar to the arguments that are currently being presented to justify an interoperability requirement in digital platforms.

The European Commission also initiated actions against Microsoft. The EU focused on streaming media players and the interoperability of server operating systems with Windows PCs. Regarding the interoperability claims, the European Commission claimed that Microsoft denial of Sun Microsystems' request to disclose the system specifications that would allow Sun's servers operating system to interoperate with Microsoft. The EU found Microsoft liable on both charges and imposed a set of remedies and fines.

To address the monopolization of media players, the EU mandated Microsoft to issue “(…) a version of Windows for client PCs which does not include the Windows Media Player." (Commission Decision, 2004) Microsoft started offering Windows XP N in June 2005 with little interest from OEMs. The second remedy included “complete and

accurate specifications for the protocols used by Windows work group servers in order to provide file, print, and group and user administration services to Windows work group networks." (Commission Decision, 2004) This interoperability requirement was broader in the EU case as it was not limited to client-server communications, but it extended to server-to-server protocols. To monitor compliance with this remedy, the EU mandated the designation of a Monitoring Trustee by the Commission. This trustee would have access to information on how Microsoft operated, assistance from the company, and resources from Microsoft, including staff and access to the premises (Economides & Lianos, 2010).

Similar to the US case, Microsoft strongly influenced how the remedy was implemented, and difficulties arose surrounding compliance with the remedy. In this sense, "(…) since the subject matter was intensely technical, it was hard for the lawyers on each side to communicate effectively with one another and to find a consensus on which aspects of Windows the Commission wanted Microsoft to document and share with competitors. The second series of difficulties related to the imposition of reasonable and non-discriminatory terms, and in particular the establishment of royalties for the WSPP licences" (Economides & Lianos, 2010, p. 420). Microsoft was not only an essential player in how the remedy was implemented, but it was the one that held all the relevant information regarding how the company operated. This requirement was complemental to the one imposed in the US and conditioned the latter's implementation as Microsoft needed to comply with both requirements simultaneously.

d) Lessons learned from interoperability regulation

To close this section that briefly introduced how interoperability has played a role in regulating telecommunications and high-tech businesses, this section will present some of the main conclusions that can be drawn from these experiences in the last century. In the final chapter of this dissertation, these lessons from telecommunication regulation will guide the analysis of the difficulties of implementing an interoperability requirement for social media platforms.

i) Difficulty setting the terms under which conditions interoperability was going to be determined.

As could be seen from the experiences of the Telecommunications market and the Microsoft case, it is not a simple task to determine under which conditions interoperability is going to be implemented. Despite the knowledge of the market that the FCC held, given the decades of regulating the telephone industry, it was a complex and draining task to determine the conditions under which ILECS and CLECS could effectively interconnect.

Similarly, the imposition of a protocol-sharing mandate on Microsoft was not presumed to pose significant complexities. Nonetheless, its implementation lagged for years. This Section of the Decree was undoubtedly the most complex to implement, and it involved both the continuing involvement of the company and the creation of a specific Committee to oversee compliance with the Decree. Even with the creation of this Committee and the financing that allowed for its functioning, the requirement was never effectively implemented, and it had no significant impact on the market.

From the experiences presented in this chapter, it is clear that the mere imposition of an interoperability mandate does not assure its impact on the market. To effectively implement an interoperability requirement, the conditions under which the interoperability agreements would work are essential. What will be accessed, under which conditions by who, and at which cost are all elements that the regulator needs to determine to allow the development of competition and the recoupment of investments by the incumbent for it not to be deemed confiscatory. This is a fragile equilibrium that, as described by Weiser (2009), should impulse regulators and courts to "(…) utilize increased creativity as to what institutional strategies can enable behavioral remedies to succeed." (p. 293)

A final point in this note, as the Microsoft case exemplifies the implementation of interoperability requirements only gets more complex as the industries become more dynamic and innovation-driven. As Weiser described, "[t]he AT&T consent decree is an instructive precedent that highlights the institutional challenges that face antitrust courts. That case involved a relatively stable industry in which it was not necessary to constantly revisit the terms of dealing and where the presence of a regulatory agency offered an alternative means of engaging in the necessary oversight of the platform." (Weiser, 2009, p. 292) This stability is no longer the framework of analysis, as industries have grown more complex and dynamic.

ii) Regulated companies have demonstrated to have a high level of influence in how the remedies are implemented.

The next point highlighted across this section is the heavy influence that the regulated companies have in implementing an interoperability mandate. Litigation is not the only

tool that companies have to delay or tinker with the implementation of such a requirement to their own advantage. Dominant companies have a complete understanding of how their company works and the main drivers of the market in which they operate. This was particularly clear in the Microsoft case, as it would have been impossible for the TC to design any interoperability requirement without the collaboration of Microsoft. As industries grow more dynamic and complex, the knowledge of the market required to regulate interoperability increases, and, in consequence, so does the influence that the regulated companies can excerpt in the implementation of interoperability mandate.

iii) Largely contested in the courts delayed the application of the interoperability requirements making it harder to have implications in the competitive process.

Another aspect of these regulatory examples that ought to be highlighted is the length of the judicial processes involved. Whether it was the lengthy litigation that came after the 1996 Telecommunications act and the attempts by the FCC to determine the conditions of its implementation, or the litigation leading to AT&T's break-up, this were lengthy and costly processes. In some cases, such as Microsoft, or even AT&T's break-up, the conditions of the new competitors that motivated the intervention by the government had substantially changed.

Particularly in the case of the 1996 Telecommunications Act, the constant litigation that arose from every decision that the FCC made towards the effective implementation of the Act delayed its implementation, driving potential competitors out of business. As CLECs made investments in the pursuit of eventually interconnecting to the

incumbents, they faced ever-changing terms influenced by the changing decisions of different judicial instances. The lack of stability and legal certainty drove many out of business and prevented the Act from effectively impacting the market.

CHAPTER TWO
REGULATORY PROPOSALS FOR DIGITAL PLATFORMS

a) What is the issue that interoperability aims to solve?

Meta created its business model around network effects. Social media users interact on Facebook or Instagram because their friends, family, and favorite celebrity are part of these social media platforms. A social media platform in which none of the above participates would be of little interest to the user as the objective is to interact with others. Around this networked structure, Facebook has built the core of its services: advertisement. As social media platforms grow in users and interactions, they become an attractive space for companies, politicians, and organizations in general to advertise their services, campaigns, and products. It is through advertisement that Facebook has been able to monetize its social media business, generating billionaire revenues.[11]

Meta, initially through the growth of Facebook and then through the acquisition of other platforms like Instagram and WhatsApp, holds a dominant position in the social media market.[12] How Facebook reached this dominant position and how it is protecting it has been the focus of many studies and legal actions. Scholars and academics worldwide

[11] According to Forbes (2022) Meta generated 39.37 billion dollars in profits from April 2021 to April 2022.

[12] For more on Meta's dominance in the market, see the UK's CMA "Online platforms and digital advertising" report published in July 2020. In this report, the CMA claims that "Facebook (including Instagram, which it bought in 2012) generated over half of UK display advertising revenues in 2019. For comparison, its largest competitor, YouTube (owned by Google), earned between 5 and 10%." (p. 10). Similarly, the FTC's amended complaint against Facebook alleges that "Facebook holds monopoly power in the market for personal social networking services (…) in the United States, primarily due to its control of two of the largest and most profitable social networks in the world, Facebook and Instagram." (p. 2).

have accused Facebook of limiting essential interconnection to its platform to competing businesses and conditioning interoperability to companies that did not provide competing services. Additionally, although approved by antitrust authorities in the United States, the EU, and worldwide, the acquisitions of Instagram and WhatsApp have been highly contested as anti-competitive. Particularly, the United Kingdoms' Competition and Markets Authority report on Facebook's dominant position published in July 2020 and the FTC's case against Meta have highlighted these exclusionary practices by the dominant social media platform.

Particularly regarding interoperability, the FTC has claimed that Facebook grew in part thanks to an interoperability framework started in 2007 through which developers of applications could interconnect to Facebook's networks. These developers grew and started offering options that drove users away from Facebook's central platforms. Facebook responded to this competitive pressure by altering its' API policies. The dominant platform determined that "(…) developers could only access Facebook's platform if they agreed (i) not to compete with Facebook's core services and (ii) not to facilitate the growth of potential rivals to Facebook." (FTC, First Amended Complaint against Facebook, 2021, p. 4). This strategy prevented new competitors from developing as offering competing services to those of Facebook would prevent them from accessing Facebook's users.

Identifying these anticompetitive practices has led regulators and advocates of more competition in social media markets to ask which would be the best response to these challenges. As many of the issues presented relate to how other companies interconnect to Facebook, Instagram, or WhatsApp, the debate has, quite swiftly,

derived to interoperability as the appropriate remedy. These interoperability proposals will be presented in more detail in the following sub-section.

b) Regulatory proposals for digital platforms

Digital platforms have grown in strength and relevance in the last 20 years. Regulatory leniency towards digital platforms has characterized the beginning of their development. Nonetheless, it is now clear that the honeymoon between regulators and digital platforms is over, at least when it comes to the shift in the discourse that policymakers and politicians have had regarding digital platforms.

There has been a clear and radical shift in how digital platforms are perceived in public political discourse that has also transpired into a boom of regulatory proposals flourishing worldwide. From Germany's "Act Amending the Act against Restraints of Competition for a focused, proactive and digital competition law 4.0 and amending other competition law provisions" in which "undertakings of paramount significance for competition across markets" are subject to a new set of obligations that would prevent abuses in digital markets, to Korea and Japan and their transparency centered proposals to improve the functioning of digital markets. Digital platforms have been at the center of the antitrust policy debate for the last five years. Although most of the proposals have still not been approved it is clear that there is a renewed intention to, at least, take a closer look at how these platforms operate and how they could harm the markets in which they develop.

The innovative aspects of digital markets have also sprouted regulatory creativity, with countries designing and creating different proposals to deal with essentially the same challenges. Policymakers in some countries, like the U.S. through the Ending Platform

Monopolies Bill, have advocated for a more structural approach calling for these platforms to be separated and forbidding digital platforms from acquiring other companies that operate in the same value chain. On the contrary, Australia has opted for a more targeted approach and focused primarily on the advertisement market and the consequences that the development of platforms has for news outlets, small, medium, or large. The Australian "News Media and Digital Platforms Mandatory Bargaining Code" mandates that dominant advertisement platforms compensate news outlets for the content they produce and the advantages that it brings to digital platforms. International organizations such as the Organisation for Economic Co-operation and Development (OECD) have also issued recommendations to their member states on the possible avenues of regulation and examples of what is being proposed worldwide, signaling a growing interest in platform regulation not only in developed countries such as the U.S. or the European Union but also in developing nations. Digital platform regulation has become a global hot topic in antitrust regulation. More examples or avenues of regulation are likely to appear as the debate surrounding these platforms keeps growing.

Despite the diversity of proposals, there is one that seems ubiquitous to almost all the proposals worldwide: a mandate for platforms to make their networks interoperable with those of their competitors. Interoperability has been praised for fostering innovation, lowering barriers to entry, preventing the negative impacts of network effects, and allowing for healthier and functioning markets.

It should not surprise the reader that interoperability is at the core of digital platform regulation, as interoperability has been central to the development of the digital

ecosystems. The provision of internet-related services is essentially based on the possibility of interoperating between developers, platforms, and providers to promote innovation and the development of new ideas, business models, and products (Werbach, 2007). No one network or connection could be pointed out and say that it alone allows for the broadband access we enjoy in our homes. On the contrary, the interconnection of several lines, networks, and physical infrastructure allows for that connection. As described by Werbach (2007) "[t]hough widely described as one network, the internet is actually a collection of several thousand independent networks, whose common characteristic is an agreement to interconnect to deliver internet protocol (I.P.) datagrams" (p. 1250). In the inception of massive internet access, this interconnection spurred the debate around how this kind of connectivity would allow for more open and horizontal communication and information access as nobody has absolute control over the network.

The concentration of digital platforms threatens this development as they become closed systems that do not allow their walled – or semi-walled – gardens to be the starting platforms for new developments. Consequently, it is not surprising that, when facing dominance in digital markets, regulators turn to interoperability regulation to return to the origins of interconnected internet services.

In the following sections, this dissertation will first present how advocates of interoperability for social media platforms have framed these proposals, and second, the two interoperability proposals that have the potential to influence regulation worldwide: those presented in the U.S. and the E.U. The dominance of these countries when it comes to antitrust regulation has been widely studied, and the differences and

similarities between these two systems have shaped the regulatory choices of countries worldwide.[13] In the same way, as these two jurisdictions reshaped the antitrust debate worldwide, they are likely to shape the debate around digital platform regulation, being the prominent examples of how this could be regulated.

i) Scholarly calls for interoperability

There is no unified proposal to regulate interoperability for social media platforms. Many authors have claimed that interoperability would increase competition allowing for the development of new social media business models. Nonetheless, there is less clarity on how that would be effectively implemented, what competitors would have access to, or how they would enjoy such access. In consequence, the caveat of this section is that as interoperability proposals are relatively recent academic and regulatory developments, there is less clarity up to what effectively should be implemented. This limits the scope of the analysis, which will probably leave the reader with more questions than answers. Beyond this caveat, in this section, this dissertation will briefly present such proposals to provide a more straightforward framework of analysis for the dissertation as a whole and the context under which the regulatory proposals are flourishing.

Kades and Scott Morton are the pioneers of proposing interoperability as a remedy for the concentration generated by social media platforms. In September 2020, they argued that "Interoperability could be a remedy in a case where the defendant's refusal

[13] For an analysis of the influence of both regulations and how the E.U. has lately imposed policies to place itself as the dominant competition model worldwide see Bradford A., Chilton A. S., Linos K. & Weaver A. (2019), The Global Dominance of European Competition Law Over American Antitrust Law, *Journal of Empirical Legal Studies*, Vol. 16, 731. Available at: https://scholarship.law.columbia.edu/faculty_scholarship/2513

to interconnect with a rival was illegal. But interoperability could be an appropriate remedy in any situation in which the dominant firm has exploited network effects by violating the antitrust laws."(Kades & Scott Morton, 2020, p. 2)

They concede that implementing an interoperability requirement implies determining complex issues. To solve that complexity, they propose the creation of a Technical Committees that would "adopt workable standards, revise them on a regular basis, and adapt to changes in technology or deal with technical challenges" (Kades & Scott Morton, 2020, p. 3) The Committee would act in an advisory capacity as it would be the antitrust authority the one making the final decisions.

Under this proposal, the authors suggest that interoperability would lower barriers to entry as it would "(…) It allows someone who is not a member of the dominant social network to continue to communicate with friends or families on that platform. Therefore, people could switch to new social networks without losing their connections. Using Facebook.com as an example, because Facebook.com would be required to interoperate with other platforms, consumers who would rather not be a Facebook.com user can easily leave to join a rival." (Kades & Scott Morton, 2020, p. 12). They further explain that " (…) when a user posted content, Facebook would deliver it both internally and to the external platforms on which its users had already identified friends. (The receiving platforms would deliver the content to the individual accounts.) Facebook.com would accept incoming messages that adhered to the technical standard and would deliver them to the correct accounts." (Kades & Scott Morton, 2020, p. 16)

Kades and Morton Scott propose a horizontal interoperability framework. They argue that as we can communicate with telephone-users that contract a provider different from our own, social-media users should also be able to reach their friends and family on any social media they choose to use.

The authors present the following example to illustrate their interoperability concept:

> *"Suppose the technical committee developed a standard for transferring text, calendars, images, and video. Network A might have a feature that allows users to make text bold and flashing, but these features are not in the standard, which is plain text. When a message in flashing bold is sent by a user on A to her friends, those on network A will see the full effect; those on networks B and C will see plain text. Users of networks B and C, however, would receive A's posts such as a photo and plain text saying, "Lee's wedding was beautiful." Network A might have a feature that alerts a user's friends on her birthday. If that feature is not in the standard, friends on Networks B and C will not receive those alerts about birthdays of friends on network A. Senders who wanted to serve followers across all networks could take care to design their posts to stay within the standard." (*Kades & Scott Morton, 2020, *p. 19)*

The authors also praised interoperability as a low-cost remedy that could be implemented without a costly involvement either by the regulator nor the companies involved. In this sense, they understand that "[u]nlike the familiar AT&T example, there would be no cost to interconnection in the digital platform context. The standard is simply a way to present and transfer information that is already being presented and transferred. No wire needs to be connected to achieve it, nor do machines need to be co-located, or special workers employed." (Kades & Scott Morton, 2020, p. 15)

The interoperability remedy proposed in this paper would be implemented through the FTC's rulemaking authority, as this would be the appropriate setting for a constructive debate around interoperability principles. Moreover, the appropriate moment for the

imposition of such an obligation for Social Media Platforms, would be after the resolution of FTC's case against Facebook. The authors argue that at this point, the FTC would have had gathered enough knowledge of the market to anticipate the strategies of the defendants and fully understand what a competitor would need to enter the market.

This idea was further expanded by Scott Morton, Crawford, Crémer, et.al (2021) in which they combine the idea of an interoperability requirement with equitable interoperability. These authors also expand on the concept beyond only social media platforms to, more broadly, digital platforms as a whole. The authors present the concept of "Equitable Interoperability" which "(…) means that not only can an entrant join the platform, but it can join on qualitatively equal terms as others, without being discriminated against by the dominant platform that might have its own competing service." (p. 2) This concept of Equitable Interoperability goes one step further in highlighting the relevance that non-discrimination has in the framework of this regulation. The objective is not to give access to the network of the dominant platform and allow for competitors to freely interact but prevent discrimination among incumbents and entrants. This point will be highlighted in more detail in the last section of this dissertation. At this point, it is relevant to keep in mind that non-discrimination is central to the proposal as it would force social media companies to treat all content under the same requirements without discriminating according to its origins.

Finally, interoperability has been praised for not requiring a great deal of involvement from the regulator. Interoperability is seen as an easy-to-implement regulatory tool in which "(…) the regulator need not take on this role, but can focus on exercising

oversight to ensure the interface promotes competition (and is not captured by the dominant platform)." (Scott Morton et.al, 2021, p. 3). Advocates of interoperability go one step further and describe interoperability as a light touch regulatory strategy[14] (Scott Morton et.al, 2021, p. 3) that contrary to other more "heavy-handed" regulations interoperability avoids the risk of "misallocation of resources and loss, degradation, or delay of products that consumers do or might enjoy." (p. 2). This conclusion challenges the past experiences of interoperability, as presented in Chapter 1. These have not only been complex to implement and transplant from general legal principles to concrete policy options, but they have lagged in time, delayed in complex litigation processes. Chapter 3 of this dissertation will go deeper into this disconnection between how interoperability is framed today, the lessons learned from previous experiences, and the difficulties that implementing these regulations could have in practice.

c) Regulatory Interoperability proposals for digital platforms

As defined before in this chapter, interoperability regulation implies the ability of a competing network to interconnect with another and to transmit or extract data and use the capacity of such a network. Interoperability proposals have flourished in the last five years. The E.U. has included them in their DSA and DMA proposals, and a group of bipartisan representatives has introduced a broad interoperability mandate proposal in the U.S. House of Representatives. Having been used in the past, particularly in the

[14] Scott Morton et.al (2021) claim that '(…) we describe equitable interoperability as a light touch regulatory governance scheme. And although interoperability is light touch, it must still be mandated, because a monopolist will typically not voluntarily adopt a policy that erodes its monopoly profit" (p. 3).

Telecommunications regulatory realm, it has been proposed as a necessary step to allow for the development of different markets in which digital platforms are dominant.

Interoperability is considered to be a step toward competition in all the digital markets that have presented challenges in the last years. The debate surrounding interoperability regulation in digital platforms has included mandating interoperability of app markets, data sharing across platforms, making advertisement hubs such as those controlled by Facebook and Google interoperable for competing providers, mandating platforms to allow for competing companies to offer complementary services through APIs, among others (Scott Morton, et al., 2021). But how is interoperability framed in the U.S. and E.U.? What are the boundaries that the regulation presents? How and who will determine what should be open to being interoperable? These are some of the relevant questions that a proposal should address, this dissertation will present a summary of these regulations to paint a clearer picture of which questions are answered and which remain undecided or undetermined by the current proposals. The next section will present both proposals to allow for a final analysis of the complexities of their implementation in the third, and final section of this dissertation.

i) The ACCESS Act

The United States Judiciary Committee of the House of Representatives has passed a package of six bills[15] oriented towards the regulation of online platforms and promoting competition in digital markets. Particularly, H.R. 3849, ACCESS Bill, defines

[15] See footnote 1 for a detail of the bills.

how interoperability should function in digital markets and how such a regulation would be enforced by both the FTC and the DOJ.

The first question that needs to be clarified is to which platforms would the ACCESS bill be applied. All six bills included in this bipartisan package refer to as "Covered Platforms." A digital platform can be considered a Covered Platform upon the demonstration that it fulfills several conditions to establish its dominance in the market. Some of the elements that the Bill determines that the FTC needs to consider when categorizing a platform as a Covered Platform include billing or number of monthly users, annual turnover, capitalization, or the capital held by the main stockholder of the platform. These elements intend to capture the complexities and differences between dominant platforms that operate in very distinct markets. Although this definition, if approved, will be highly contested in court, Meta will undoubtedly be included as one of these platforms. The FTC has repeatedly stated that it considers Meta to be dominant in its market, making use of the same criteria that are being pointed out in the ACCESS Bill.[16]

The Bill determines that "[a] covered platform shall maintain a set of transparent, third-party-accessible interfaces (including application programming interfaces) to facilitate and maintain interoperability with a competing business or a potential competing business that complies with the standards issued pursuant to section 6(c)." Section 6 (c) determines the powers and mandates that the FTC has as the enforcer of the

[16] See FTC (2021, P.2) “Facebook holds monopoly power in the market for personal social networking services (“personal social networking” or “personal social networking services”) in the United States, primarily due to its control of two of the largest and most profitable social networks in the world, Facebook and Instagram. The Facebook social network is known internally at Facebook as “Facebook Blue” and has more than [sealed] monthly users in the United States. Instagram attracts more than [sealed] monthly users. (…) Facebook’s dominant position provides it with staggering profits.”

ACCESS Bill. It determines that the FTC shall "(…) issue standards of interoperability specific to the covered platform". To this end, the "The Commission shall: (A) establish a technical committee, as described in section 7 of this Act, to develop proposed standards implementing the requirements of section 3 as they apply to a specific covered platform; (B) issue such standards in accordance with section 553 of title 5, United States Code; and (C) reject standards that have the purpose or effect of unreasonably denying access, undermine interoperability, or are unduly disruptive to interoperability" (Section 6.c.2)

Access regulation would, consequently, be platform-specific. It would be determined by the FTC depending on the platform's business model, what competing platforms would need to operate in that market, and what would be reasonable to request from the dominant platform so as not to exceed the purposes of that Bill.

The specifics of the interoperability regulation would fall within the powers of the FTC if the ACCESS bill were passed by Congress. This delegation essentially leaves us with no clarification of what would be made interoperable should this Bill be approved. Nonetheless, we can achieve some guidance as to the motivation behind proposing such regulation and which kind of interoperability we could see as a result if we consider the bi-partisan Market study passed by the House Antitrust Subcommittee in 2020.

In this report, the Subcommittee presented a detailed study of how Amazon, Facebook, Google, and Apple damaged competition in their markets, how they had grown to be the dominant platforms in such markets, and a detailed review of the actions that the Subcommittee considered to be antitrust violations, and urged the FTC and the DOJ

to take actions to address those violations. Additionally, the report presented possible avenues of regulation, mainly ex-ante proposals aimed at preventing further damage to competition, thought to complement the current antitrust regulation in the country. The six proposals presented are based on this report's conclusions. It would not be a stretch to expect the current FTC administration to design the protocols to implement the interoperability mandate to resemble those proposed in the report.

The Subcommittee report focuses on one interoperability recommendation: allowing competing social media platforms to interconnect with Meta's dominant social media and messaging companies, Instagram, Facebook, and WhatsApp. As mentioned before, a subscriber to a potential competitor to Facebook would be allowed to connect with users on Facebook, or any other competing network, even if it does not hold a Facebook account.

The report argues that such an interoperability requirement would allow "(…) competing social networking platforms to interconnect with dominant firms to ensure that users can communicate across services. Foremost, interoperability "breaks the power of network effects" by allowing new entrants to take advantage of existing network effects "at the level of the market, not the level of the company." It would also lower switching costs for users by ensuring that they do not lose access to their network as a result of switching." (House Judiciary Committee, 2020, p. 385) Interoperability as a tool to regulate social media and messaging platforms was one of the report's main proposals to prevent abuses in social media and messaging platforms. It would most likely be included as one of the interoperability mandates if this Bill is passed.

ii) The Digital Markets Act

The Digital Markets Act was designed by the European Commission, particularly its Competition division, to respond to the consequences of increasing concentration in digital markets. The underlying understanding of the report is that current competition regulation has lagged behind and cannot, given the complexities of digital markets give answers to the challenges of digital markets. Particularly, in its Explanatory Memorandum, the DMA asserts that "[w]eak contestability and unfair practices in the digital sector are more frequent and pronounced in certain digital services than others. This is the case in particular for widespread and commonly used digital services and infrastructures that mostly directly intermediate between business users and end users." (p. 2)

The DMA was presented together with the Digital Service Act (DSA) in December 2020, and they each aim to tackle different aspects of the development of digital markets. The DSA focuses on digital markets more broadly and aims to create a safer digital space that protects users' rights in digital spaces and fosters transparency in these markets. As a consequence of this broader approach, the DSA focuses on intermediary services, including internet providers, hosting services, and digital platforms, not limiting its implementation only to those that hold market power in their markets. Although the DSA will undoubtedly affect how competition develops in digital markets, competition is not the core of this proposal.

On the contrary, addressing digital concentration is at the essence of the DMA. The DMA complements Articles 101 and 102 of the Treaty on the Functioning of the European Union (TFEU) that rule competition law at the E.U. level. The DMA was

introduced as a combination of ex-ante regulations[17] that sets new obligations for gatekeepers, and more prerogatives for the competition agency at the national and E.U. level.

Like the ACCESS Bill, the DMA also defines which platforms will be included in the regulation: gatekeepers. Gatekeepers are defined in a similar way to those dominant undertakings in the case of the US ACCESS Bill; gatekeepers are those platforms that hold a strong economic position in multiple E.U. countries and/or hold a strong intermediation position which means that it is the vital link between a large number of users and a large number of businesses and that it has held that position stably over time. To define whether a company falls into this category, the DMA sets some thresholds and characteristics that need to be met, and platforms will have to self-assess whether they fall into the definition of a gatekeeper. The conditions to consider a platform as a gatekeeper include annual turnover or market capitalization, active users in the European Union, and whether they have sustained those thresholds for three years. Additionally, the E.U. Competition Commission can conduct a market investigation to determine whether a platform that does not comply with the thresholds to be automatically considered a gatekeeper should be treated as one given its dominance in the market.

Once a platform is considered a gatekeeper, it is subject to a different set of obligations than those platforms that do not hold a dominant position in the market. These

[17] The categorization of the DMA as an ex-ante regulation has been challenged by specialists such as Akman (2022) since the combination of positive and negative obligations overlaps with what would traditionally be considered the realm of antitrust regulation. While antitrust deals with the prevention of prohibited conducts in competitive markets, ex-ante regulation of naturally concentrated markets has generally involved prospective or positive obligations that companies need to follow to comply with the regulation. The combination of both, according to Akman, might be damaging the efficacy of the DMA.

obligations are divided into two distinct groups depending on whether they will be automatically applied to gatekeepers if the regulation is passed (art. 5), those that are susceptible to being further specified by the regulator (art. 6) and a specific section on interoperability for messaging services (art. 7).

The wording of the DMA has changed substantially over time. The original wording of the DMA only included interoperability as a general obligation that was subjected to being specified by the Competition Commission. Later, an approved version, made specific reference to messaging interoperability as a particular obligation for Gatekeepers. The DMA does not provide a clear understanding of which interoperability strategies would be designed by regulators due to these mandates, nor is it clear by who and how the interoperability standards would be designed and implemented.

During March 2022, there was also an intense debate surrounding the extent of the interoperability requirements and whether they should include Social Media Platforms and messaging services. While the Commission argues that the original wording limiting interoperability to ancillary services to counteract market power in cases in which a Gatekeeper is vertically integrated, the E.U. Parliament approved an amendment version including the following provisions to Article 6 replacing point (f) as presented earlier in this dissertation:

> *"(f) allow business users, providers of services and providers of hardware free of charge access to and interoperability with the same hardware and software features accessed or controlled via an operating system, provided that the operating system is identified pursuant to Article 3(7), that are available to services or hardware provided by the gatekeeper. Providers of ancillary services shall further be allowed*

access to and interoperability with the same operating system, hardware or software features, regardless of whether those software features are part of an operating system, that are available to ancillary services provided by a gatekeeper. The gatekeeper shall not be prevented from taking indispensable measures to ensure that interoperability does not compromise the integrity of the operating system, hardware or software features provided by the gatekeeper or undermine end-user data protection or cyber security provided that such indispensable measures are duly justified by the gatekeeper."

(fa) allow any providers of number independent interpersonal communication services upon their request and free of charge to interconnect with the gatekeepers number independent interpersonal communication services identified pursuant to Article 3(7). Interconnection shall be provided under objectively the same conditions and quality that are available or used by the gatekeeper, its subsidiaries or its partners, thus allowing for a functional interaction with these services, while guaranteeing a high level of security and personal data protection;

(fb) allow any providers of social network services upon their request and free of charge to interconnect with the gatekeepers social network services identified pursuant to Article 3(7). Interconnection shall be provided under objectively the same conditions and quality that are available or used by the gatekeeper, its subsidiaries or its partners, thus allowing for a functional interaction with these services, while guaranteeing a high level of security and personal data protection. The implementation of this obligation is subjected to the Commission's specification under Article 10(2a)"[18]

Nonetheless, the Commission disagreed with this wording, arguing that competition in messaging and social media platforms were already covered in the DMA without the need for an express interoperability requirement. In the "Non-paper from the Commission services on interoperability for messenger services and online social

[18] Comparison between the proposed DMA draft and the amendments adopted by the European Parliament in December 2021 available at https://www.europarl.europa.eu/doceo/document/TA-9-2021-0499_EN.html

networks in the DMA"[19] the E.U. Commission argued that the ban on personal data combination (Article 5(a)), the ban on tying (Article 5(f)), the provision on un-installing pre-installed apps (Article 6(1)(b)), requirements regarding self-preferencing (Article 6(1)(d)), mandated data portability (Article 6(1)(h)) and access to data generated by users (Article 6(1)(i)) were enough to counteract anticompetitive practices in Social Media and Messaging Markets.

The latest DMA draft[20] determines that companies must allow the installation of APIs that interconnect with the gatekeeper's services. Gatekeepers should: "(…) apply fair, reasonable, and non-discriminatory general conditions of access for business users to its software application stores, online search engines and online social networking services listed in the designation decision pursuant to Article 3(9). For that purpose, the gatekeeper shall publish general conditions of access, including an alternative dispute settlement mechanism. The Commission shall assess whether the published general conditions of access comply with this paragraph." (Art. 6.12). Contrary to previous versions of the DMA, the latest one makes express reference to Social Media platforms as targets of the interoperability mandate.

Additionally, in the latest draft Article 7 was added to the DMA expressively regulating messaging interoperability. Article 7 of the new DMA draft mandates that:

[19] LobbyControl Tech leaked the trialogue documents on the DMA. These are documents that the different branches of the E.U., including the E.U. Commission draft when a project is being debated in Parliament. They are supposed to be public per Parliament protocols but were not made public during the DMAs debates. The "Non-paper from the Commission services on interoperability for messenger services and online social networks in the DMA" can be found here https://www.lobbycontrol.de/wp-content/uploads/non_paper_interoperability_dma.pdf

[20] On May 2022, the EU Council published a draft of the DMA post trialogue debates. This publication followed several leaked drafts. The final text of the DMA is expected to be adopted in October 2022. The May 2022 wording can be found at: https://www.consilium.europa.eu/media/56086/st08722-xx22.pdf

> *"The gatekeeper shall make at least the following basic functionalities referred to in paragraph 1 interoperable where the gatekeeper itself provides those functionalities to its own end users: (a) following the listing in the designation decision pursuant to Article 3(9): (i) end-to-end text messaging between two individual end users; (ii) sharing of images, voice messages, videos and other attached files in end-to-end communication between two individual end users (b)within 2 years from the designation: (i) end-to-end text messaging within groups of individual end users; (ii) sharing of images, voice messages, videos and other attached files in end-to-end communication between a group chat and an individual end user; (c)within 4 years from the designation: (i) end-to-end voice calls between two individual end users; (ii) end-to-end video calls between two individual end users; (iii) end-to-end voice calls between a group chat and an individual end user; (iv) end-to-end video calls between a group chat and an individual end user."*

This regulation specifies what should be shared with the messaging platforms that wants to interconnect. Nonetheless, given the structure of the DMA, it leaves the specific aspects of the regulation to the Gatekeepers.

One aspect Is common to all DMA drafts, the regulation only determines a set of obligations both positive and negative without clear indication of how these would be applied and to whom. These obligations involve self-executing obligations (Article 5), obligations that are susceptible to being further specified (Article 6), and obligations specific to those providing messaging services (art. 7). Gatekeepers will have 6 months to comply with these obligations one they are designated as such. Nonetheless, the fact that an obligation falls within the "obligations that are susceptible to specification" established in Article 6 does not mean that those obligations need to be specified for them to be applicable to Gatekeepers. The obligations included in Articles 5, 6 and 7 are automatically applied to Gatekeepers once the implementation period expires. The latest draft of the DMA includes the possibility that the Commission might, from its own

initiative or at the request of the Gatekeeper, open proceedings to determine which actions the Gatekeeper should undertake to comply with the DMA.

The fact that all obligations apply broadly to the entirety of the services provided by gatekeepers is one of the potential conflict points of implementing the DMA. The markets in which digital platforms operate are considerably different, and a remedy or regulation that may foster competition in one may not be as effective in a different market. The same regulations would apply to Apple providing an App Store in its ecosystem to Facebook and its messaging and social media applications, Amazon and its e-commerce and cloud businesses. Nonetheless, the studies that support the design of the DMA, such as the Competition Policy for the digital era report published in 2019, made a more nuanced analysis of how different digital platforms operate and the particularities of the competition issues that arise from these differences. Such as was recommended by the Center on Regulation in Europe (De Streel, Feasey, Krämer, & Monti, 2021) and the German Monopolkommission (2021) during the open consultation process on the DMA, the interoperability requirement, among others included in Articles 5 and 6, requires further clarification by the regulator to be implemented in digital markets.

This lack of clarity on which platforms would be mandated to share their networks with which providers and who would determine how this process is implemented has been criticized by competitors, policymakers in E.U. countries, and academics. The basic critique, as it will be developed further in other sections of this dissertation, is the understanding that leaving the decision on how and what is shared in the platforms

would leave ample space for platforms to design their interoperability systems in a manner that may diminish the potential of interoperability to foster competition.

The passing of the DMA – as modified by the E.U. Parliament – and the U.S. ACCESS Bill would imply that dominant digital platforms like Meta would be forced to interoperate their systems. In the case of Meta, it would have to allow competing social media and messaging applications to allow their users to communicate with Facebook, Instagram and WhatsApp users and to allow them to post in a way accessible to Meta's users even when the post comes from a competing platform from a user that may not be registered with Meta.

Many questions arise from this conclusion regarding how the regulation would be operated. The next chapter of this dissertation will develop this idea by comparing the presented proposals to those that were implemented to promote competition in the telecommunications markets.

d) Examples of how it would work in practice

There have been different approaches to interoperability in digital markets, particularly in social media platforms. To facilitate the analysis of the implementation of such proposals, this dissertation will focus on two examples: messaging across different platforms and cross-posting. These examples have been the most discussed ones when debating interoperability in social media platforms and, as was presented earlier in these chapter, have been introduced in regulatory proposals such as the ACCESS Bill and the DMA.

i) Messaging to and from different social media services

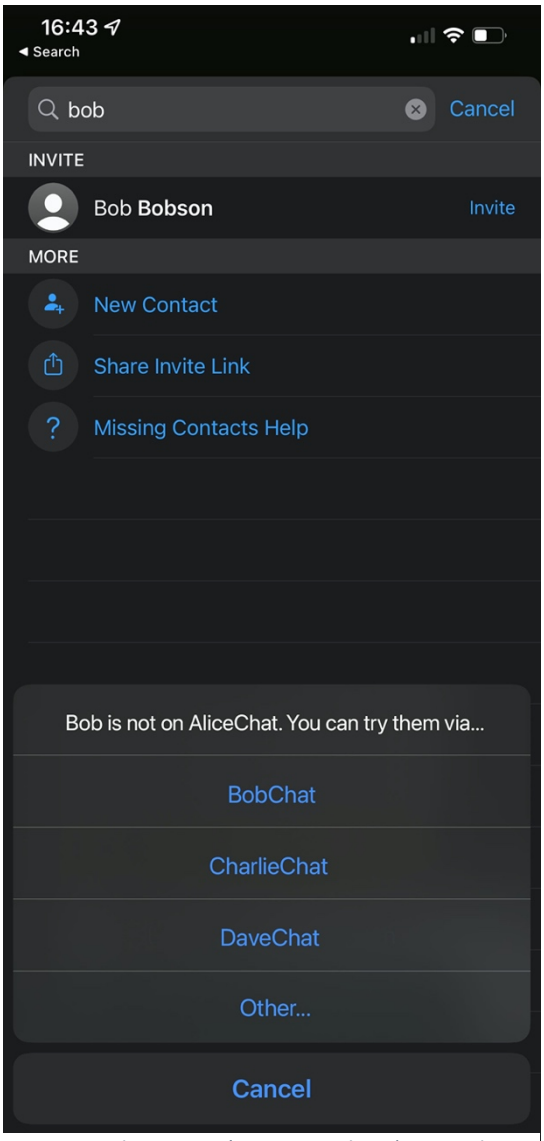
The most straightforward application of interoperability in social media platforms is allowing users of competing services of messaging applications to interact with one another even when they do not use the same messaging service. Under this approach, a WhatsApp user could communicate with a Telegram user even if they do not share the same provider. The DMA includes this obligation and, as described previously, forces Meta to open both Facebook Messenger and WhatsApp for other providers to interconnect. How would this requirement operate in practice? This is less clear, and scholars, advocates and policymakers have debated whether this is technically feasible and, if possible, if it would not imply compromising users' safety and privacy.

On a positive note, on interoperability in messaging Hodgson (2022) described that we could imagine a user A who uses AliceChat, who runs an end-to-end encryption messaging service which identifies users using phone numbers. If A wants to start a conversation with B, who is not an AliceChat user but instead prefers BobChat, A would have no choice but to ask B to join AliceChat or join BobChat herself.

Under the interoperability framework, and assuming both chats use the phone number as user-identifiers, user A could choose through which chat they want to contact user B. User A could choose through which messaging service they want to contact user B, and user B would get the message in the service chosen by user A.

AliceChat would then connect to BobChat through a bridge between the two services through the publicized APIs, and both services should provide the users the same privacy protections they provide to their users. As expressed by Hodgson (2022) “AliceChat would then connect to the discovered bridge using AliceChat’s vendor-specific newly opened API, and would then effectively treat Bob as if they were a real AliceChat user and client to all intents and purposes. In other words, Bob would effectively be a “ghost user” on AliceChat, and subject to all their existing anti-abuse mechanisms.”

Figure 1. Hypothetical caption from a mobile phone with interoperable messaging services



Source: Hodgson, M. (2022, March 29). How do you implement interoperability in a DMA world? Matrix.Org. https://matrix.org/blog/2022/03/29/how-do-you-implement-interoperability-in-a-dma-world

User A and B could effectively communicate despite not being users of the same platform. This hypothetical and simplified description of how messaging interoperability would work will be extended and depend on in the next chapter of this dissertation.

This view has been highly criticized by other exponents on this topic. There are mainly two generalized critiques to messaging interoperability: (i) it would imply compromising on the privacy of users, as end-to-end encryption would not be possible anymore; (ii) users would have a hard time finding the person they want to communicate with as different services use different names as identifiers. This dissertation will not focus on whether messaging interoperability is technically feasible, but on how the complexities of designing such a requirement would impact the regulatory task.

ii) Cross-posting across platforms

While messaging interoperability has been more extensively analyzed by both specialist, activist and scholars, cross-posting across platforms has not received the same attention. Consequently, there is less clarity about how it would operate in practice.

The basic idea behind interoperability of social media platforms beyond messaging is that the users of a dominant social media platform, Platform D, would not be limited to interacting with users on Platform D but would be able to receive in their feed posts and comments from people of other social media platforms. To promote this kind of interoperability, Platform D would design an API that allows their users to find and add to their friends list users from other platforms, and vice versa. APIs are "(…) the connective tissue that allow the various platforms in our digital economy to request and send information to each other. Individuals utilize APIs when using their computers to

interact with other computers by sending their information, in the form of an API call, to receive external information." (Sharma, 2019, p. 451) To allow for the correct functioning of the interoperability standard and the APIs, the regulator would have to determine how the networks will interconnect. Nonetheless, current proposals from advocates of interoperability, such as was previously presented, focus on determining what kind of publications, posts or contacts would be shared. The focus has been set on how the network would interact with users from different networks, as allowing users in other networks to connect would enable users of different networks to interact and share content.

CHAPTER THREE
THE IMPLEMENTATION OF INTEROPERABILITY PROPOSALS

After presenting previous examples of regulation in telecommunications and the current proposals to regulate digital platforms, this dissertation has laid the foundation for the final step of this dissertation: analyzing how regulators would implement these proposals and the difficulties that may arise. While proponents of interoperability have advocated for interoperability's easiness of implementation and hands-off approach, the historical experiences presented in this dissertation tell a different story. The first section of this chapter will focus on this disconnection by analyzing how the implementation of the current interoperability proposals would play if implemented as presented in both the ACCESS Act and the DMA. The second section will provide a framework based on Kevin Werbach's (2007) "Only Connect" to understand the disconnection between previous instances of interoperability regulation and the advantages for which advocates of this remedy have praised it. As will be developed later on, this is not a banal differentiation but is essential to understand whether interoperability proposals will accomplish the objectives they seek.

a) The Effects of an Interoperability Proposal in Social Media Markets

This section aims to analyze how the implementation of the interoperability regulation would play out in practice, based on the experience of previous telecommunication regulations, with a particular focus on the regulatory proposals of the US and the EU. The objective is not to design an ideal interoperability regulation but to analyze how

the different elements of the proposals, for both messaging and cross-posting, would interact with the existing characteristics of Social Media platforms. This section will help us understand how the particularities of the digital market and the current regulatory environment can shape the impact that interoperability could have in promoting competition in social media.

Contrary to the belief that policymakers would simply implement interoperability by calling on more interconnection between companies, the regulator needs to be present to determine how that regulation would apply, what competitors would have access to, in which conditions, and at which cost. These points are, such as happened with the telephone market, subjected to being contested judicially and generating lengthy and costly processes. As expressed by Hovenkamp (2022), designing an interoperability remedy "(…) requires identification of the particular structures or practices that are making these markets less competitive than they might be. Interoperability is not always the best remedy, it can sometimes be excessive as well as difficult to implement. Further, in some cases it needs to be combined with other remedies." (p. 3)

In the following subsections, I will analyze some particularities of the digital markets and compare how they relate to the interconnection requirements that regulate telephone communications. This comparison aims to shed light on lessons learned from the interoperability experience in telecommunications - up to which point are these experiences comparable, and which aspects of digital platforms make this comparison even more complex. To conduct this analysis, this section will be divided according to the three conclusions presented in Chapter 1.

i) Setting the terms of an interoperability mandate.

The DMA and the ACCESS Act place the responsibility of determining the conditions under which interoperability would operate in different stakeholders. While the ACCESS Act imposes this mandate on the FTC, the DMA entrusts Gatekeepers with this obligation.

The DMA places the principal responsibility for designing the interoperability requirement on the Gatekeepers, as they are in charge of determining the best avenue of compliance with the DMA.[21] With the different iterations of reforms of the DMA, this delegation on the Gatekeepers was softened. The Commission may get involved in determining the standards. Particularly the DMA determines that the "implementation of some of the gatekeepers' obligations such as those related to data access, data portability or interoperability could be facilitated by the use of technical standards. In this respect, the Commission may, where appropriate and necessary, request European standardisation bodies to develop them." (DMA, p. 75) Nonetheless, the responsibility falls mainly on the Gatekeepers. The Commission does not hold the primary obligation of determining interoperability conditions in the market. In this sense, this section will focus mainly on the FTC's challenge as the regulator that holds the mandate of determining how interoperability would operate.

Understanding the burden that this obligation would impose on the FTC is essential to comprehend if an interoperability requirement would promote competition in social

[21] This delegation generates particular challenges given the information asymmetries that characterize digital markets. Dominant platforms can tweak the implementation of the requirement in a way that reassures their market power instead of effectively promoting competition. See page 97 for a more detailed analysis.

media markets. Interoperability requirements are burdensome and complex tasks for regulators. Even the FCC found several challenges in this process.

Despite the regulatory experience that the FCC had in regulating the telephone market, it proved complex and resource-intensive when faced with determining the terms of interconnection. This complexity is likely higher in digital markets because of two factors: (i) the FTC not having experience in implementing sector-specific regulation and (ii) the information asymmetries that characterize these markets.

These two elements will directly impact how the regulator would design the requirement. If the regulatory proposals do not adequately account for the lack of experience of the FTC and the information asymmetries in digital markets, they will prevent interoperability regulation from positively influencing social media markets. Addressing these challenges is particularly relevant as advocates of interoperability have praised this regulatory tool as a light-touch approach that would not involve regulators and would fairly easily accomplish a more competitive market.

Interoperability for social media platforms, including both messaging and cross-posting, would need to define specific standards of how interoperability would operate. In the case of messaging, this would include how two messaging services with different encryption policies would solve these differences. Would the most protective level of encryption be applied to messages coming from a less protective service? One possible solution would be to clearly label the level of encryption that the user enjoys in that communication. Nonetheless, even Hodgson (2022), with a positive view of interoperability in messaging, argued that the problem is more complex than that. Even if the label is correctly drafted, the system would still need to re-encrypt the message

unless they use exactly the same protocol. This re-encryption means that the user needs to trust "(…) the different system to keep the messages safe. Therefore this increases the attack surface on the conversations, putting the end-to-end encryption at risk." Thompson (2022) is even more categoric claiming that "(…) interoperability will make it exceptionally difficult if not impossible to maintain end-to-end encryption across services" a view shared by Bellovin who claim that "Interoperable E2EE [end-to-end encryption] is somewhere between extraordinarily difficult and impossible." (Burgess, 2022) Dealing with how to protect the privacy of users while at the same time allowing for users to connect through different networks will be central to messaging interoperability. Similarly, interoperability in messaging should facilitate the identification of users on different platforms. This statement may seem basic and intuitive at first sight, as many messaging services rely on the user's mobile number to facilitate the search and identification of different users. Nonetheless, not all messaging services rely on the phone number making it more complex for a mobile-number-reliant service to identify that the user is the same as the one trying to be connected. Would a unique identifier for users be set in place to facilitate interactions between users? Alex Stamos has been particularly critic of the possibility of actually allowing for this as handling identity management and end-to-end encryption in an interoperable world would be, according to his view, highly complex from a privacy perspective (Faife, 2022).

Cross-posting also requires specific and detailed definitions from the regulator. The standard would need to define which kind of services should be interoperable. In a highly differentiated market in which users tend to multi-home on the search of the

services that make a platform unique,[22] the regulator standard should be cautious not to diminish the chances of creating new and innovative services. The definition of an interoperability standard, in consequence, would be highly detail-oriented, having to answer questions related to how a post would look in a platform different from the one in which it originated? How would features available only on the originating platform be displayed in the destination one? among others. Only determining that services should interoperate would not be enough to allow that interoperability. The regulators would have to provide concrete and detailed definitions of how these services would interact.

Designing the specific conditions under which interoperability would operate will be particularly complex given two factors that characterize the digital environment and the current regulatory frameworks: (i) the lack of experience of the proposed regulators in operating as a sectoral regulator; (ii) the high information asymmetries that operate in digital markets. These two concepts intertwine as the fact that dominant platforms have obscured their processes and denied information on how they operate makes it more complex for regulators to understand the market.

(1) Lack of experience as a sectoral regulator

In previous instances of regulation, when policymakers or the Courts imposed such a mandate, they relied on a regulator with a deep understanding of that market and

[22] As described by Pablo J Boczkowski, Mora Matassi, and Eugenia Mitchelstein (2018), users tend to give different uses to social media platforms and participate in a number of them, "First, people use one platform in ways related to how they use the others. Second, users' perceptions and sense-making of each platform often include recursive references to other social media options. These constellations of meaning affect how, when, and with whom users communicate on social media. Thus, WhatsApp is used to share quick information with close friends and family; Facebook is used to divulge content which they want to disseminate widely; Instagram is used to post careful and stylized constructed visual portraits of everyday life; Twitter is used to get news and comment about it; and Snapchat is for fun instantaneous communication with close friends."

experience acting as a sectoral regulator. This delegation was particularly clear with the imposition of the interoperability requirement of the 1996 Telecommunications Act. The US Congress relied on the FCC to impose the conditions of interoperability as the regulator in charge of its implementation.

After years of judicial supervision of telecommunications services as a consequence of AT&T's consent decree, the US Congress saw the Telecommunications Act of 1996 as a way of removing the policy debate from the judiciary and transferring it again to the FCC as a specialized regulator with knowledge of the market. As expressed during congressional debates by Senator Hollings, speaking in favor of placing regulation of telecommunications in the FCC, "[w]e should not attempt to micromanage the marketplace; rather, we must set the rules in a way that neutralizes any party's inherent market power, so that robust and fair competition can ensue. This is Congress' responsibility, and so the bill transfers jurisdiction over the modification of final judgment [MFJ] from the courts to the FCC." (Congressional Record, 1996, p. S688).

The Telecommunications Act determined that the FCC was to establish the conditions under which the interconnections rules should be applied. These conditions included determining what was to be made interoperable and accessible by competitors and the price that allowed the incumbents to cover the cost of such an interrelation. The decision to delegate the regulation of how interoperability should occur and the conditions under which the infrastructure ought to be shared was backed by the sectoral knowledge of the market that the FCC held.

Similar to the 1996 Telecommunications Act, the ACCESS Bill relies on an existing regulator. However, contrary to the 1996 Act law, the regulator in charge of implementing the interoperability requirement is not a preexistent sectoral regulator but the competition authority. As mentioned in the previous section, the ACCESS bill leaves the specific aspects required to implement an interoperability regulation to be further specified if Congress enacts the bill. Accordingly, the FTC will determine the standards for interoperability that must be specific to each of the platforms covered by the regulation. To determine these requirements a technical committee will assist the FTC. The technical committee will be composed of representatives of businesses that utilize the dominant platform, representatives of non-governmental organizations specialized in competition or privacy regulation, a representative of the National Institute of Standards and Technology, and representatives of the platform for which the technical committee and the FTC design the standard.

The covered platform will have to comply with the standards set by the regulation. It would not be able to modify the standard without previous authorization by the FTC unless the modification is justified in protecting users' privacy and safety.

The objective of the FTC in designing these standards should be to "(…) seek to encourage entry by reducing or eliminating the network effects that limit competition with the covered platform, ensure that competing businesses or a potential competing business interconnects with the covered platform on fair and nondiscriminatory terms, and protect data security and privacy." (Art. 6 (c) (1)). This framing of the interoperability requirement resembles the general structure of the 1996 Telecommunications Act. A legislative mandate for the regulator to design the specifics

of the interoperability requirement in compliance with the general principles set in the law. As explained in Chapter 1 this structure entitled the FCC with a complex task that ILECs contested in the courts.

Nonetheless, when the Telecommunications Act of 1996 imposed on the FCC the mandate of designing and implementing an interconnection requirement for ILECs and CLECs, the FCC had experience in conducting such tasks. Such an experience, as defined by Fremeth and Holburn (2012), reduced the agency's costs in determining which would be the best strategy to accomplish the objectives set in the law.

The functioning of the FCC was far from perfect. The close and extended relationship between the FCC and AT&T is seen as one of the main drivers of the delay of competitive entry. One clear example of this regulatory holdup was the 1955 Hush-a-Phone decision described in the previous section.[23]

Despite this, and many other critiques of the FCC's functioning, including its transparency and the prevention of regulatory capture, it cannot be denied that the FCC has extensive knowledge of telecommunications services. The FCC, contrary to the DOJ and the FTC, had been since its inception a sectoral regulator, oriented towards analyzing one particular market and policing that regulated companies fulfilled the rules and regulations pretraining that sector. As defined by Baker (2013, p. 2), comparing the FCC with the DOJ and the FTC,[24] the Communications regulator had focused on rulemaking in a quasi-legislative fashion, while the FTC and the DOJ have

[23] See page 17 for more information on the Hush-a-Phone case.

[24] The fact that the FTC has not focused on any particular industry but works as an economy-wide regulator is seen as an advantage by many specialists who argue that this is why the FTC has not been captured by any particular industry. For more details on this, see Carlton and Picker (2007).

a harm-focused approach. Through this case-by-case approach, the regulator "(…) shapes law and policy by bringing cases against companies that violate the FTC Act or any of the approximately seventy other laws enforces or administers. But the agency is also charged with shaping policy by studying trends and changes in the marketplace. It does that by issuing reports, holding workshops, and conducting studies to inform its enforcement." (McSweeny, 2017, p. 1029) In this sense, the FTC on what relates to market regulation has historically focused on bringing and litigating cases to courts and not determining the conditions under which a particular market should operate.

Similarly, Carlton and Picker (2007) argue that once the FTC and the DOJ decide to prosecute a case, the decision on how that case is decided is outside their hands, and judges will be the ones to decide them, not the agency itself. A sectoral agency such as the FCC, on the contrary, has the mandate to establish the rules that would govern the relationships in a particular market.[25] The exercise of both tasks is not only different in nature but in how the agencies exercise their task and the nature of their activities.[26] In this sense, while the staff at the FTC is highly trained in understanding competition issues in the broader economy and has gained some specialization in some complex industries, the knowledge they hold is not equivalent to that of a sectoral regulator such as the FCC (Baker, 2010). The highly trained staff at a sectoral regulator routinely deal with issues related to the sector it handles, developing a complex and deep

[25] The fact that the FTC has not focused on any particular industry but works generally as an economy-wide regulator is seen as an advantage by many specialists who argue that this is why the FTC has not been captured by any particular industry. For more details on this, see Carlton and Picker (2007).

[26] Authors like Chopra and Kahn (2020) argued that the FTC holds rulemaking power to determine which conducts should be included under the "unfair methods of competition" provision of the Sherman Act. They have claimed that this is a tool that the FTC has not used, acting as the competition enforcer. These authors, and many others, agree that the FTC has conducted its antitrust mandate through case-by-case litigation and not by establishing the rules under which a market should operate.

understanding of the drivers of such a market. Not only do the staff members at a sectoral regulator have highly specialized knowledge in the market they are regulating, but, as mentioned before, their focus and activities are also highly different from those of a competition authority. While the latter have to litigate cases and gather the necessary evidence to convince a judge, the sectoral regulator is tasked with determining the conditions for the proper functioning of the market, being able to "(…) take a longer view of how the industry should evolve" (Baker, 2010, p. 420)

The fact that the FTC has a broader mandate beyond the one imposed on a sectoral regulator does not prevent it from being tasked with regulating a specific sector. Nonetheless, it will increase the complexities of implementing an interoperability requirement. Contrary to what it has been claimed, praising interoperability as a requirement through which a regulator can easily impact the market, the FTC would have to restructure its functioning to effectively deal with the constraints and demands of acting as a specific sectoral regulator on top of its competition and consumer protection mandates.

Determining the conditions under which the interoperability mandate would operate would imply issuing specific and detail-oriented rules. These rules would need to define how competing messaging services would deal with encryption, how users would identify each other, which features would a dominant social media platform have to make available for others to interoperate, and how are post from competing services going to be seen by users, among many others. The determination of such rules has not been part of the FTC's tasks in recent years.

The FTC's processes are not oriented toward determining the conditions under which a market should operate. The redefinition of the agency's mandate and the reorganization of its task to comply with the ACCESS Act would most likely delay the implementation of this regulation and make it more complex for the standard to impact competition in the market.

The experience of regulating interoperability in a stabler and highly regulated industry such as the telephone market proved to be a titanic task for the FCC. The inexperience of the FTC in setting market rules and the innovative nature of digital markets are doomed to make it even more complex for this regulator to foster competition through an interoperability mandate.

This conclusion should not be read as advocating for a digital regulator, as deciding whether that should be the course of action is outside the scope of this dissertation. The claim is more modest and aims at pointing out that given the level of detail and specificity that an interoperability requirement demands, the lack of experience of the FTC in acting as a sectoral regulator would make this implementation more complex. The particularities of the digital environment only exacerbate the challenges of the regulator, given the obscurity of social media platforms combined with the ever-changing nature of these environments.

(2) Knowledge of the market

Lack of experience acting as a sectoral regulator is not the only factor that could affect the standard-setting process of an interoperability requirement. Digital markets are not transparent, and high information asymmetries characterize their functioning. The lack of general understanding of how Social Media platforms operate and their algorithmic-based functioning makes it more complex for the regulators to determine the conditions

of the service and police compliance with such a standard. This section will primarily focus on the first one, while the second one will be addressed in the next subsection.

Determining the conditions for both messaging and cross-posting interoperability relies heavily on an understanding of the drivers of the market, which are the essential features that would be shared, which is the best way for those to be seen by users, among other factors. Nonetheless, regulators lack specific knowledge of how dominant social media platforms operate, given the high information asymmetries presented in the market.

There is asymmetric information when one party holds more information than the other. This broad definition shows how so many of our daily interactions are formed in a context of asymmetric information, doctors know more than patients, and sellers may know more about the product or service they sell than buyers. Asymmetric information is not harmful on and in itself as it allows for more specialized knowledge. However, it can be harmful when the interest of parties with different degrees of information are not aligned. This potential harm is particularly salient in a regulatory environment where a public authority must set the terms under which companies will operate, limiting their actions and affecting their business models. Companies will have an incentive to influence the decisions of the regulator to their favor to prevent the negative consequences to their business models that may come from the regulation.

The lack of complete information on the regulator's side is always present in any regulatory endeavor and has been the center of extensive literature. In this sense, Fremeth and Holburn (2012) analyzed how asymmetric information affects the outcome of regulation by influencing the "decision costs" of those in charge of a

regulation.[27] When information asymmetries are present, regulators are more prone to implement policies designed and justified by the regulated firms. Regulators, according to the evidence gathered by Fremeth and Holburn, are keener to accept the evidence presented in favor of the proposals of the regulated companies as obtaining counterevidence to challenge those claims is costly for the regulator. Well-informed agencies, understood as those that have experienced staff and experience in learning from previous regulatory experiences, "(…) are better able to identify and assess the impact of alternative policies on firms and external parties, and hence to collate supporting evidence for their decisions at relatively low cost." (Fremeth & Holburn, 2012, p.132)

Fremeth and Holburn (2012) conclude that "[w]hen regulators are less knowledgeable about the firms they regulate, they incur greater costs of collecting and assessing information, constructing logical arguments, and documenting the evidence necessary to support their policy position such that it will subsequently withstand judicial review. Such decision costs insulate policies against regulator-initiated change but make firm-induced proposals more likely." (p. 156). To effectively implement a regulation that can counteract the challenges presented by digital platforms, it is necessary to understand how the FTC would interact with these information asymmetries.

Digital markets are complex and obscure and present a particular set of challenges to a regulator that needs to set specific conditions for interoperability to function in a market. Not only how companies like Facebook operate is complex, but it also evolves

[27]Fremeth and Holburn (2012) define decision cost as "(…) the administrative resources utilized in the process of making regulatory rules and orders and arise from legal requirements that agencies follow due process in their decision making."(p. 128)

almost continually to a degree that previous regulated industries did not. The telephone did not require constant review of the conditions under which ILECs provided access to CLECs. Regulating digital platforms would effectively require this speed of response. Digital platforms have been highly secretive about how they operate and made efforts to keep the information asymmetries between the public and them as steep as possible. Two elements become relevant to understand the knowledge a regulator would have to implement an interoperability requirement (i) how social media platforms developed with no regulatory oversight and the recent switch to regulatory outcry; (ii) the efforts made by these dominant platforms to obscure and limit the information available on how they operate. An interoperability strategy that does not correctly account for these information asymmetries is doomed to fail as the regulator would lack both information to design and oversight the development of this mandate.

The fast and unprecedented growth of platforms like Facebook, Google, Amazon, and Apple has caught policymakers off guard and generated a 180-degree switch in how regulators perceive these platforms. From the paladins of innovation and disruption to the giants that destroy competition and bankrupt mom-and-pop shops and local newspapers, policymakers worldwide found themselves surrounded by corporations of which they knew very little.

Platforms like Facebook did not develop under any specific market regulation. They abided by the same regulations as any other corporation in the USA and abroad (Khan, 2017). Their growth was not constrained and ruled by governmental intervention. Quite to the contrary, politicians worldwide praised these companies as an example of innovation that disrupted traditional innovation – such as Amazon disrupting retail

markets with online purchases – or promoted new ways of interaction like Facebook. For the first years since their inception, these companies expanded without raising any regulatory suspicion from governments.

The lack of governmental focus had several consequences on how these platforms developed. Mainly related to Facebook, it allowed the company to expand and acquire companies like Instagram and WhatsApp without raising regulatory suspicion. Once regulators awakened to the challenges that Social Media platforms presented, one company dominated the market and of which regulators knew little, and little is known to this date. As expressed by First (2008), "(…) there is a substantial problem of information asymmetries between a monopolist and an antitrust enforcement agency, asymmetries which are difficult to overcome." (First, 2008, p. 28).

This lack of information drove policymakers and academics alike to scrutinize how these platforms had become the giants that they now are. It became a priority to understand how they had grown in scale and scope at the velocity they did and the effects that meteoric growth had on smaller competitors, consumers, and society. Regulators commissioned reports from specialists in an attempt to understand how the digital market operated and what were the drivers of such an operation.[28]

The regulation of digital platforms became one of the central topics of the global antitrust debate. The centrality of this topic mutated from a more theoretical debate focus on general market studies to a more judicial, case by case approach fostered in

[28] Some of the reports published by competition authorities include the United Kingdom's Consumer and Market Authority (CMA) series of reports that concluded in their "Online Platforms and Digital Advertising Market Study" published in June 2020; the House Antitrust Subcommittee report published on October 7, 2020; Australia's "Digital Advertisement Inquiry" published in August 2021.

the beginning by the European Union and the cases that the EU Commission brought against Google.[29]

The cases brought against digital platforms, instead of settling the concerns that academics and policymakers had over digital platforms and their potential abuses, made them more present and central to the policy debate. According to policymakers and regulators, the judicial process has shown not to be adequate as the only tool to police the behavior of dominant digital platforms. These stakeholders saw the judicial process as inadequate to deal with a dynamic and ever-changing industry.[30]

The focus went from how digital platforms damaged competition in their markets to which were the more adequate regulatory strategies to prevent such challenges. This shift took place in a relatively short span of time, with the first reports being published in 2019 by the Australian Competition and Consumer Commission, 'Digital platforms inquiry', and the EU's 'Competition Policy for the Digital Era' and the first calls for regulatory oversight following shortly after.

Nonetheless, despite all the market studies, papers, books, and hearings, there is still a lack of clarity on how digital platforms operate. Despite the progress made to categorize and dissect how digital platforms operate, the loops in how these platforms operate and what are the drivers of their growth are still significant. This barrier is a significant difference between AT&T and digital platforms. By the time regulators had to deal with AT&T, and whether its business had to be freed from sector-specific

[29] The Competition Commission of the EU initiated three cases against Google, and the company has been repeatedly found guilty of breaches of antitrust law. On June 27, 2017, Google was fined €2.4 billion in the case known as the "Google Shopping" case. On July 19, 2018, the EU fined Google €4.3 billion for a case involving Google's Android operating system. Finally, in March 2019, the EU Commission imposed a fine of €1.49 billion on Google and Alphabet for online advertising practices.

[30] For more on this subject matter, see the US House Antitrust Subcommittee and the justification for the DMA.

regulation to a competitive framework, there was a knowledge of how AT&T operated. In other words, the information asymmetries between regulators and the corporation were minimized by years of information sharing due to AT&T's regulatory framework.

On the contrary, regulators trying to set boundaries for the operating business of digital platforms face high information asymmetries. These information asymmetries between regulators and digital platforms taint every step of the regulatory process, from identifying the need for regulation to the delimitation of the issues that require regulation to the design and determination of which remedy policymakers should implement and how they should monitor it.

A second layer of complexity is added to this extended lack of regulatory oversight: social media platforms have made it their mission to make it complex to understand how they operate and monitor their activities. The design and development of the algorithms that sustain the operation of companies like Facebook and Google have continually been presented as Blackbox entities that analyze which are the best options and operate with no involvement of the humans that created them or that maintain them.[31] In this context, fully understanding how these markets work and the elements that could influence their behavior becomes more complex as we consider the obscurity of the algorithms through which these platforms operate.

The fact that these companies operate through algorithms instead of relying heavily on physical infrastructure such as telecom providers do has served to allow digital platforms to justify their actions in two ways: first, it gives their actions an air of

[31] Scholars and digital specialists challenged this alleged objectivity. This discussion exceeds the terms of this dissertation but see Blattner, L., Nelson, S., & Spiess, J. (2021). Unpacking the black box: regulating algorithmic decisions. *arXiv*, Working Paper, 1-50.

objectivity, as the particular decision to place an advertisement in a better position in a ranking versus a less beneficial one is presented as a decision made through the algorithm that does not involve any kind of damaging discrimination by the company. The second way algorithms provide a regulatory "shield" to digital platforms is the intrinsic complexity that the algorithms present. Despite all the studies and publications surrounding digital platforms, it is still true that only the platform that designs and owns the algorithm knows precisely how this algorithm operates. As described by the UK's Digital Regulation Cooperation Forum (2022), "[a]s algorithmic systems can be complex and require specialised knowledge to understand, there are asymmetries of information between the parties involved. Developers of a system are likely to have more information about the performance and workings of a system than the users of a system. (…) When algorithmic systems are used, the asymmetry can be substantially exacerbated because of the inherent complexity of the systems." (p.9) The algorithmic functioning of digital platforms exacerbates information asymmetries making it more complex for regulators to fully understand these markets.

A successful interoperability regulation is highly dependent on a deep and broad understanding of how the markets operate, which are the drivers of that development, and how the incumbents could limit the access of new competitors. Only with a clear understanding of the essential elements for both messaging and cross-posting would the regulator be able to determine the optimum interoperability standard that allows for competitors to grow and develop while promoting innovation. Failing to clearly identify these would not only complexify the task of regulators but could render interoperability in both messaging and cross-posting an empty structure with no effects on competition.

The information asymmetry between regulators and digital platforms has been apparent thanks to the reports provided by several whistleblowers that came forward to show that the picture is not as harmonious as Facebook wants to present it. The imbalance of knowledge between digital platforms and their potential regulators presents a formidable challenge as the courts do not have the technical knowledge nor the data on the effects and how these platforms operate. As presented by Frances Haugen, better known as the Facebook whistleblower: “[t]he company intentionally hides vital information from the public, from the US government and from governments around the world.” (Allyn, 2021)

The combination of years of free-for-all development in which social media platforms faced almost no scrutiny from public regulators until they became the giants they are today with the complex and obscure functioning of these platforms makes determining the conditions of interoperability particularly complex. These complexities are an essential difference between the FCC's task and the one that the regulators today would face. The FCC had the task of regulating a stable industry from which it held a deep understanding of how It worked, which were the potential competitors, and what they would require to interoperate. Even with these advantages, it was complex for the FCC to determine the best system to regulate the relationship between ILECs and CLECs. Regulators must “(…) possess an enormous amount of information to be able to assess whether the ILEC is implementing the processes appropriately. (…) Usually regulators are able to rely on the regulated firm’s natural incentives to provision a good. ILECs, however, lack the incentive to open up their networks to their competitors. Not only is opening up their networks perceived as an additional and costly burden, but

their success undermines the source of their market power." (Shiman & Rosenworcel, 2001, p. 10). As-complete-as-possible information on how the systems operate is essential for a regulator aiming to modify a market's structure. Competition would force the dominant company to either lower prices or otherwise modify the service provided. As will be developed in this dissertation, the company has little incentive to contribute to this endeavor which sets a lot of pressure on the regulator to collect as much information as possible to choose and implement the best course of action.

This dissertation does not argue that the FCC had complete information on AT&T or that the FTC or the DOJ do not have any knowledge regarding how digital platforms operate - the argument does not lay in the extremes. The objective is to point out that failing to observe that information asymmetries are higher in the case of companies like Facebook or Google and how that influences a regulation that, contrary to what advocates have claimed, relies highly on the specifics set by the regulator will affect the implementation of the interoperability requirement. This information asymmetries will increase the cost of implementing the regulation and affect how the regulations are executed. Failing to properly account for the knowledge required to implement an interoperability mandate in digital platforms will taint the process of its design and implementation and potentially prevent it from impacting competition in the market.

Arguing that regulators lack a deeper understanding of how digital platforms operate should not be read as a call to avoid regulation altogether and accept the consequences that these dominant companies have in society. On the contrary, it is a cautionary call to regulators and advocates to search for remedies and regulations in which the information asymmetries present in digital markets do not have such a heavy

influence. Regulation is needed, the rush to establish such regulation should not prevent us from understanding if those would be effective in preventing the damages caused by social media platforms.

There is one aspect of the regulatory process for which the knowledge and capabilities of the regulator are particularly relevant, and that has been paid little attention in the debate surrounding interoperability regulation: the policing of such a requirement. In the following subsection, this dissertation will analyze the complexities inherent to the safeguarding of an interoperability requirement and how the hands-off approach that interoperability has been praised for is not a reality, particularly surrounding digital platforms and the information asymmetries described in this section.

ii) Influence of dominant platforms in the Implementation of Interoperability.

Imposing an interoperability requirement is complex when it comes to defining the terms under which companies are going to: (i) transmit data; (ii) interrelate their services; and (iii) monitor compliance with these standards. As seen in the description of the Microsoft case, this is particularly relevant in complex and innovative markets with high information asymmetries as the influence that companies have in implementing the mandate increases. As can be concluded from the definition presented in the last section, a high level of information asymmetries leaves ample space for the regulated companies to influence the regulator's actions.

As markets become more complex and technology-driven, not only the regulator faces more challenges in understanding an ever-changing market but the inputs from the dominant company become essential to understanding its functioning. As seen in the

case of Microsoft, regulators need to count on the data coming directly from the object of the regulation, leaving ample room for manipulation and diminishing the impact of the interoperability regulation.

Once the States and the DOJ agreed on an interoperability remedy and the Technical Committee was set in place, the process began to publish the standards that would allow third-parties to interconnect to Microsoft's systems. Microsoft was an essential element in this process. The company was the one with the knowledge of its operations, systems, projects, and, essentially, the technical elements that would allow for such interconnection. Microsoft was also in charge of determining how many of its resources would be allotted to comply with the Consent Decree. Microsoft was not only at the center of the Consent Decree as a consequence of its antitrust violations but was also a central piece in determining the standard that would, in theory, generate greater competition in the operating system and application markets.

As described in Chapter 1, Microsoft cooperated with the TC providing information on its workarounds and, with delays, complied with the different ordered presentations. Nonetheless, the interoperability-related provisions on the Final Judgement did not accomplish any meaningful results. The California Group of states reported that the number of licenses was low and that the majority of those were complements to Microsoft servers. These services not only did not compete with Microsoft but promoted the diffusion of Microsoft technology (New York v. Microsoft Corp., 2007). The interoperability requirement seemed to entrench Microsoft's dominance instead of challenging it, as the standards and systems published were not valuable for competitors to enter the market. As expressed by Microsoft, the company was "(…)

unaware of any existing or potential licensee that has been unable to use any Communications Protocol because of flaws in the documentation.'" (United States v. Microsoft Corp., Joint Status Report on Microsoft's Compliance with the Final Judgments, 2004) As mentioned before, the issue was not non-compliance by Microsoft but a remedy that did not end up promoting competition. As expressed by Page and Childers (2009) ""(…) [a]s the court recognized in its remedy opinion, there are various ways of achieving interoperability between Windows clients and applications running on Windows servers, only one of which is to use Microsoft's proprietary, native communications protocols." (Page & Childers, 2009, p. 240) The TC, the DOJ, and the Courts could not determine which options would suit competitors to challenge Microsoft's dominance.

In this sense, the debate surrounding compliance with Microsoft's Consent Decree is not around whether Microsoft had made an effort to comply but whether the final product was actually helpful to competitors. This is the essential question, how to generate a useful standard that would foster competition when the companies that participate in the design and implementation of the standard are the ones that this new competition would damage. The most plausible explanation for this failure to promote competition is not non-compliance but selective compliance in which the disclosure mandate determined in the Consent Decree as applied by Microsoft was not what competitors needed.

The same elements were present in the European Commission case against Microsoft. Not only Microsoft delayed and rendered the interoperability provisions useless, but "(…) [c]ompliance with the European order was further compounded by disputes over

whether the royalties Microsoft sought were reasonable, as required in the Commission's order." (First, 2008, p. 14) Microsoft delayed compliance with the interoperability disclosure mandate and, similarly to the US case, it failed to promote competition in the market as the documents and systems generated were not useful to potential competitors. In the words of First (2008), "[t]he effort has been lengthy, marked by Microsoft's intransigence where compliance really mattered, and with little clear payoff for consumers or for innovation." (p. 16)

Shapiro (2009) has put forward a similar view. This author argues that "(…) the remedy in the Microsoft case failed primarily because it looked backward, at the technological threats facing Windows in the mid-1990s when Microsoft's violations occurred, and not forward to the technological threats facing Windows five to ten years later." (Schapiro, 2009, p. 741) A similar risk is present in the social media markets. The regulators in charge of both the process of designing and monitoring the implementation of the interoperability mandate will not fully know where the market is heading. This is yet another area that dominant platforms can influence in favor of their own operation without the regulator being able to bridge that divide of knowledge.

Analyzing how companies like Meta could influence the development of an interoperability requirement is essential to fully comprehend whether such a requirement could, in practice, promote healthier and more competitive markets. A regulation that imposes a non-consensual interoperability requirement that relies heavily on the cooperation of the regulated companies would risk diminishing the effectiveness of such regulation. Social media platforms such as Facebook would have little incentive to contribute to the design of a requirement that could potentially limit its

market power and, in consequence, its earnings. Consequently, it is worth analyzing how both the DMA and the ACCESS Act would deal with preventing or heavily relying on the influence of companies like Facebook.

The influence of dominant social media platforms is particularly steep in the implementation stage of an interoperability requirement. As previously described, social media markets are highly complex ones, in which dominant companies have substantially more information than regulators on how they operate and, particularly, whether they are complying with a particular regulation to the best of their ability. Successful interoperability legislation should account for and counteract this influence to allow for a more transparent and effective implementation. In this sense, the regulation aiming to accomplish a more competitive market through interoperability should instore a clear system to identify and solve non-compliance.

Determining a transparent system through which the regulator would monitor, measure, and sanction non-compliance are essential to implementing interoperability effectively. The regulators would have to set clear rules to both deal with conflicts among dominant social media platforms and innovations that could occur in this market.

This is particularly so, if we take a closer look at the historical examples of interoperability. Particularly, the regulatory endeavors that effectively allowed for interoperability, as the interconnection framework of the post-AT&T consent decree telephone world, included companies that had the incentive to open their networks. This incentive would not be present in the case of mandated interoperability for social

media platforms making it more complex to implement and aligning it to the experiences of the Microsoft case or the Telecommunications Act of 1996.

In the post-AT&T divestiture, the newly formed Baby Bells were independent companies with no corporate bonding with the central AT&T company beyond its previous history. Allowing other companies to interconnect to their network for a fee was actually beneficial to their interest, as they received payment for this service and expanded access to their network. Interoperability worked to their advantage, which incentivized them to comply. This is similar to the example of AT&T once the Kingsbury Agreement granted the company the monopoly over the telephone under the condition that it would allow other providers to interoperate where A&T did not provide services. Interoperability was a small price to pay for the assurance that the telephone business in the United States would remain under AT&T's dominance.

In both these examples, interoperability was not a tool set in place to erode market power. It was a complementary remedy to allow for a more functioning telephone system, one better integrated and that covered more users. By interconnecting their networks to others, AT&T or the Baby Bells did not lose but benefited, giving them little incentive to oppose interoperability.

The 1996 Telecommunications Act and the Microsoft case examples present a starker picture. In both these cases, the regulated incumbent companies had no incentive to open their networks to competing providers. The mandate was directly designed to diminish their market power, by allowing the development of new competitors. Neither the ILECS nor Microsoft had an incentive to cooperate in developing a functioning interoperability requirement. This is a pivotal factor in explaining why, through different

strategies, both Microsoft and the ILECs resisted interoperability, making it more complex for regulators to implement this requirement.

While Microsoft heavily influenced the process of designing the interoperability requirement, the ILECs decided on an intense litigation strategy. In both cases, the interoperability mandate was delayed and did not generate the expected results. Similar to these companies, social media platforms would have no incentive to cooperate in the implementation of interoperability as the remedy will be placed to limit their market power and allow the development of new competitors. Consequently, the similarities to the Microsoft and the Telecommunications Act cases make it more pressing to understand how companies reacted to the interoperability mandates. This section and the next will elaborate on this by pointing to the influence that regulated companies can exercise and the consequences of litigation on implementing the interoperability requirements.

Given the lack of incentives alignment, the need to monitor the behavior of social media platforms is true for both messaging and cross-posting interoperability. In the case of messaging, the regulators should be able to deal with denials of interoperability, violations of encryption, or determining how a new feature or type of message would be transmitted from one messaging service to the other.

Regarding cross-posting, similar specific and detailed definitions are going to be needed. Some of the issues that arise include, for example, how would innovations in a dominant social media platform – that were not part of the original interoperability standards – be included and how that process would work. Would any new service or innovation be deemed necessary to make interoperable? How would this process

work? Social media industries are constantly innovating, mainly to differentiate themselves from competitors and attract users to their platforms. Dealing with innovations and whether they should be included in the interoperability standard will be a constant challenge for regulators. Solving these issues implies providing fast and efficient responses to both the innovations and conflicts that could arise.

Additionally, and focused on potential non-compliance, an essential question arises: how would the regulator differentiate between a denial of interoperability justified on, for example, privacy protection and one that is oriented toward damaging a competitor? As will be expanded further in this section, these two may look identical from a technical standpoint. This would leave the regulator with no other option than to decide on the company's motivation behind foreclosing interoperability. Consequently, it becomes essential to analyze how both the DMA and the ACCESS Act plan to deal with non-compliance and the dominant platforms' role in implementing the regulation.

The DMA does not provide clear guidance on how the interoperability regulation will be implemented. The two articles involving interoperability in the DMA fall under those obligations "susceptible of being further specified." Nonetheless, as Akman (2022) explains, the DMA does not include a definition of what this categorization implies.

The regulations determined in Articles 6 and 7 are part of the regulatory dialogue put forward by Article 8, through which the Commission can open a proceeding to specify how the Gatekeeper should comply with the regulation, or the Gatekeeper can request this intervention. If the Gatekeeper's measures are not sufficient to comply with the regulation, the Commission can open a proceeding to determine which would be the best course of action. Nonetheless, none of this is a prerequisite for applying the

obligations mandated in Article 6 and 7, which would be automatically mandatory for gatekeepers solely responsible for ensuring that they comply with the regulations determined in the DMA. As Ankam (2022) described, "(…) the fact that the obligations are "susceptible of being further specified" does not mean that it is necessary for the Commission to "further specify" how a gatekeeper should implement a given obligation in Article 6 before the obligation becomes applicable and legally enforceable."(p.13) This lack of clarification on how the interoperability requirement would be implemented places most of the responsibility on digital platforms that will oversee the details of the interoperability conditions.

The ACCESS Bill establishes that the covered platforms would not be able to make changes to the interoperability standard without the involvement of the FTC. The regulator should determine whether such a modification would limit competitors' access to the network or if it should be allowed because it involves a legitimate example innovation that would not harm competition in the market. The covered platform would only be allowed to make changes to the algorithm, without previous authorization, when there is a privacy or safety concern. It must notify the FTC of the change and the reasons behind the modification. The argument seems straightforward: if a platform is allowed to make as many changes as possible to a regulatory regime without adequate supervision, it would have the power to limit competitors' access, solidifying its position in the market and preventing interoperability from fulfilling its objective.

In both regulations, ample space is given to the companies to participate in the interoperability requirement design and decide, or participate in the decisions of, the

best strategies to implement the requirement. The DMA directly entrusts dominant digital platforms, both in Social Media markets and outside of these, to design the best way interoperability should be implemented. The ACCESS Act goes for a different strategy, one that resembles the Microsoft interoperability standard. It creates a commission that would help the FTC define the terms of interoperability and entitles the FTC to patrol non-compliance. Once the standard is defined, the covered platform would have to publish "(…) complete and accurate documentation describing access to the interoperability interface" (Section 4.3.A) A similar, although not identical structure, to the Microsoft case.

The influence of highly innovative dominant companies is not only clear from historical experiences such as the Microsoft case but has been central to the design and implementation of recent attempts to regulate digital platforms outside of competition regulation. Thanks to the development of digital platform regulation in aspects other than competition, there are already examples of how a regulation that has been designed to limit the actions of digital platforms but has been exploited by digital platforms to reinforce their dominance in their markets. One of these examples is the European Union General Data Protection Regulation (GDPR).

The GDPR implemented by the EU in 2016 aims at improving the privacy of users, limiting what companies could do with the data they collect and how they should ask for authorization to collect it.[32] GDPR does not focus on any particular kind of company. Contrary to the DMA or the ACCESS Act, every company must comply with this

[32] To find a comprehensive analysis of the obligations set in the GDPR and its objectives, see Lindsey Barrett, Confiding in Con Men: US Privacy Law, the GDPR, and Information Fiduciaries, 42 Seattle U. L. REV. 1057 (2019), which also compares the GDPR and the US privacy regulation.

regulation regardless of their structure or the market in which they participate. While GDPR is not a competition-related regulation, it has undoubtedly influenced competition in one critical digital market: advertisement. In this sense, dominant platforms that have the resources and tools to comply with the regulation, notably Google and Facebook, have expanded their market power and increased their revenue. In contrast, smaller companies have struggled to comply, and many were drawn out of business.

Heiman (2020) described this phenomenon and emphasized that "(…) GDPR's complexity and burdens will be most easily borne by the largest actors in the marketplace such as Google, Facebook, and Amazon. These organizations have the resources, the lawyers, and the compliance experts necessary to ensure compliance. Smaller organizations will struggle to meet the GDPR's requirements (…) For those that cannot afford compliance, they will have to accept the risk of being caught or choose not to serve those in the EU. While large actors can deal with the GDPR (…)." (Heiman, 2020, p. 950) Similarly, Geradin (2020) concluded that because of the GDPR "dominant undertaking such as Google has become the de facto regulator of privacy – which has aspects of a public good – wielding powers that match or even exceed those of any DPA. While post-GDPR DPAs may impose significant fines, Google may simply change the rules of the game depending on its own interpretation of "privacy" or "data protection", leaving customers and rivals with no choice but to comply with its privately set rules." (Geradin, et al., 2021, p. 88) Dominant platforms like Google and Facebook have end-up benefiting from a regulation aimed at limiting their influence (Johnson, et al., 2022).

This regulatory experience should be a warning for any regulator attempting to design a strategy to limit the action of digital platforms. The complexities of digital markets make it increasingly difficult to differentiate between damaging conduct that limits competition and one that is aimed at protecting users' privacy. Both could look the same from the outside, and differentiating between one and the other may not be a simple task for regulators as they virtually have the same effects: effectively limit competition from a competing provider. The devil lays in the details, and differentiating one from the other in a highly complex and changing market does not seem to fall into the light-touch approach in which interoperability was framed.

Learning from both the GDPR and Microsoft experience is essential to understand the difficulties of implementing a remedy that relies heavily on the regulated platforms and implies a deep involvement of the regulator in solving conflicts and designing the conditions of the remedy. Either the regulator determines every step of the interoperability requirement, making it more structured and complex to design, or it leaves space for dominant companies to determine how to implement the mandate, leaving more space for their influence and potentially limiting the positive effects of interoperability. So far, there has been a lack of clarity as to how the FTC and the EU Commission would police interoperability requirements. This is an essential element for the proper functioning of the mandate.

Promoting privacy protection and the safety of users' data is essential to developing a robust digital environment. The issue does not lie in whether digital platforms should protect the privacy and safety of their users but in how the regulator will be able to

distinguish a limitation to interoperability that involves a legitimate privacy protection from one directed towards limiting interoperability with a competitor.

Proponents of interoperability have highlighted this complexity. Scott Morton, et al (2021) have argued that "(…) equitable interoperability may be difficult to enforce because the choices that led to discrimination are buried deep within the firm or are hidden in an algorithm that few people understand. For example, determining if a social network is filtering content and posts in a neutral way may be hard to determine. A law or regulation might benefit from containing a whistleblower provision so that employees inside the firm are compensated when they report violations of the regulations. Ensuring that third parties are free to raise issues with public authorities, as is currently mandated within the US and EU proposals, is also critical." (p. 29)

Nonetheless, only relying on potential whistleblowers from the dominant company is not enough to bridge the information asymmetries that digital platforms and regulators face and would condition the implementation of the regulation to an external factor that lies outside of the control of the regulator. Under this scheme, the FTC would not effectively rely on the knowledge of its employees but on the decision of an employee to risk their livelihood and decide to confront their employer.

The DMA is less clear than the ACCESS Bill as it does not determine what would be the boundaries of the interoperability requirement nor who and how they would be designed. The responsibility falls on the Gatekeeper to determine the conditions under which a competitor would interoperate (DMA, article 8.2). This level of vagueness up to what should be made interoperable leaves digital platforms with control over the design of its interoperability features. Leaving such regulation solely in the hands of

digital platforms would allow them to comply with the regulation so that it does not risk their dominance in their markets and makes it even more complex for regulators to police their behavior.

As presented from the Microsoft case and the implementation of the GDPR, the risk is not on non-compliance but superficial compliance. The companies involved in these cases complied with the regulation so that they not only did not hurt their market power but entrenched it. In both examples, dominant platforms influenced the claim that they had been cooperative and poured resources into the implementation. Regulators have, so far, none been able to counteract such influence in highly detailed and micromanaged projects as both privacy regulation and interoperability are. This is particularly complex as Facebook, Instagram or WhatsApp, same as Microsoft back in the early 00s', have every incentive to tinker with the implementation of interoperability to their own interest. Making it more pressing for regulators to find solutions that do not rely on these companies' cooperation.

iii) Judicialization of Interoperability.

The 1996 Telecommunications Act was long-awaited and promised to spur competition in local and long-distance telephone markets. As described by Mueller (1997) when describing the promise of interconnection, "[t]he new policy doctrine regarding interconnection purports to give us the best of all possible worlds. "Open access" fosters competition, but without the fragmentation of the dual service era; it permits unified service without monopoly or even, perhaps, much regulation. It almost sounds too good to be true. It probably is." (p. 177). Litigation was one of the unforeseen elements that prevented the Act from fully impacting the market, proving that the

implementation of interoperability requirements was not as simple as it originally seemed.

As described in Chapter 1, the litigation of both the jurisdiction and the conditions under which ILECs should open their networks to interconnected CLECs generated uncertainty among CLECs, with rules changing as different Courts ruled on the cases filled, mainly by ILECs. Shiman and Rosenworcel (2002) described that competition in the telephone market had been "(…) delayed further by litigation, conflicting court rulings, and disputes over who has the proper jurisdiction over each part of the process. A key part of the process is having all parties accept a common set of ground rules, and even now, this could be derailed by political pressures, new court challenges, regulatory fatigue, and the volatility of financial markets and the economy." (p. 207) Clear, and predictable rules were the key to the success of the interoperability requirements. The constant judicial challenges of the FCC's rules did not allow for this development.

Setting general principles to guide the provisions that the regulator will later set was thought of as an advantage that could give the regulation the necessary flexibility to address the changes in the industry. Nonetheless, in practice, the interpretation of general principles is never unanimous. In the case of interconnection in the Telecommunications Act, it left ample space for arguing whether the strategy chosen by the FCC complied with the cost determining principles set in the Act.

This judicialization had concrete and powerful consequences in the implementation of the regulation. The regulation's implementation depended on the judicial resolution of the different legal challenges presented by LECs. As described by Economides (1998),

the judicial cases "(…) derailed the implementation process of the Act and have increased significantly the uncertainty in the telecommunications sector. (…) In the absence of entry in the local exchange market as envisioned by the Act, the major long-distance companies are buying companies that give them some access to the local market. (…) more than two years after the signing of the Act by President Clinton, there has been very little progress in the implementation of the Act. No State has completed the implementation of the Telecommunications Act of 1996.[33] Only 15 of the 50 States have adopted permanent prices for unbundled network elements" (Economides , 1998, p. 21) The delay in implementing the Act prevented the development of competition and induced concentration.

Additionally, by 2000 CLECs had only captured 7 percent of the local lines (Consumer Federation of America, 2000) and only 3 percent of the residential and small business consumers, "In other words, the incumbent monopolists still have a complete stranglehold on local telephone wires." (Consumer Federation of America, 2000) The delay by the FCC and the litigation of ILECs were complicit in delaying this implementation and limiting the effects of the Act. With continuous challenges to the different regulatory decisions of the FCC, ILECs were able to generate significant amounts of regulatory uncertainty leaving CLECs unable to effectively request access to UNEs and provide new and competing services. An almost decade-long process of regulatory attempts by the FCC to determine how, what, and at what cost would be shared limited effective interconnection and sent many companies that counted on that regulation to operate out of business.

[33] Not only the 1996 Telecommunications Act did not directly generate competition in the local and long-distance telephone markets but

As described in Chapter 1, two factors were determinants of the litigation process that arose as a consequence of the 1996 Telecommunications Act: (i) the structure of the Act that left the responsibility of designing the mandate to the regulator; (ii) the interpretative nature of the general principles set in the regulation. Interoperability in digital platforms, as presented in the proposed legislation, will more likely recreate and exacerbate these complexities as described by Hovenkamp (2022, p. 40) interoperability disputes in digital markets "(…) will certainly arise over issues related to the scope, terms, or prices of sharing." Leaving the design of the interoperability mandate to the regulator has several institutional benefits, allowing for greater flexibility to adapt to new technological and market developments. Nonetheless, it also brings a higher risk of the mandate being highly litigated, delaying its implementation.

One differentiation needs to be made to continue with this analysis. Litigation in the case of the 1996 Telecommunications Act focused mainly on two aspects: (i) the price-setting method that ILECs would use to determine the price that CLECs should pay to access the different UNEs of their choosing; and (ii) which elements of the telephone network should be included among the options from which CLECs could bundle and decide their access.

Deciding on the specificities of interoperability in digital markets would not necessarily present the same challenges. The focus may be less on the price that the new entrants would have to pay for accessing the APIs and more on how data will be transmitted or how privacy will be protected. Nonetheless, the general structure that gave space to litigation in the case of the 1996 Telecommunications Act is being replicated in the case of the ACCESS Act and the DMA. Both regulations delegate the specifics of the

interoperability requirement, while the regulations only set general principles to guide that analysis. In consequence, the lesson of the 1996 Telecommunications Act is still relevant. Litigation can affect and delay implementation.

Consequently, a similar but growingly complex judicialization can be predicted by implementing both the ACCESS act and the DMA. Both regulations set general principles and delegate the determination of how the implementation will be implemented to the FTC or the Gatekeepers.

Setting general principles in the law and delegating the details to the regulator is a conscious decision of the regulator that transpires from the innovative nature of the markets that are being regulated. As described by Palfrey & Gasser (2012), "[i]nterop is also hard to achieve because its often a moving target especially in information-related contexts. A key characteristic of today's technology environment is the speed with which changes occur. Just as a musician or an athlete needs to stay loose in order to perform wee, so too must those seeking to establish interoperability remain flexible and open to change as they set policy in this fast-changing context; rigidity can result in disaster." (p. 159) The regulator has more flexibility to adjust interoperability conditions than the legislator. Nonetheless, this flexibility comes at the cost of potential litigation of every regulator's decision. The more space given to the regulator to decide how the interoperability mandate would operate, it increases the chances of wealthy and resourceful companies to delay the implementation of the regulation that does not benefit them.

Litigation is complex and costly for regulators. This has been particularly true for antitrust litigation that has seen soaring costs and delays in its resolution. As Chopra

and Khan (2020) have emphasized, antitrust litigation has become complex, involves extensive judicial processes, and is costly for both regulators and the parties involved. This sentiment has been replicated by different scholars including Erik Hovenkamp (2022) who claim that "[a]ntitrust cases take years and cost many millions of dollars to litigate. This calls into question the wisdom of using antitrust to police conduct that has such a limited impact on competition." (p.8) These high costs make it prohibitive for smaller competitors or nascent companies to challenge dominant companies. Dominant incumbents with higher resources will be better suited to resist and litigate complex antitrust cases, including financing specialists and complex economic analyses. On the contrary, "[n]ascent firms and startups are especially likely to be left out—despite the vital role they play in the competition ecosystem—given that they do not comprise a significant portion of the parties represented in litigated matters, and they usually lack the resources to engage in amicus activity. Furthermore, future entrants, whose interests should be carefully considered in all aspects of competition law and policy, have no voice." (Chopra & Khan, 2020, p. 362).

There is a risk that the same dynamics will extend to the litigation of interoperability. Dominant platforms would prefer to sustain the cost of litigation that would potentially drain resources from a smaller competitor, weaponizing litigation and making it complex for regulators to implement the mandate avoiding unnecessary delays.

The combination of vague laws that delegate the resolution of the specifics on the regulator or the targeted companies with the already high and complex process of antitrust litigation promises to make it complex for interoperability to impact competition. These circumstances open the possibility that the highly staffed and

budgeted companies like Meta would take advantage of the possibility to interpret those general principles and argue that regulators do not comply with the general limitations included in the regulation.

From the analysis conducted in this section, one conclusion arises: implementing interoperability will not be as easy and straightforward as advocates of this remedy claim it to be. While interoperability advocates have praised it for being a hands-off and not costly tool for regulators, the complexities of digital markets and the lessons of historical experiences tell another tale. Setting the terms under which interoperability would operate and monitoring compliance with this requirement is a complex and draining task for regulators.

Pointing to this fact is relevant as more and more jurisdictions worldwide are looking for strategies to deal with the consequences of the dominance of digital platforms such as Meta. Regulators and politicians alike should be cautious when choosing interoperability as the tool to regulate digital platforms and adequately consider the complexities that can arise along the way.

Nonetheless, one more step can enrich the debate around interoperability in digital platforms and give more context to this dissociation between historical experiences and the claims surrounding interoperability in digital markets: understanding the cause of this disconnection. To understand this disconnection and the consequences that it could have in the implementation of an interoperability regulation, this dissertation will draw from Kevin Werbach's (2007) differentiation between interconnection and non-discrimination policies. This framework, which was initially applied in

telecommunication policy, will shed light on how the proposed framework for interoperability affects its design and, ultimately, the impact it can have on the market.

b) Interconnection or non-discrimination?

Building on the framework provided by Werbach (2007) will provide a clearer view of why the proposals to regulate interoperability in digital platforms leave so many aspects of the regulation unattended. The omission of measures to deal with conflict between parties, and not providing the regulator with proper tools and resources for both designing the interoperability requirement are not simply omissions on the part of the legislator and the advocates of interoperability. The lack of clarity about the interplay of conflict between the incumbents and the regulator and the incumbent and potential competitors is a direct consequence of understanding interoperability in social media platforms as a non-discrimination requirement, not an interconnection one.

Werbach presented the distinction between non-discrimination and interconnection to analyze the impact of network neutrality policies on broadband providers when those proposals were at the center of the telecommunications regulation debate. Nonetheless, the differentiation has only become more relevant as interoperability regulations gains relevance in the debate of competition regulation for digital platforms.

This categorization presents several advantages for the analysis of this dissertation. The main one is that, just as this dissertation, the author focuses on implementing policies and not just analyzing how they should be designed.

The following section will present the differentiation between interconnection and non-discrimination and how it connects to the proposals to regulate interoperability in social media markets.

i) Interconnection vs. non-discrimination

The difference between interconnection and non-discrimination presented by Kevin Werbach (2007) will provide a framework for why interoperability as a solution to competition issues in social media platforms may not be as easy to implement as praised. Additionally, this differentiation will provide a much-needed framework for the apparent dissociation between the difficulties in the implementation of historical experiences of interoperability and the praise for interoperability in the current digital platform regulatory debate

According to Werbach (2007), interconnection is "(…) the agreement of two or more networks to carry each other's traffic on a reciprocal basis. Although networks may interconnect voluntarily, regulators often find it necessary to adopt rules specifying interconnection terms. Thus, for example, the 1996 Telecommunications Act contains a provision requiring incumbent telephone companies to hand off calls to the new local competitors that it authorizes." (p. 1238) Interconnection necessarily involves a network-to-network relationship, allowing companies to mutually benefit from access to a new network. By focusing on network-to-network relationships, interconnection can better understand what is required for the growth of competitors, what competitors need to access a market and, most relevant, to stay viable in a market in which there is a strong dominant incumbent.

Non-discrimination-oriented regulation does not emphasize the relationship between the two – or more – networks that interoperate to make communications possible but on how networks treat their customers. Non-discrimination requirements focus on “(…) the relationship between networks and their customers. Because customers both make

and receive calls, non-discrimination rules prohibit differential treatment of traffic in either direction." (p. 1239) Impeding differentiation between consumers shifts the focus from the needs of competitors to the final service provided by the companies involved. This shift risks losing sight of the objective of promoting competition and the rise of new services and competitors.

Werbach (2007) constructs its interconnection vs. non-discrimination debate around what was, when the article was published, the central debate of digital regulation: network neutrality. Network neutrality dominated the debate around the development of digital platforms for the first decade of the 2000s'. Network neutrality posed whether "broadband access providers should be barred from disadvantaging unaffiliated providers of internet content and applications." (Werbach, 2007, p. 1270). Proponents of network neutrality argued that this should not be allowed and would prevent broadband operators from differentiating between traffic passing through their networks.

This dissertation will not elaborate on network-neutrality[34] as this has already been covered extensively by other authors.[35] Nonetheless, this dissertation will present Werbach's arguments around why network neutrality should be considered a non-

[34] The network neutrality debate has lost relevance in the last few years. In parallel, the regulatory focus has shifted to the dominance of platforms and not how the backbone and broadband companies could impact the platform layer of the digital markets. This shift from one regulatory debate to another is an example of how digital platforms have developed. Network neutrality was being proposed to protect, in part, the development of platforms in what was referred to as the last layer of the internet connection and to avoid that the dominant telecommunications provider could affect the development of such services.

[35] To expand on the network neutrality debate, see Wu, Tim, Network Neutrality, Broadband Discrimination. Journal of Telecommunications and High Technology Law, Vol. 2, p. 141, 2003, Available at SSRN: https://ssrn.com/abstract=388863 or http://dx.doi.org/10.2139/ssrn.388863

discrimination proposal. This summary will help illustrate the concept and facilitate the comparison to the current digital platform debate.

Under Werbach's approach both interconnection and non-discrimination oriented regulations aim at allowing for the fair provision of telecommunication services, but they take different approaches. Under a non-discrimination rule, a network must treat its customers in the same way. It cannot differentiate between customers. It cannot treat any user differently from what the network treats itself or its partners. An example of non-discrimination policies includes mandated price-setting by the FCC. When AT&T acted as a regulated monopoly, the regulator would set the price at which AT&T had to provide its services. AT&T could not unilaterally decide to increase or lower a price, but the regulator had the power to determine the prices to prevent abuses from consumers. Non-discrimination rules are essentially focused on benefiting consumers (Werbach, 2007).

Interconnection-oriented regulations take a different approach as they aim to benefit competition. If interconnection is available to competitors "(…) customers can exert pressure on incumbents by switching to competitors, or they can tum themselves into quasi-competitors using the open interfaces that interconnection promotes. Entry barriers for new facilities-based entrants are reduced, and opportunities for incumbents to leverage market power are circumscribed by the terms of their interconnection agreements with other networks." (Werbach, 2007, p. 1242). As its regulatory objective, interconnection does not focus on the final product that the consumer receives but on the networks that the competitors have access to and how that access allows for competition. The final services they offer and under which conditions they

do so are not part of the regulatory debate. The focus is on the networks the entrants would interconnect to and under which conditions.

Werbach (2007) points out that non-discrimination may be a reasonable solution in regulated markets where competition is not feasible, markets in which consumers need to be reassured that they are protected against monopoly power. Once competition is an option on the table, then interconnection is a better-suited form of regulation, as it allows for competition to grow in the market, democratizing the positive consequences of network effects and generating competitive pressure over the dominant provider.

The differences between interconnection and non-discrimination extend beyond the objective they pursue, as they both trigger almost opposite implementation processes. Implementing non-discrimination rules to regulate a potentially competitive market is more complex as it implies: "(…) forcing incumbents to behave as they might in a truly competitive environment. However, designing and enforcing rules that mimic the distributed constellation of decisions in a functioning market is a Herculean task, especially when that market is dynamic." (p.1242) Additionally, the focus on simulating a competitive market distracts regulators from the fact that there is also benign and harmful discrimination and that "[d]istinguishing the two in the current technological and market environment is nearly impossible, because from a technical perspective, they look identical." (1277)

Werbach argues that the inability to distinguish between benign and harmful non-discrimination is central to the debate surrounding the implementation of – in the case under review in the 2007 paper – network neutrality regulation. The daily conflicts that could arise from implementing a Network Neutrality requirement would put the

regulator in a continuous state of determining the motivations of the dominant providers. An action of legitimate discrimination based on system needs, or management of the speed of the networks, would look identical to one motivated by the discrimination of a competitor. The regulator risks sanctioning a case of benign discrimination or leaving a compelling discrimination case unpunished by misreading the motivations behind a decision.

In the case of Network Neutrality, broadband providers could "(…) label the degradation as either an accidental outcome of neutral network engineering decisions or a legitimate effort to maintain acceptable network performance for its users. Such a claim could be well grounded technically." (p. 1280) Challenging such decisions would force regulators to "(…) second-guess engineering decisions, which is something they are ill-equipped to do." (p. 1280) Werbach argues that by not being able to differentiate between benign and harmful non-discrimination, the whole structure of Network Neutrality falls with no possibility of effectively being implemented in the markets.

This is particularly relevant for the digital platforms debate as it is precisely the complexity of how digital platforms operate, how they structure their business models and their algorithm-based operations that have promoted the design of ex-ante proposals. The motivation behind these regulations is precisely to avoid micromanaging digital markets. Advocates of ex-ante regulation aim at implementing new regulations that could facilitate the task of regulators, providing clear guidance on what is or is not allowed and how digital platforms should operate. The framing of these regulations as non-discrimination-oriented ones could undermine this objective.

ii) Social Media interoperability proposals as non-discrimination-oriented ones.

The main question from the previous section is where the interoperability proposals for social media platforms fall between the interconnection or non-discrimination spectrum. At first glance, it might seem clear that interoperability requirements could be catalogized as an interconnection requirement. A dominant platform is forced to open its networks to competitors and allow them to interconnect to such networks. Nonetheless, the argument that interoperability, as framed by the dominant literature, is an interconnection requirement loses strength when we look at how advocates and policymakers have framed the proposals. When one focuses on how this objective will be accomplished, interoperability distances itself from an interconnection proposal, and the definition of non-discrimination over interconnection comes into play.

In what way are the proposals under analysis correlated with a non-discrimination approach? The two main aspects that have to be analyzed to identify a proposal as a non-discrimination one are: (i) a network-to-consumer focus, (ii) a regulation that aims at recreating a competitive environment by setting the conditions of the service that consumers receive.

The particularities of digital platforms make it more complex to discern whether the current proposals should be catalogized as interconnection or non-discrimination. In this sense, the classic example of non-discrimination provided by Werbach (2007), price regulation, will not be as simple to implement in the digital environment as it was for telecommunications. As mentioned before, the idea behind price-setting-regulations is that since the market will not be competitive, users need to be protected

from the potential abuses of the dominant provider. By setting the price, the regulator directly protects consumers from paying monopoly, or close to monopoly, prices for the regulated service.

Social Media platforms present a different challenge to regulators since users pay no price to access the service provided. Social media platforms provide their service at a non-monetary cost for users. There has been a growing debate surrounding how although users do not pay directly for the use of Social Media, getting the service for no cost, they are actually paying with the data they provide to the platforms they use. Data has been referred to as the new oil or energy of the digital economy. It has become essential, particularly to companies, such as Facebook or Instagram, that base their business models on selling advertisement on their platforms. Contributing to the debate around whether data should be considered a price paid by users or not exceeds the purpose of this dissertation.[36] Nonetheless, it is helpful to point out why traditional non-discrimination regulation such as price regulation is not available in the case of digital platforms.

Another key differentiation between platforms like Facebook and telecommunications providers is that the latter ones relied on physical networks, while the first one relies on algorithms and data. As mentioned in the first section of this Chapter, this makes the task of regulators even more challenging as it is more complex to identify what competitors should access to survive in the market.

[36] To expand on this topic, see Khan, L. (2018). Sources of tech platform power. *Georgetown Law Technology Review*, Vol. 325, Issue 2, 325–334 or Rahman, K. S. (2018 a). Regulating informational infrastructure: Internet platforms as the new public utilities. *Georgetown Law Technology Review,* Vol. 2.2, 234-251.

Today's fight will not be about which physical infrastructure would be shared between competing social media platforms. Access to interconnecting users from different networks will be the equivalent to what was debated in the implementation of, for example, the 1996 Telecommunications Act. Access to interconnecting users is central to the development of interoperability in social media platforms. The value of a telecommunications operator in the 90s was determined by the physical infrastructure that the company possessed. That infrastructure allowed the provider to connect users, and the more extensive the network, the higher the number of users that could be interconnected. On the contrary, social media platforms are measured according to the number of users that subscribe and use the platform. There is no physical network required to interconnect users.

Given the centrality of users in augmenting the value of the network, it is easier for advocates of interoperability to aim at regulating the relationship between users and dominant platforms and not the platform-to-platform relationship. Nonetheless, failing to keep interoperability in the realm of interconnection policy brings forward several complexities and risks preventing the mandate from impacting the market.

Consequently, regulators will not be able to simply determine the price Facebook could charge for posting a video on Instagram or sending messages through WhatsApp. What regulators could do is recreate the effects of price setting by determining how platforms can interact with their users. Regulators can determine how a user of a different platform should see the posts of a dominant social media provider's user. In this aspect, advocates of interoperability divert from the interconnection path towards non-discrimination. The aim is to establish the experience of users and how they relate

to the dominant provider in a way equivalent to setting the price of telecommunication services. This is particularly clear when we see the authors proposing interoperability requirements presenting it from the perspective of the user experience post-standard setting.

As can be seen from the extract presented below, the authors do not focus on which networks the competitor would have access to, disregarding what the network of both the incumbent and the competitor would need to provide such a service. Authors like Scott Morton, Crawford, et al. (2021) have expressed that:

> *“Mandatory interoperability as applied to Facebook would require that users of Facebook could post as usual and have content flow to their friends, some of whom might have accounts on rival social networks. Those friends in turn could post and have the content flow to friends on Facebook. The technical requirements to make this interoperability effective would include establishing the APIs and standards for passing certain formats, e.g., image, text, video, and calendar. In addition, there would need to be a standardized process for establishing friendship links. A user on Facebook might receive a friend request from a user of network G. He or she could approve the friend request, being fully aware that the friend is located on network G. Once friends on different platforms, F and G, confirmed their desire to be linked, content posted by them would flow back and forth, in the standardized format, just as it does within a proprietary network." (p. 11)*

There is a lack of references in the proposals to the relationship between networks and what competing entrants would be needed to thrive in social media markets. As this extract shows, the focus is not on how the two networks would interact to provide a more integrated service to the consumer but on how the consumer would see or interact with such a service. The main focus is on recreating what advocates consider a competitive market would have looked like if there were no dominant social media

providers. This orientation is the key to understanding the complexities of implementing a non-discrimination policy.

As could be seen from the draft of the DMA, the focus on messaging lies on user experience and not network-to-network interconnection. The DMA calls for several services that should be available for a user of a competing network to interoperate, including sending voice messages, videos, files, and being able to participate in group conversations. These aspects are driven from the perspective of the user and the experience that the user would have in an interoperable setting. The focus is not on how the networks would interconnect but on the final service that users would receive, such as Werbach (2007) has characterized non-discrimination requirements. The ACCESS Act, on the contrary, still leaves much to being further regulated by the FTC, leaving still the possibility open for a more interconnected requirement that distances itself from advocates of interoperability and the messaging interoperability mandate imposed in the DMA.

By framing interoperability in social media platforms as an interconnection requirement, advocates and policymakers avoid the central and complex questions that a non-discrimination mandate would bring forward. This is the key to understanding why advocates of interoperability leave so much unanswered or are not focused on how the regulation will be implemented. They claim to advocate for an interconnection requirement but propose a non-discrimination framework.

This non-discrimination proposal mascaraed as an interconnection requirement has multiple consequences, primarily related to implementing these requirements. Two are particularly relevant for this dissertation: (i) advocates and policymakers may not

account for the complexities of implementing the mandate, providing fewer resources than necessary to the regulator; (ii) the difficulty differentiating between harmful and benign discrimination. The following subsection will develop these difficulties to conclude this dissertation and provide the final framework to analyze interoperability regulations.

iii) Consequences of non-discrimination regulation

Classifying interoperability proposals as non-discrimination ones gives us the framework to understand the disconnection between advocates of interoperability and the complexities of its implementation. By viewing interoperability as an interconnection requirement, advocates avoid some of the most complex and relevant questions that arise from these proposals. In this sense, this section will connect the difficulties presented previously in this chapter to the characteristics of non-discrimination to show how distancing from interconnection towards non-discrimination conditions the interoperability proposals and makes them complex to implement.

(1) Underscoring the regulatory task

How advocates and policymakers have underscored the difficulties of implementing an interoperability requirement has been detailly addressed in this chapter's previous section. Consequently, this section will only briefly present how designing this requirement as a non-discrimination mandate affects the regulator's task.

The first way distancing from an interconnection requirement affects interoperability regulation is in the regulator's task to affront. The regulator would need to determine the conditions under which interoperability would operate and police that requirement. As described in the previous section, this would prove a titanic task for regulators that

would need to understand how the markets operate and determine which would be the optimal conditions for a healthy relationship between users and platforms.

By shifting the attention from networks to users, advocates lose sight of the objective they want to accomplish. The aim, as presented, is not to recreate but to promote competition. Nonetheless, by focusing on users, interoperability would not address what a competing platform would need to interoperate with a dominant provider. Around whom the policies are designed is not an insignificant decision, as it determines how the standards will be designed and which will be the central aspects of the regulation. Interoperability, as described clearly by Palfrey and Gasser (2012), "(…) means different things to different people. The kind of interop that matters to computer users – whether an e-mail comes through the system legibly, for example – may be different from the kind of interop that matters to the Internet service providers who have to send the messages" (p.7)

Focusing on users and how dominant platforms interact with them leads regulators to target the content these users receive. The regulator would need to determine what and how users will view when they enter a dominant social media platform to post from an interconnected platform or send a message to a user of a different messaging service.

Additionally, by recreating what the regulator understands a competitive market would look like, instead of promoting competition and not focusing on the needs of competitors to interconnect, the regulator may end up distorting the service provided by social media platforms. This critique is particularly present in the debate surrounding interoperability in messaging services. As specialists have argued that not only this

mandate would be unfeasible, but it would distort users' privacy and the safety of the system as a whole. It distances the regulator from the reality of the market to an ideal competitive situation that may not be feasible in practice. By framing the requirement as focused on users and not networks regulators lose sight of how the market operates, how it developed, and the needs of competitors. Failing to account for these aspects would prevent regulators from meaningfully impacting competition in the market.

In this sense, focusing on the product that the consumer should get once it connects to a social media platform does not only make it more complex for the regulator to detailly designed such regulation, but it also may end up with an interoperability requirement that looks very different to what is actually needed by the competitor to viably provide a service.

Similar to what Werbach (2007) concluded regarding network-neutrality advocates, "While [their] concerns (…) are legitimate, their favored solutions are misguided." (p. 127) The focus on content and not networks also brings forward one last difficulty that this dissertation will highlight: how would the regulator distinguish between discrimination based on privacy and safety protection and exclusion from the platform.

(2) Differentiating between benign and harmful discrimination

A second difficulty that arises from focusing on user-network relations instead of network-to-network interaction is differentiating between benign and harmful discrimination. By losing focus on the interacting networks and how that interaction should be determined, the regulator is now in charge of establishing the services that users should receive. Determining how the service will operate forces the regulator to

assess whether access limitations imposed by dominant platforms aim to exclude a competitor from the market or to protect, for example, privacy regulation.

Discrimination is not always harmful. There are many examples of positive discrimination across telecommunications regulations. As described by Werbach (2007), "(…) telephone companies charge business customers higher rates for the exact same local calling service they sell to residential users. Regulators for many years actually encouraged such discrimination as a cross-subsidy mechanism." (p. 1278) Digital platforms like Google discriminate when they provide a higher listing to those paying for advertisement and when they decide who gets that advertisement spot. At the same time, Facebook or Twitter discriminate against posts that violate their content moderation policies by taking down such posts. In this sense, discrimination is part of the activities of digital platforms, particularly ones like Facebook. The continuous decisions that the company makes about how content is moderated, who gets an advertisement spot, or which post, picture, or video gets to be shown first on someone's feed opens ample possibilities for the company to tinker with the interoperability mandate.

How would the regulator be able to differentiate if the algorithm is discriminating against a post coming from a competing provider vs. a Facebook user? Is the company protecting its users' privacy or discriminating against a potential competitor? This will look identical from a technical perspective, and in the case of Social Media companies, it would imply that the regulator might need to second-guess decisions justified on privacy or content moderation. Under which criteria would the denial of non-cross

posting be considered harmful? How will privacy be understood under the terms set by the dominant platform, the competitor, or a privacy standard set by the regulator?

The difficulties in setting a clear boundary beyond which the discrimination becomes an abuse have been highlighted by Werbach (2007) when discussing Network Neutrality. The author argued that any non-discrimination rule will reach a point in which "(…) a straightforward application produces unacceptable results. A feasible neutrality regime would have to operate as a vague "thumb on the scale,"" (Werbach, 2007, p. 1282) This would necessarily imply a "(…) difficult case-by-case assessment that, public choice considerations suggest, will be influenced by many external factors. At a minimum, a non-discrimination rule is unlikely to provide the certainty and predictability that investors crave." (Werbach, 2007, p. 1282)

Additionally, the speed at which social media platforms develop and algorithm-driven decisions are made presses the regulator to have a straightforward and speedy system to resolve conflicts. Such a system would never mimic the speed of social media, which implies instant decision-making, but it should safeguard competitors that are facing discrimination by a dominant provider.

The DMA and the ACCESS Act are conscious of the need to solve the conflicts that could arise between competitors and dominant platforms. The US bill proposes that the FTC must "(…) establish procedures under which a user, covered platform, or a business user may file a complaint alleging a violation of this Act." (Section 6. e)" and grants the FTC the power to seek temporary injunctions to stop the conducts of the covered platforms for a maximum of 120 days. The DMA also grants the EU Commission several investigatory powers to allow the regulator to identify and

determine a violation (See Articles 18 to 27). Additionally, any competitor or user may "(…) inform the competent authority of the Member State, enforcing the rules referred to in Article 1(6), or the Commission directly, about any practice or behaviour by gatekeepers that falls within the scope of this Regulation." (Article 27)

This dissertation's question is not if the regulators would have the power to address a violation by a dominant platform but how easily would they be able to identify a violation from one action that is not. As described by Werbach, these actions will technically look the same. In both situations, the algorithm or Facebook's monitoring team would not allow for the post, message, video, or photo from a competing platform to reach their destination user. In both cases, as described before in this dissertation, the dominant platform could argue that protecting users' privacy is at the core of the regulation and that fulfilling that objective motivates their actions. Having the process of determining if these discriminations should be considered exclusionary will leave the regulator second-guessing the company's intentions, analyzing if that was an appropriate measure to protect users' privacy or safety and, in consequence, determining the specifics of how the company operates. This is a task that regulators may be ill-suited to conduct.

Even the DMA and the ACCESS Act recognize this limitation as they place the burden of determining the best strategy to protect users' privacy in the hands of dominant platforms. In this sense, the ACCES Act proposes that "[c]onsistent with standards issued by the Commission under section 6(c) of this Act, a covered platform shall set privacy and security standards for access by competing businesses or potential competing businesses to the extent reasonably necessary to address a threat to the

covered platform or user data, and shall report any suspected violations of those standards to the Commission." (Section 4.b.1.d) Additionally, as mentioned before it gives the covered platform the possibility of modifying the standard unilaterally if "(…) that change is necessary to address a security vulnerability or other exigent circumstance that creates an imminent risk to user privacy or security if the change is narrowly tailored to the vulnerability (…)" (Section 4.b.2) as long as it does not allow for the exclusion of a competitor.

Similarly, when referring to messaging interoperability, the DMA argues that the Gatekeeper should "not be prevented from taking measures to ensure that third-party providers of number-independent interpersonal communications services requesting interoperability do not endanger the integrity, security and privacy of its services, provided that such measures are strictly necessary and proportionate and are duly justified by the gatekeeper." (Art. 7.9) Placing the responsibility on the Gatekeeper to determine the best course of action to comply both with the DMA and GDPR and, in consequence, protect users' privacy and safety.

These regulations understand that the competition regulator is not the one that should determine the conditions under which privacy is protected. Nonetheless, it virtually puts the regulator in that position by establishing that it should determine when an access restriction implies a violation of the act and when it was legitimately limited. By determining when a limitation is justified or not the regulator will slowly craft the privacy requirement.

As detailed in the previous section, an extra layer of complexity is added as these decisions could, in their own time, be judicialized by the dominant platforms, or the

competitor, delaying the implementation of the FTC or EU Commission's decision and increasing the agency's workload. If the regulation does not account for this role and the resources it would imply the FTC or the EU Commission might find themselves underfunded and overworked with no possibility of adequately complying with their task.

Switching to an interconnection framework is essential to prevent these complications. Focusing on what competitors would need to functionally operate in the market and designing interconnection standards focused on networks and protocols and not on functionalities and user experience would allow for more measurable compliance. This would, in turn, facilitate the regulator's work and allow for a more competitive social media market.

Companies entering the market to compete with a dominant provider will need certainty and predictability to plan their business models, content moderation strategies, and which networks they would effectively have access to and under which conditions. A delay in this definition, because of judicialization, delay of the regulators, or both, risks impeding entrance by replicating the 1996 Telecommunications Act.

CONCLUSION

Digital platform regulation is one of antitrust most significant regulatory challenges. The dominance and influence digital platforms like Facebook have in how we interact, shop, and connect with others is immense and will make any regulatory attempt complex and troublesome. In this sense, it is vital to understand how potential regulations would operate in the markets that regulators aim to condition. It is necessary to analyze the capacity of the regulators in charge of implementing the proposed regulations and understand how this would impact their tasks both according to the resources they hold and their experience.

Consequently, this dissertation aimed to provide a clearer picture of how interoperability would play in practice if implemented as proposed by advocates of this remedy and drafted in the DMA and the ACCESS act. Interoperability has been presented as a hands-off approach that would not imply much regulatory involvement. Nonetheless, as framed, interoperability would overwhelm regulators, imposing the burden of either determining the conditions under which interoperability would operate, patrolling compliance with this requirement, or both. This has proven in the past to be a titanic task for regulators that would only magnify given the constantly innovating characteristics of social media and the influence that dominant platforms like Facebook would have in the implementation of the interoperability mandate and the risk of excessive judicialization.

This disconnection between the difficulties of implementing interoperability and what has been constructed in the specialized literature is a direct consequence of understanding this requirement as a non-discrimination requirement contrary to an

interconnection one. This framework constructed by Werbach (2007) proved beneficial to understanding the disconnection between proponents of interoperability and previous instances of regulation and deepened the understanding of how complex it would be to promote competition in social media markets through an interoperability requirement.

Competition Authorities that need to evaluate or design an interoperability requirement should be cautious in their framing and which obligations they impose on dominant social media platforms. Regulators should distance themselves from advocates of interoperability that focus on users and not competitors. Instead, it is necessary to understand how networks would interconnect and the essential aspects of that interconnection that would allow competitors to grow and develop.

This framing would not solve all the complexities of implementing interoperability, but it would force the regulator to focus on promoting competition and not determining user experience. This would, in turn, give interoperability a fairer chance to impact the market and promote competition among social media platforms.

Regulating competition in digital environment is a complex and intricate task. Regulators and advocates will need to dig deep into how social media platforms operate, the drivers of their businesses, and the impact these regulations could have on competing businesses. Underscoring this task and framing proposals as easy to implement will prevent them from effectively accomplish the results they seek.

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