

## THE SECRET LIFE OF A TEXT MESSAGE

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*On February 14, 2019, hundreds of thousands of text messages were ensnared in a defective communications server—only to be released months later. By the time these messages reached their recipients, their worlds had changed: Heartfelt valentines arrived from loves now lost; other late-arriving messages seemed to come from the ghosts of the recently passed. It could have been worse. Text messages help to enable a wide variety of critical applications, from public safety missives to corporate security protocols. If these sorts of messages had been trapped and later released, the results might have been far more concerning: Evacuation orders might have been lost, or late-arriving public safety warnings might have sparked misplaced panic. And yet there has been surprisingly little regulatory attention to this failure, among others, in the text messaging system.*

*These failures highlight the fragility of our communications infrastructure—both technical and regulatory. Technically, the text messaging system is surprisingly consolidated, creating effective bottlenecks (and isolated points of failure) in our communications network. Regulatorily, the Federal Communications Commission recently reclassified text messaging services, placing them beyond the Agency’s regulatory ambit. Together, this network consolidation and weak regulatory oversight give rise to important safety, security, and competition concerns. And so, this Valentine’s Day Server Failure should alert policymakers to the need to ensure that our regulatory infrastructure keeps pace with technological change.*

## INTRODUCTION

On November 7, 2019, thousands of people awoke and checked their phones, as on any other morning, only to discover messages that seemed to have been transported from another time.<sup>1</sup> Some heard from former

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1. See Jacob Kastrenakes, How One Company You’ve Never Heard of Swallowed Tens of Thousands of Text Messages—Then Spit Them Back Out, *Verge* (Nov. 21, 2019), <https://www.theverge.com/2019/11/21/20974692/valentines-day-text-message-delay>

friends or partners with whom they had cut off contact. Some even seemed to receive messages from beyond the grave.<sup>2</sup>

In truth, a server failed.<sup>3</sup> Syniverse—a company that provides (among other things) messaging interconnection services (i.e., services that transfer text messages from, say, T-Mobile’s subscribers to AT&T’s)—claimed responsibility for the error, explaining that it had repaired a faulty server, and that doing so unexpectedly released over 168,000 text messages that had been trapped there, in stasis, since Valentine’s Day.<sup>4</sup> But a lot can happen from February to November: Relationships end; friends fall out; and loved ones pass on.<sup>5</sup> It is distressing enough, to say the least, to receive an outdated text message from an abusive ex-partner or a parent who recently passed on—but imagine, instead, that the failed messages included evacuation orders, public health warnings, or security codes. And so, in the time since, press outlets have investigated exactly how such an important piece of our communications infrastructure—cell phone users, after all, send over twenty billion text messages each day—failed so significantly, and yet so quietly.<sup>6</sup>

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explanation-sms-syniverse-carriers (on file with the *Columbia Law Review*) [hereinafter Kastrenakes, Text Messages] (“[P]eople across the US woke up to strange text messages . . . [that] had actually been sent months earlier, on Valentine’s Day, but had been frozen in place by a glitched server and were only shot out when the system was finally fixed nine months later . . .”); Caity Weaver & Jonah Engel Bromwich, Inside the Valentine’s Day Text Message Mystery, N.Y. Times (Nov. 8, 2019), <https://www.nytimes.com/2019/11/08/style/text-message-valentines.html> (on file with the *Columbia Law Review*) (describing how more than 168,149 contextless text messages were suddenly delivered in the middle of the night); see also Arielle Duhaime-Ross, Thank You, Text, Recode Daily: Reset Podcast (Nov. 12, 2019), <https://www.breaker.audio/reset-2/e/53824375> [<https://perma.cc/K6SS-GTDD>].

2. See Weaver & Bromwich, *supra* note 1.

3. Syniverse Updated Statement Regarding Recent Person-to-Person Text Messaging Event, Syniverse (Nov. 7, 2019), <https://www.syniverse.com/insights/syniverse-statement-regarding-person-to-person-messaging-event> [<https://perma.cc/7UHB-VY9E>] (“On Feb. 14, 2019 a server failed . . .”).

4. See *id.*

5. Cf. Frank Sinatra, September Song, *on* September of My Years (Reprise Records 1975) (explaining that “it’s a long, long time from May to December”). February to November is, of course, even longer.

6. For examples of press investigations into the server failure, see Duhaime-Ross, *supra* note 1; Kastrenakes, Text Messages, *supra* note 1; Jacob Kastrenakes, SMS Provider Said 168,000 Valentine’s Texts Were Delayed—Now It Says the Number Is Higher, Verge (Nov. 8, 2019), <https://www.theverge.com/2019/11/8/20955771/delayed-text-messages-valentines-day-syniverse-total-number-growth-carriers> (on file with the *Columbia Law Review*); Jacob Kastrenakes, A Ton of People Received Text Messages Overnight that Were Originally Sent on Valentine’s Day, Verge (Nov. 7, 2019), <https://www.theverge.com/2019/11/7/20953422/text-messages-delayed-received-overnight-valentines-day-delay> (on file with the *Columbia Law Review*).

On the volume of text messages sent per day, see Matthew Sparkes, WhatsApp Overtakes Text Messages, Telegraph (Jan. 12, 2015), <https://www.telegraph.co.uk/technology/news/11340321/WhatsApp-overtakes-text-messages.html> (on file with the *Columbia Law Review*).

These investigations, however, have overlooked one critical piece of the puzzle—our *regulatory* infrastructure. Only two months before Syniverse’s server faltered in February 2019, the Federal Communications Commission swept text messaging services outside the statutory rules that would normally compel a consumer’s telecommunications provider—companies like AT&T or T-Mobile—to reasonably connect any communication sent over its network.<sup>7</sup> And so, even after this system failure was publicly reported, the Commission did not—could not—pursue an investigation into exactly what went wrong. In other contexts, such failures might kick off a serious agency investigation.<sup>8</sup> But here, the Commission has not even once mentioned this system failure. This is the case even as text messaging becomes an increasingly critical piece of our public safety, security, and general communications apparatus.<sup>9</sup> The stakes thus extend far beyond weekend plans between friends: Consumers rely on text messaging to communicate with each other (in times of emergency and otherwise), many cities allow their citizens to text to 911, local governments rely on text messaging services to issue public safety warnings, and a wide range of companies rely on text messaging services to secure their systems via two-factor authentication, among other critical applications.<sup>10</sup>

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7. 47 U.S.C. §§ 201–202 (2018).

8. See *In re Windstream Corp.*, 29 FCC Rcd. 1646, 1650 (2014) (settling an investigation into Windstream’s call completion practices for \$2.5 million, explaining that “the Commission has consistently held that telecommunications carriers, including interexchange carriers, generally may not ‘block, choke, reduce or restrict traffic in any way’”); Press Release, FCC, FCC Reaches \$40 Million Settlement with T-Mobile for Rural Call Completion Violations (Apr. 16, 2018), [https://docs.fcc.gov/public/attachments/DO\\_C-350233A1.pdf](https://docs.fcc.gov/public/attachments/DO_C-350233A1.pdf) (on file with the *Columbia Law Review*) (“It is a basic tenet of the nation’s phone system that calls be completed . . . , without a reduction in the call quality—even when the calls pass through intermediate providers. The FCC is committed to ensuring that phone calls to all Americans . . . go through.” (internal quotation marks omitted) (quoting Chairman Pai)).

9. See Duhaime-Ross, *supra* note 1, at 23:42–24:22 (explaining that text messaging is the “most common denominator” that can reach “basically everyone” and hence serves as a backstop for important public communications); *id.* at 11:40–12:33 (explaining that carriers must be “more transparent about” their practices, including message blocking, “because it’s one thing to [not] get a text from your ex, [but] it’s another thing to not get a text from the local fire department”).

10. See Hilary N. Karasz, Sharon Bogan & Lindsay Bosslet, *Communicating with the Workforce During Emergencies: Developing an Employee Text Messaging Program in a Local Public Health Setting*, 129 *Pub. Health Rep.* 61, 62 (2014) (noting that “text messaging is particularly valuable when power is out, voice-to-voice lines are overloaded, or people are away from a computer”); PSAP Text-to-911 Readiness and Certification Form, FCC, <https://www.fcc.gov/general/psap-text-911-readiness-and-certification-form> [<https://perma.cc/S2YY-T5Z4>] (last updated Aug. 14, 2020) (identifying over 2,500 locales certifying that they accept 911 emergency communications by text message); see also, e.g., FAQs (Resident), Everbridge Nixle, <https://www.nixle.com/resident-faqs> [<https://perma.cc/A5MG-V485>] (last visited Sept. 9, 2020) (noting how Nixle helps residents “stay connected to your local police department, your children’s schools, your local community agencies and organizations, and the important information from other locations throughout the country that are relevant to you”).

I aim to supply that missing piece here.

First, I briefly describe the technical infrastructure for text messaging services, with the aim of highlighting the roles played by various parties—communications carriers (such as Verizon and T-Mobile), messaging intermediaries (such as Syniverse), and applications services providers (such as Twilio).

Second, I describe the regulatory infrastructure that attends to these services, emphasizing the Commission’s decision to classify text messaging services as an “information service.”<sup>11</sup> This declaratory ruling—one falling into a zone of substantial agency discretion—limits considerably the Agency’s power to ensure that these companies treat each other reasonably and fairly.

Third, I highlight two dangers to this relatively weak regulatory regime. The first sounds in the Commission’s responsibility to promote the “safety of life and property through the use of wire and radio communications.”<sup>12</sup> Just as in its recent network neutrality-related order, the Agency’s text messaging-related order fails to adequately consider the potential effects on such concerns, especially given text messaging’s various security and safety applications.<sup>13</sup> The second sounds in the Commission’s responsibility to “promote competition.”<sup>14</sup> Some companies, such as Syniverse and Zipwhip, seem to dominate their own respective messaging interconnection market.<sup>15</sup> And the major carriers appear to be coordinating their efforts to develop the next major standard for such communications.<sup>16</sup> This concentration of power threatens short-term

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11. In re Petitions for Declaratory Ruling on Regul. Status of Wireless Messaging Serv., 33 FCC Rcd. 12075, 12075 (2018) [hereinafter *Messaging Order*] (“In this Declaratory Ruling, we find that two forms of wireless messaging, Short Message Service (SMS) and Multimedia Messaging Service (MMS), are information services.”); see also 47 U.S.C. § 153(24) (defining information service as “a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing”).

12. 47 U.S.C. § 151.

13. Compare *Mozilla v. Fed. Comm’n Comm’n*, 940 F.3d 1, 59–63 (D.C. Cir. 2019) (holding, in its review of the Commission’s network neutrality-related order, that “[t]he Commission’s disregard of its duty to analyze the impact of . . . [its decision to reclassify broadband carriage as information service] on public safety renders its decision arbitrary and capricious”), with *Messaging Order*, 33 FCC Rcd. at 12100 (summarily dismissing, in less than one sentence, “policy arguments” related to “public safety and health”).

14. See, e.g., 47 U.S.C. § 1302(a).

15. See *Tyntec v. Syniverse*, No. 08:17-CV-00591, 2019 WL 9829361, at \*2 (M.D. Fla. Oct. 2, 2019); Jeff Wilson, *Zipwhip Named to Deloitte’s 2019 Technology Fast 500™ for Third Consecutive Year*, Zipwhip (Nov. 7, 2019), <https://www.zipwhip.com/blog/zipwhip-named-to-deloitte-2019-technology-fast-500-for-third-consecutive-year> [<https://perma.cc/LM5E-5Z49>].

16. See Dieter Bohn, *AT&T, Verizon, Sprint, and T-Mobile Have Finally Agreed to Replace SMS with a New RCS Standard*, *Verge* (Oct. 24, 2019), <https://www.theverge.com/2019/10/24/20931202/us-carriers-rcs-cross-carrier-messaging-initiative-ccmi-att-tmobile-sp>

competition and long-term innovation, and should thus cause some concern, if not substantial scrutiny, for current and future generations of messaging.

In short, this Valentine's Day Server Failure offers a parable—not only for the future of text messaging, but for a larger slice of the Commission's present deregulatory tack. The Agency's approach conflates messaging applications (iMessage, Whatsapp, and a default text messaging app, for example) with messaging transit (the reliable delivery of interconnected text messages—as distinct from platform-specific messages, such as an iMessage or a note sent on Whatsapp—over an open and interoperable messaging system). The two are discrete, presenting distinct market and regulatory concerns. Where transit is concerned, competition is scarce and oversight is thin, giving rise to short-term effects on competition, long-run effects on innovation, and concerns for network reliability. Hence, as new communications modes substitute for old ones—as, say, texting 911 becomes as familiar as calling—the Commission (and Congress) must ensure that the relevant regulatory environment keeps pace.<sup>17</sup> Specifically, the Agency should stop adulating communications services it perceives as “dynamic” (including those that are well over a generation old), and should instead fold them into a regulatory regime that aims to improve and guarantee communications connectivity, as it has for the last century.<sup>18</sup>

#### I. THE SECRET LIFE OF A TEXT MESSAGE

A text message, like so much wireless communication, seems almost miraculous. You can tap a few words on a magic black mirror, touch send, and the message disappears into the ether—only to be replicated on a recipient's device, thousands of miles away, in mere seconds. That is profoundly amazing.

The real story, of course, is much more complicated.

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rint-verizon (on file with the *Columbia Law Review*) (noting how all four major U.S. carriers, AT&T, Verizon, T-Mobile, and Sprint, have announced the formation of “a joint venture” called the Cross-Carrier Messaging Initiative (CCMI), designed to “ensure that the carriers move forward together to replace SMS with a next-generation messaging standard”).

17. See, e.g., *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications*, 29 FCC Rcd. 9846, 9847 (2014) (“[Providing] text-to-911 . . . is made more pressing because many consumers believe [it] is already an available service, because of the unique value . . . for the millions of Americans with hearing or speech disabilities, and because of [its] crucial role . . . in protecting life and property . . .”).

18. Compare *Messaging Order*, 33 FCC Rcd. at 12101 (stating, perhaps implausibly, that “[text] messaging services” are a “dynamic technological industr[y]” that “constantly undergo[es] major developments”), with Victoria Shannon, *15 Years of Text Messages, a ‘Cultural Phenomenon’*, N.Y. Times (Dec. 5, 2007), <https://www.nytimes.com/2007/12/05/technology/05iht-sms.4.8603150.html> (on file with the *Columbia Law Review*) (noting that the first SMS message was sent in 1992, which is now over twenty-five years ago).

Your text message is carried from your device (an iPhone, say) to your cell phone service provider (e.g., T-Mobile) over electromagnetic spectrum—spectrum that T-Mobile is licensed by the Commission to use.<sup>19</sup> There, T-Mobile determines how to route your message. Is it to another T-Mobile subscriber? If so, T-Mobile can itself direct the message to that subscriber over its own wired and wireless network.

But if your message is intended for someone connected to a different network (AT&T, for example), then T-Mobile cannot complete the transmission itself. It needs AT&T's help. In telecommunications terms, this is because AT&T (to stay with this example) is a terminating access monopolist: It has a monopoly over access to the recipient over a given communications channel.<sup>20</sup> Here, an important distinction arises between interconnected services and noninterconnected ones. iMessage and Whatsapp are not interconnected: You cannot send an iMessage to a user of some different application, like Whatsapp, that does not connect to Apple's infrastructure. But, even as a T-Mobile subscriber, you can reach—by phone and, at least for now, by text—an AT&T subscriber if their networks are interconnected, as is often regulatorily required.<sup>21</sup> In the case of a phone call, T-Mobile might hand the call directly to AT&T, who would connect it to the recipient. (And T-Mobile might pay a fee—known as an access charge or reciprocal compensation—to AT&T for letting the T-Mobile subscriber use a portion of AT&T's network to complete the call.<sup>22</sup>) But text messages work slightly differently: Rather than hand the message directly to AT&T, T-Mobile, like other major carriers, uses an intercarrier vendor to transfer messages between networks.<sup>23</sup> (And the carriers have

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19. In short, the Commission licenses providers to use certain frequencies—channels, essentially—to transmit information over the airwaves. These licenses often specify where providers may operate and the sorts of services they may provide (e.g., radio, television, cellular telephone, and internet), among other conditions. See, e.g., 47 U.S.C. § 303(a)–(d) (granting the Commission the power to classify radio stations, prescribe the type of services each class or individual radio station may render, assign frequencies to the various classes and stations, and determine where and when each classification or individual station may operate).

20. See Jonathan E. Nuechterlein & Philip J. Weiser, *Digital Crossroads: Telecommunications Law and Policy in the Internet Age* 220 n.\* (2d ed. 2013) (describing the terminating access monopoly problem).

21. But see *infra* notes 36–49 and accompanying text (noting various problems with interconnection for text messaging services).

22. *In re Fed. Comm'ns Comm'n 11-161*, 753 F.3d 1015, 1116–20 (10th Cir. 2014).

23. See *Kastrenakes, Text Messages*, *supra* note 1; see also *Iris Wireless LLC v. Syniverse Technologies*, 49 F. Supp. 3d 1022, 1025 (M.D. Fla. 2014) (“Inter-Carrier Vendors’ . . . allow[] wireless telephone service providers to exchange . . . text messages . . . with other service providers. This service allows text messages that originate from the mobile phone of one wireless carrier’s customer to be read by an owner of a mobile phone using a different wireless carrier.”).

contracts with such intercarrier vendors, describing how costs are shared and assessed.<sup>24</sup>)

Enter Syniverse. Syniverse appears to be the intercarrier vendor of choice for person-to-person (or P2P) messages: Of the four major wireless carriers, three are Syniverse subscribers; only Verizon uses an alternate (SAP).<sup>25</sup> This is somewhat unusual. In other markets for intermediary telecommunications transit, there is comparatively robust competition. In internet markets, for example, there has been competition between various transit providers—companies that help to deliver high volumes of internet traffic from one location to another.<sup>26</sup> But there appears to be substantially more concentration, by design, in the market for intercarrier messaging transit: CTIA, a trade association for the wireless carriers, has said it prefers that there be no more than two intercarrier vendors.<sup>27</sup>

Such concentration has important implications for other applications of the text messaging services. Maybe you have received updates, via text message, from a political candidate or an airline company. Or you might subscribe to a joke-a-day service. Or you may have received an authentication code via text message in order to log into a secure system. Such messages—from an application to a person (or A2P)—are often originated with an applications services provider, such as Twilio.<sup>28</sup> Such services providers allow organizations—campaigns and companies, among others—to broadcast messages to a large list of subscribers, or to interact with individuals through, say, a text-to-customer-service hotline. But these applications (like T-Mobile above) may also require the cooperation of an intermediary and a terminating access monopolist. Without the support of, say, AT&T and Syniverse (or companies like them), these application-originated text messages may never reach their intended recipients: You might not get your next security code, campaign or flight update, or daily joke.

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24. See, e.g., *infra* note 40 and accompanying text (describing one example of an apparent agreement between carriers and intercarrier vendors).

25. Kastrenakes, *Text Messages*, *supra* note 1 (“AT&T, T-Mobile, and Sprint currently use Syniverse to route text messages to people on other networks . . . Verizon . . . uses a competitor, SAP.”). Your message to an AT&T subscriber, then, would go from your device, to T-Mobile, to Syniverse, to AT&T, to the recipient’s device. But what if you were sending a message to a Verizon subscriber? In that case, the message would likely travel from your device, to T-Mobile, to Syniverse, to SAP, to Verizon, to the recipient’s device. See CTIA: The Wireless Ass’n, *SMS Interoperability Guidelines 28–29* (2015), [https://api.ctia.org/docs/default-source/default-document-library/sms\\_interoperability\\_guidelines\\_v3-2-2\\_jan\\_2015-as-posted.pdf](https://api.ctia.org/docs/default-source/default-document-library/sms_interoperability_guidelines_v3-2-2_jan_2015-as-posted.pdf) [<https://perma.cc/C63B-QREL>] [hereinafter CTIA, *SMS Interoperability Guidelines*]. This Piece can safely set to one side, for present purposes, the relationship between Syniverse and SAP in such examples.

26. See Nuechterlein & Weiser, *supra* note 20, at 288.

27. See CTIA, *SMS Interoperability Guidelines*, *supra* note 25, at 28–29; see also *Tyntec v. Syniverse*, No. 08:17-CV-00591, 2019 WL 9829361, at \*2 (M.D. Fla. Aug. 19, 2019) (explaining that Syniverse’s market share is about eighty percent).

28. *Messaging Order*, 33 FCC Rcd. 12075, 12079 (2018) (describing A2P messaging).

## II. MESSAGES IN A BOTTLENECK

AT&T's power as a terminating access monopolist (to use the example described above) is of relatively little concern in the context of a phone call. This is because the Commission has long proscribed communications carriers from blocking phone calls that originate on another network, and has long required carriers to keep this vital communications channel open for public safety purposes.<sup>29</sup> AT&T must accept any call coming from a T-Mobile user, even if AT&T and T-Mobile have not come to terms on inter-carrier compensation rates.<sup>30</sup> Likewise, AT&T must, for example, provide backup power to its cell towers to enable communication during power outages.<sup>31</sup>

These are sensible policies for a variety of reasons. For one, the network effects of allowing subscribers of both companies to speak with each other are immense, as are the benefits of keeping these communications channels active in emergencies. But AT&T may not internalize these social benefits, and so may have private incentives to block calls coming from other networks or to underinvest in safety-related infrastructure. Moreover, if AT&T is large enough, it might strategically block calls from competing networks in order to poach their subscribers: If most of the people you want to talk to are AT&T customers—and you can only reach them by subscribing to AT&T yourself—then you might switch carriers.<sup>32</sup> Lastly, policymakers have sometimes expressed concerns about network censorship. If AT&T could block calls, then it might block telemarketing calls from AT&T competitors, or it might block communications from politicians who oppose AT&T's favored policies.<sup>33</sup>

But while AT&T has long been obliged to accept every *call* that arrives at its network's edge, Twilio, among others, has expressed concern over

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29. See Connect Am. Fund, 26 FCC Rcd. 17663, 18029 & n.2036 (2011) (explaining that telecommunications carriers interexchange providers may not “block[], chok[e], reduc[e] or restrict[] traffic in any way” (internal quotation marks omitted) (quoting Establishing Just and Reasonable Rates for Loc. Exchange Carriers: Call Blocking Declaratory Ruling, 22 FCC Rcd. 11629, 11631 (2007))); see also Providers of Facilities-Based Fixed Residential Voice Servs. that Are Not Line-Powered of Upcoming Requirement to Offer Subscribers 24 Hours of Backup Power for Customer Premises Equip., 33 FCC Rcd. 11641, 11641 (2018) (reminding providers of their obligation to offer customers twenty-four hours of emergency backup power).

30. See Rural Call Completion, 28 FCC Rcd. 16154, 16155–58 (2013).

31. See Ensuring Continuity of 911 Commc'ns, 30 FCC Rcd. 8677, 8678 (2015).

32. See, e.g., Nuechterlein & Weiser, *supra* note 20, at 3–8.

33. See, e.g., Letter from Edward J. Markey, Kirsten Gillibrand, Richard Blumenthal, Benjamin L. Cardin, Bernard Sanders, Ron Wyden, Tammy Baldwin, Tina Smith, Elizabeth Warren & Dianne Feinstein, Senators, U.S. Senate, to Ajit Pai, Chairman, FCC (Dec. 7, 2018), <https://www.markey.senate.gov/imo/media/doc/Texting%20Title%201.pdf> [<https://perma.cc/8ZAQ-VNK6>] (expressing concern over carrier power to block and censor text messages); see also *infra* notes 50–52 and accompanying text.



the lack of similar rules for *texts*.<sup>34</sup> Even as text messages have become as important as (if not more important than) ordinary phone calls,<sup>35</sup> there has been, until recently, little clarity over texting's regulatory status. And applications services providers have alleged that carriers have taken advantage of this regulatory uncertainty by engaging in dangerous and anticompetitive practices. In their view, the wireless carriers have effectively blocked some text messages in order to extract additional rents from applications services providers, to lure subscribers to carrier-owned services, and to censor undesirable (from the carrier's perspective) content.<sup>36</sup>

First, carriers have effectively blocked some messages sent to toll-free numbers (800, 888, 877, etc.) in order to drive up the cost of originating those messages. Communications sent to such numbers are supposed to be costless to the sender: Recipients, or called parties, pay the whole charge.<sup>37</sup> But, in some cases, carriers have sought to charge applications services providers an additional fee, over and above the compensation paid by the recipient, for delivering these text messages to toll-free numbers, and they have effectively blocked—without notice—messages sent by their own subscribers to such numbers.<sup>38</sup> The carriers have directed such messages to a specialized toll-free intercarrier vendor (like Syniverse, but in this case Zipwhip) who then declines to relay the message to its recipient without some additional payment from the applications services provider.<sup>39</sup> Moreover, several commentators allege that Zipwhip does this at the carriers' direction, kicking some of these extra revenues back to the carriers.<sup>40</sup> In phone call contexts, carriers (and their agents) may not block

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34. Petition for Expedited Declaratory Ruling of Twilio Inc. at 8–9, Messaging Order, 33 FCC Rcd. 12075 (2018) (No. 08-7), <https://ecfsapi.fcc.gov/file/60001324418.pdf> [<https://perma.cc/7RBJ-SU25>] [hereinafter Twilio Petition].

35. See, e.g., Alexis C. Madrigal, Why No One Answers Their Phone Anymore, Atlantic (May 31, 2018), <https://www.theatlantic.com/technology/archive/2018/05/ring-ring-ring-ring/561545> [<https://perma.cc/MAT3-JXY8>].

36. See Twilio Petition, *supra* note 34, at 15–25.

37. What Is a Toll-Free Number and How Does It Work?, FCC, <https://www.fcc.gov/consumers/guides/what-toll-free-number-and-how-does-it-work> [<https://perma.cc/R8QB-7C93>] (last updated Dec. 31, 2019) (“Toll free numbers are telephone numbers . . . that can be dialed from landlines with no charge to the person placing the call . . . . Customers can also send text messages to toll free numbers, so long as those numbers are ‘text enabled,’ and businesses can send texts in response.”).

38. Robert McMillan, A New Net-Neutrality Battle Brews . . . over Text Messages, WIRED (Dec. 3, 2014), <https://www.wired.com/2014/12/fcc-sms> [<https://perma.cc/J7N8-HC9R>]; see also Somos Inc. Notice of Ex Parte Meeting at 2, Messaging Order, 33 FCC Rcd. 12075 (2018) (No. 08-7), <https://ecfsapi.fcc.gov/file/60001703873.pdf> [<https://perma.cc/DEM9-BP44>] [hereinafter Somos Ex Parte Notice] (explaining that the carriers' intercarrier vendor for toll-free text messaging traffic has “cut off messaging traffic to its competitors”).

39. See, e.g., Twilio Petition, *supra* note 34, at 8–9.

40. E.g., Somos Ex Parte Notice, *supra* note 38, at 2 (noting that carriers have directed vendors to contract with their intercarrier vendor of choice, who has “significantly raised prices for originating and terminating messaging traffic”); Comments of the Voice on the Net Coalition at 5–6, Messaging Order, 33 FCC Rcd. 12075 (2018) (No. 08-7), <https://von.org/>

calls as leverage in disputes over intercarrier compensation rates. This is, as described above, to protect the social value of network effects, and to avoid disrupting important communications, among other reasons. But this is exactly what carriers seem to have done in the text messaging context.<sup>41</sup> And, as in the server failure described in the Introduction, there is little transparency—and hence almost no regulatory or market discipline—over these practices.

Second, applications services providers may (attempt to) send and receive text messages using either a standard ten-digit phone number or a “common short code” (CSC)—e.g., 30330 to receive updates from the Biden Campaign, or 88022 for Trump.<sup>42</sup> While the standard ten-digit numbering system is administered under close regulatory supervision, the wireless carriers run the CSC system—essentially, an alternate phone number—mostly by themselves,<sup>43</sup> exercising unbridled discretion in approving applications for CSCs, and charging uniform (and uniformly higher) prices for CSCs as compared to standard ten-digit numbers.<sup>44</sup> Both of these powers are ripe for abuse. In some instances, carriers appear to have denied an application for a CSC in order to protect existing carrier businesses.<sup>45</sup> In other instances, carriers seem to have blocked (again, without notice) text messaging applications that do not use CSCs in order to

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filings/year/13\_2015/2015\_11\_20\_VON\_Coalition\_Twilio\_Comments.pdf [https://perma.cc/5RDL-SUL8] [hereinafter VON Coalition Comments].

41. Zipwhip itself, moreover, has attempted to leverage its preferred position as the carriers’ ward into other toll-free-related business: It has attempted to persuade customers of other toll-free service providers to switch to Zipwhip, explaining that such other providers cannot guarantee reliable delivery of toll-free messaging traffic. This, of course, is only true because Zipwhip controls all such traffic. See Somos Ex Parte Notice, *supra* note 38, at 2–3.

42. See, e.g., Nick Corasaniti, When the Campaigns Have Your Digits, *N.Y. Times* (May 12, 2020), <https://www.nytimes.com/2020/05/12/us/politics/trump-biden-text-messages.html> (on file with the *Columbia Law Review*).

43. Compare Admin. of the N. Am. Numbering Plan, 11 FCC Rcd. 2588, 2588–95 (1995) (describing the North American Numbering Plan), with About CTIA Programs, CTIA, <https://www.ctia.org/programs> [https://perma.cc/Y58X-EGWC] (last visited Sept. 8, 2020) (describing CSCs).

44. It can cost a text-based application one dollar per month to use a standard phone number. CSCs can cost \$1,000 per month. See Pricing, Short Code Registry, <https://usshortcodes.com/pricing> [https://perma.cc/4Z8M-7PAC] (last visited Sept. 8, 2020); Pricing, Voxology, <http://voxolo.gy/pricing> [https://perma.cc/8U2D-LHNA] (last visited Sept. 8, 2020).

45. E.g., Comments of RebTel Inc. at 4, Messaging Order, 33 FCC Rcd. 12075 (2018) (No. 08-7), <https://ecfsapi.fcc.gov/file/6519867012.pdf> [https://perma.cc/DXM5-2VQB] (“Verizon Wireless and Alltel rejected Rebtel’s short code simply out of fear of losing revenues to Rebtel’s international calling service.”); see also VON Coalition Comments, *supra* note 40, at 5–6; cf. Reply Comments of NexGen Global Technologies, LLC at 5, Messaging Order, 33 FCC Rcd. 12075 (2018) (No. 08-7), <https://www.nexgen-global-technologies.com/wp-content/uploads/2018/01/60001338705.pdf> [https://perma.cc/UZ8V-JTJA] (noting that carriers denied a public safety related CSC application and quoting a carrier as explaining the reason for the denial as, “It does not make financial sense to approve NexGen’s short code application”).

drive users to the carriers' more expensive numbering system.<sup>46</sup> Carriers, that is, may block text messages sent using 1-800-WALMART, forcing the application to use WLMRT (95678) instead. Blocking applications using ten-digit numbers may have serious adverse consequences, depending on the service connected to the ten-digit number.<sup>47</sup> Consider the effect of, say, blocking security codes that are necessary for two-factor authentication:<sup>48</sup> If those codes do not arrive, users might forego using two-factor authentication altogether, defaulting to less secure methods of authentication.<sup>49</sup> In short, carrier control over CSCs both drives up the cost of messaging-based applications and imperils the utility of those applications.

Third, some carriers have indeed attempted to block potentially controversial content: In 2007, NARAL Pro-Choice America tried to send advocacy-related messages to its own subscribers.<sup>50</sup> Verizon denied NARAL permission to publish such texts over its network—though press attention and regulatory intervention eventually prompted the carrier to reverse its

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46. Twilio Petition, *supra* note 34, at 17–18; see also VON Coalition Comments, *supra* note 40, at 5–6.

I should note, moreover, that the numbering service and the underlying toll-free telephone service are, from the carriers' perspective, price regulated. Hence, there is ample reason for even skeptics of monopoly leveraging to think that the carriers have economic incentives to favor this affiliated service. See Nuechterlein & Weiser, *supra* note 20, at 16 (explaining Baxter's Law).

47. Comment Regarding Petition Seeking a Declaratory Ruling Clarifying the Regulatory Status of Mobile Messaging Services (WT Docket No. 08-7) at 1, Messaging Order, 33 FCC Rcd. 12075 (2018) (No. 08-7), <https://ecfsapi.fcc.gov/file/60001339667.pdf> [<https://perma.cc/6TXA-UFVB>] (contending that carrier practices related to ten-digit numbers “caus[e] irreparable harm to teachers and students” by disrupting “more than 150,000 teacher/student interactions per day”).

48. See Elie Bursztein, *The Bleak Picture of Two-Factor Authentication Adoption in the Wild*, Elie (Dec. 2018), <https://elie.net/blog/security/the-bleak-picture-of-two-factor-authentication-adoption-in-the-wild> [<https://perma.cc/B4WD-MXAW>] (finding that about one-half of systems using two-factor authentication support text-message-based verification).

49. See rp88, “Your 2-Step Verification Is Getting Updated” but I Think My Phone Only Does SMS, BleepingComputer.com (June 17, 2020, 1:33 PM), <https://www.bleepingcomputer.com/forums/t/724322/your-2-step-verification-is-getting-updated-but-i-think-my-phone-only-does-sms> [<https://perma.cc/TYD8-PNQH>] (noting a Gmail user's complaint that Google's decision to move away from text-based authentication codes because of “emerging SMS-based threats” will disable two-factor authentication altogether, since the user lacks a smartphone); cf. Jessica Colnago, Summer Devlin, Maggie Oates, Chelse Swoopes, Lujo Bauer, Lorrie Cranor & Nicolas Christin, “It's Not Actually that Horrible”: Exploring Adoption of Two-Factor Authentication at a University 7 (CHI 2018: Proc. of the 2018 CHI Conf. on Hum. Factors in Computing Sys., Paper No. 456, 2018), <https://dl.acm.org/doi/pdf/10.1145/3173574.3174030> [<https://perma.cc/S9Y6-J2ST>] (finding that poor user experiences with two-factor authentication lead to decreased rates of future adoption).

50. Adam Liptak, *Verizon Blocks Messages of Abortions Rights Group*, N.Y. Times (Sept. 27, 2007), <https://www.nytimes.com/2007/09/27/us/27verizon.html> (on file with the *Columbia Law Review*); Adam Liptak, *Verizon Reverses Itself on Abortion Messages*, N.Y. Times (Sept. 27, 2007), <https://www.nytimes.com/2007/09/27/business/27cnd-verizon.html> (on file with the *Columbia Law Review*) [hereinafter Liptak, *Verizon Reverses*].

decision.<sup>51</sup> T-Mobile and Sprint have been accused of engaging in similarly censorial practices, blocking (or threatening to block) messages from services related to medical marijuana and charitable earthquake relief, respectively.<sup>52</sup>

Twilio thus asked the Commission to confirm that the rules that applied to phone calls—e.g., no blocking—applied equally to text messaging services.<sup>53</sup>

The request backfired. Twilio filed its petition in 2015, during the Obama Administration and roughly concurrent to the Commission’s decision to impose similar obligations, via network neutrality rules, on broadband carriers.<sup>54</sup> But Twilio’s petition was largely tabled until after the inauguration of Donald Trump, when the Agency, under new leadership, granted Twilio’s request to “clarify” the status of the text messaging service—clarifying that these rules do *not* apply to the service.<sup>55</sup>

In particular, the Agency specified that when carriers offer text messaging services, they offer an “information service” rather than a “telecommunications service.”<sup>56</sup> Though a complete account of the differences between these two statutory classes could take tomes,<sup>57</sup> it suffices for present purposes to say two things. One, the Commission has, in many modern contexts, substantial discretion to choose to classify communications services as one or the other—so much so that the Agency has, in the last twenty years, alternately classified broadband carriage as a telecommunications service, then an information service, then a telecommunications service again, and then an information service again.<sup>58</sup> The courts have affirmed each decision.<sup>59</sup> Two, the regulatory consequences of

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51. See Liptak, *Verizon Reverses*, supra note 50.

52. See Ki Mae Heussner, *T-Mobile Sued for Allegedly Blocking Pot Site’s Texts*, ABC News (Sept. 20, 2010), <https://abcnews.go.com/Technology/mobile-sued-allegedly-blocking-pot-sites-texts/story?id=11681754> [<https://perma.cc/KHJ6-4LA6>]; see also John Schwartz, *Catholic Charity and Sprint Tangle over Texting*, N.Y. Times (March 24, 2010), <https://www.nytimes.com/2010/03/25/technology/25texting.html> (on file with the *Columbia Law Review*).

53. Twilio Petition, supra note 34, at 3–4.

54. See *Protecting and Promoting the Open Internet*, 30 FCC Rcd. 5601 (2015); see also Twilio Petition, supra note 34.

55. See *Messaging Order*, 33 FCC Rcd. 12075, 12075 (2018); Twilio Petition, supra note 34, at 1.

56. Compare 47 U.S.C. § 153(24) (2018) (defining “information service”), with § 153(53) (defining “telecommunications service”).

57. See, e.g., Stuart Minor Benjamin & James B. Speta, *Internet and Telecommunication Regulation 719–844* (2019).

58. I do not mean to imply that both classifications are equally appropriate, as explained in the Conclusion, *infra*.

59. In *National Cable & Telecommunications Ass’n v. Brand X Internet Services*, 545 U.S. 967, 986 (2005), the Court affirmed the agency’s decision to maintain DSL’s prior “telecommunications service” classification, even as it chose to classify broadband cable modem access as an “information service.” In *United States Telecom Ass’n v. FCC*, 825 F.3d 674, 701–11 (D.C. Cir. 2016), the D.C. Circuit affirmed the agency’s decision to classify all

this choice are hugely significant. Classified as a “telecommunications service,” a communications offering may be subject to the full panoply of the Agency’s regulatory power—rate regulation, service specification, and more. But classified as an “information service,” the offering is largely immune from the Agency’s reach, except in limited circumstances when regulation is “reasonably ancillary” to the Commission’s other statutory mandates.<sup>60</sup>

In short, the present state of text messaging law gives carriers and intercarrier vendors wide powers to block text messages and undermine text-messaging-based services. Indeed, the Agency explained its decision by this very rationale, saying that carriers need the power to block text messages to stave off text messaging spam.<sup>61</sup> I agree that carriers should make reasonable efforts to eliminate unwanted text messaging spam. But unbridled discretion to block incoming text messages is hardly the only way to fight such nuisances. Indeed, in the phone call context, the carriers, the Commission, and Congress have all worked toward implementing a call-authentication standard that helps to target and prevent spam calls in particular.<sup>62</sup> But the Commission’s text-messaging-related classification decision reaches much farther, granting carriers the power to block not only spam messages, but also other messages in order to extract additional rents from subscribers, other carriers, or applications services providers. It allows them to nudge text-based applications off the standard ten-digit numbering plan and onto the expensive, proprietary CSC system. It gives them censorial power over private communications sent over their network. And, as in the case of the motivating example described in the Introduction, it also makes them largely unanswerable to both consumers and regulators in the event of system failures.

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broadband internet access as a “telecommunications service,” and later, the D.C. Circuit affirmed the agency’s decision to reclassify all broadband internet access as an “information service” in *Mozilla v. FEC*, 940 F.3d 1, 23 (D.C. Cir. 2019).

60. See, e.g., *United States v. Sw. Cable*, 392 U.S. 157, 178 (1968) (holding that regulation of CATV systems (the precursor to cable television) is “reasonably ancillary” to the Commission’s powers over broadcasting); *Comcast v. Fed. Commc’ns Comm’n*, 600 F.3d 642, 659–61 (D.C. Cir. 2010) (holding that network neutrality enforcement against information service providers is not reasonably ancillary to the Commission’s various other statutory powers). As *Comcast* may suggest, the scope of the Commission’s actual ancillary authority seems to have narrowed since first recognized in *Southwestern Cable*.

61. Messaging Order, 33 FCC Rcd. 12075, 12095 (2018) (“Our classification of SMS and MMS wireless messaging services as information services . . . will empower wireless providers to continue their efforts to protect consumers from unwanted text messages.”).

62. See, e.g., Pallone–Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence Act, Pub. L. No. 116-105, 133 Stat. 3274 (2019); Chris Mills Rodrigo, Senate Unanimously Approves Anti-Robocall Legislation, Hill (Dec. 19, 2019), <https://thehill.com/policy/technology/475152-senate-approves-anti-robocall-legislation> [<https://perma.cc/7T3T-7R9N>] (noting various efforts “to combat illegal robocalls”).

## III. THE IMPORTANCE OF BEING ABLE TO TEXT

So what? If your text messages are blocked, why don't you just use iMessage or WhatsApp? There are a few answers to this challenge, most of which begin with the premise that text messaging is standardized, inexpensive, interconnected (at least in theory), and hence largely ubiquitous.<sup>63</sup> WhatsApp users, for example, can only connect with other WhatsApp users.<sup>64</sup> So too with iMessage: When a recipient does not use iMessage, Apple's application defaults to SMS, or short message service—the standard that underlies text messaging.<sup>65</sup> In short, these other messaging services use proprietary standards, are used by comparatively limited sectors of the population, and are not mutually interconnected. SMS, by contrast, is an open standard available to anyone with a mobile phone (and a phone number). SMS is—or could be—the messaging failsafe.

This ubiquity means that text messaging is particularly well-suited to applications of the sort described above. It is useful for, say, enabling two-factor authentication across a large population, because the secured system is indifferent to whether individual users have Apple devices, have WhatsApp installed, or use some other service (Signal, say).<sup>66</sup> It is likewise useful for disseminating public health information in the midst of a pandemic or for enabling emergency texting applications, like text-to-911.<sup>67</sup> And, of course, it is useful for enabling communication among members of the entire public—in times of emergency and otherwise—no

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63. It is also important to note that, consistent with the view that SMS offers a widespread messaging failsafe, SMS requires comparatively little bandwidth and no data connection, as it can operate on the basic voice network.

64. David Okwii, 10 Most Frequently Asked WhatsApp Questions Answered, Dignited, <https://www.dignited.com/11333/10-frequently-asked-whatsapp-questions-answered> [<https://perma.cc/RQ4N-2T2T>] (last updated Sept. 18, 2019) (“Both the sender and receiver must have . . . [Whats]App installed . . .”).

65. Joanna Stern, Ugh, Green Bubbles! Apple's iMessage Makes Switching to Android Hard, *Wall St. J.* (Oct. 18, 2018), <https://www.wsj.com/articles/ugh-green-bubbles-apples-imessage-makes-switching-to-android-hard-1539867600> (on file with the *Columbia Law Review*) (“If outgoing messages are green, they're not being sent via Apple's iMessage platform; they're just plain, old text messages.”).

66. Stand-alone authentication applications are, from a security perspective, even more desirable. But such applications may be unavailable for some platforms, or inaccessible to users lacking smartphones. See *supra* note 49. And so, as noted earlier, two-factor authentication that is SMS-based is better than no two-factor authentication at all. See *supra* notes 48–49 and accompanying text.

67. See *supra* note 9–10 and accompanying text; see also, e.g., San Francisco Launches COVID-19 Text Message Alert System, SFGate (Mar. 6, 2020), <https://www.sfgate.com/news/bayarea/article/San-Francisco-Launches-Covid-19-Text-Message-15110512.php> [<https://perma.cc/UE9R-WGVV>].

matter whether they disagree over whether iOS is better than Android, or whether they are boycotting Facebook products (like WhatsApp).<sup>68</sup>

But this remains true only if carriers and intercarrier vendors conform to the interconnection norms that have governed telephone service for over a century,<sup>69</sup> and only if these companies can reliably deliver text messages to their intended recipients.

As described above, there are reasons to doubt both premises.

One, compelling evidence suggests that the norms of interconnection are breaking down in the context of text messaging. Instead, as noted above, carriers and intercarrier vendors deny or delay interconnection as leverage in compensation disputes.<sup>70</sup> In some cases, they do so without providing any notice to a message's sender or intended recipient, thus making it harder to for those parties to coordinate and move to a different platform.<sup>71</sup> In other cases, they seem to do so in order to favor the carrier-affiliated numbering system.<sup>72</sup> In short, these text-messaging-related practices echo the anticompetitive practices of the early telephone system—a system that was far more balkanized and far less valuable than the interconnected network that emerged after a series of competition-related interventions.<sup>73</sup>

Two, Syniverse's Valentine's Day Server Failure suggests that this system—which is critical to many public safety and security applications—may be more susceptible to serious problems than we might otherwise think. Some networking experts have described Syniverse's February to November latency as a “roya[l] scre[w] up,” one that results from a failure to follow standard protocols for fixing a faulty server.<sup>74</sup> Such errors would, for other communication modes, kick off an agency investigation and might even result in regulatory fines: The Commission has traditionally set strong regulatory incentives to ensure that a communication reaches its

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68. See Stern, *supra* note 65 (“[G]etting your entire family to Disney World really is easier than getting them all . . . [to switch to] a different chat service.”); see also Applications for Consent to the Transfer of Control of License and Section 214 Authorizations by Time Warner Inc. and Am. Online, Inc., Transferors, to AOL Time Warner Inc., Transferee, 16 FCC Rcd. 6547, 6626 (2001) [hereinafter AOL and Time Warner Order] (finding it unlikely that consumers will make coordinated moves to different chat platforms and thus requiring interoperability for a leading over-the-top messaging service).

69. 1913 Annual Report of the Directors of the American Telephone & Telegraph Co. to the Shareholders 24–26 (1914) (The Kingsbury Commitment); see also Nuechterlein & Weiser, *supra* note 20, at 264 (“[E]ver since the Kingsbury Commitment of 1913, there has been widespread consensus . . . that the government should enforce interconnection obligations on common carrier providers . . .”).

70. See *supra* notes 36–49 and accompanying text.

71. See *supra* notes 38, 46 and accompanying text.

72. See *supra* note 46 and accompanying text.

73. See Nuechterlein & Weiser, *supra* note 20, at 3–5 (describing the “infancy of the U.S. telephone industry,” the subsequent industry consolidation, and the consequent competition-related interventions).

74. Kastrenakes, Text Messages, *supra* note 1.

recipient expediently.<sup>75</sup> But the Commission's classification decision has left it with little power to investigate technical failures such as Syniverse's, to sanction market abuses like Zipwhip's, to examine the service-level guarantees between carriers and intercarrier vendors, or to set regulatory incentives ensuring connectivity—thus giving little assurance to the public that this mission-critical component of the communications infrastructure is well run.<sup>76</sup>

In other contexts, the Commission has been chastised for failing to adequately consider the safety and security effects of its classification decisions.<sup>77</sup> The same seems true here. And such concerns may be exacerbated by concentration in the cell phone carrier market, as well as the market for intercarrier services. Syniverse, for example, controls about seventy percent of the market for intercarrier services.<sup>78</sup> Hence, any breakdown in these systems may have far-reaching effects—both for person-to-person messages (as in the server failure described above), as well as for application-to-person messages (including public safety and security authentication messages).

Moreover, it seems likely that the relevant messaging market will remain concentrated over the short and medium term. SMS—the standard that underlies the simple text message—is beginning to show its age, and a replacement—RCS, or rich communication services—is waiting in the wings.<sup>79</sup> But the major cell phone carriers have launched a joint venture, the Cross-Carrier Messaging Initiative (CCMI), to control how RCS is implemented.<sup>80</sup> Why would the carriers launch their own joint venture to

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75. See, e.g., *In re Windstream Corp.*, 29 FCC Rcd. 1646, 1650 (2014) (settling an investigation into Windstream's call completion practices for \$2.5 million, explaining that "the Commission has consistently held that telecommunications carriers, including interexchange carriers, generally may not 'block, choke, reduce or restrict traffic in any way'"); Press Release, FCC, *supra* note 8.

76. See, e.g., *Comcast v. Fed. Commc'n Comm'n*, 600 F.3d 642, 644 (D.C. Cir. 2010) (finding the Agency has comparatively little power to investigate information services provider conduct).

77. Compare *Mozilla v. Fed. Commc'n Comm'n*, 940 F.3d 1, 59–63 (D.C. Cir. 2019) (holding that "[t]he Commission's disregard of its duty to analyze the impact of . . . [its decision to reclassify broadband carriage an information service] on public safety renders its decision arbitrary and capricious"), with *Messaging Order*, 33 FCC Rcd. 12075, 12100 (2018) (summarily dismissing, in less than one sentence, "policy arguments" related to "public safety and health").

78. First Amended Complaint and Demand for Jury Trial at 2, *Tyntec v. Syniverse*, No. 08:17-CV-00591-RAL-MAP (M.D. Fla. Apr. 5, 2017).

79. Jackie Dove, *What Is RCS messaging? Everything You Need to Know About the SMS Successor*, digitaltrends (July 30, 2020), <https://www.digitaltrends.com/mobile/what-is-rcs-messaging> [<https://perma.cc/2FHQ-XWND>] ("Despite the continuing popularity of SMS messaging, some people need more than it's capable of offering. To make the service more valuable and competitive . . . , smartphone manufacturers, carriers, and . . . governing agencies have developed the Rich Communication Services (RCS) protocol . . . [,] which is designed as a modern take on texting.").

80. Bohn, *supra* note 16.



implement a general standard? CCMI's own general manager has explained that doing so will help it "provide services to businesses that want to chat directly with consumers"—exactly the "lucrative" business that other applications services providers occupy.<sup>81</sup> In short, the carriers' control over the future of RCS is linked to the carriers' apparent desire to move into vertically adjacent markets, such as applications services. Such new competition into an existing market is often a welcome development. But CCMI's connection to the carriers gives us reason to pause: As with CSCs, the carriers' unregulated control over the text messaging infrastructure may, via network nepotism, give them an anticompetitive advantage in this platform-adjacent market.<sup>82</sup> If the carriers favor CCMI, or block CCMI's competitors, then competition in the applications services market may be short-lived. And, even worse, the future of messaging—RCS and beyond—will be controlled by the carriers, possibly at the expense of innovations that might arise out of applications-centered companies.<sup>83</sup> In short, this concentration threatens short-term effects on market competition, long-term effects on messaging innovation, and has important implications for network reliability.

We should, at minimum, expect the government to remain watchful for such problems. If, say, we are persuaded (though I am not) that any regulation would necessarily expose consumers to an overwhelming tide of text message spam, or that the carriers would be unwilling or unable to invest in the messaging infrastructure if it were subject to the same rules that apply to voice calls, we might still want the Commission to remain on alert for the sorts of competition- and safety-related harms described above.<sup>84</sup> But the Agency's classification decision, as noted, limits dramatically the Agency's regulatory and investigatory powers. Its decision to reclassify text messaging services as "information services," rather than forbear from exercising its regulatory powers over "telecommunications services" has a profound effect on the Agency's power to investigate and reregulate as necessary. Just as messaging has become a (if not the) dominant means of communication, it becomes less subject to the regulatory oversight that transformed the telephone call into the staple mode of communication. And that failure of oversight may well yield a more concentrated market for messaging—one that gives rise to higher prices

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81. *Id.*

82. See Tejas N. Narechania, *Network Nepotism and the Market for Content Delivery*, 67 *Stan. L. Rev. Online* 27, 30 (2014) ("[E]conomic theory, together with empirical examples . . . , suggest that . . . carriers may profitably discriminate against unaffiliated services."); see also C. Scott Hemphill & Tim Wu, *Parallel Exclusion*, 122 *Yale L.J.* 1182, 1195 (2013) (citing analogous examples from the wireless telecommunications industry).

83. See, e.g., Jack M. Balkin, *Media Access: A Question of Design*, 76 *Geo. Wash. L. Rev.* 933, 940 (2008) (explaining that "we should organize telecommunications policy" to "promote innovation and prevent incumbents from blocking new ideas and new competition"); Narechania, *supra* note 82, at 34 (citing similar risks to the analogous market of internet transit).

84. See *Messaging Order*, 33 *FCC Rcd.* 12075, 12095 (2018).

and lower-quality service (including, say, blocked messages, unresolved server failures, and security concerns).

The Commission has defended its decision by highlighting competing services like WhatsApp and iMessage, explaining that market competition will force messaging providers into offering ever-better service quality.<sup>85</sup> But that argument misses its mark, conflating messaging applications with messaging transit. The Agency's reasoning fails to account for coordination among wireless providers: As noted, these providers share a small pool of interexchange providers (seemingly at the direction of the wireless carriers' industry organization), and so competition among carriers seems unlikely to address this problem (given that all carriers impose similar constraints). The Commission's reasoning also fails to account for the lack of interconnectedness among the over-the-top providers that it suggests compete with SMS-based services.<sup>86</sup> Hence, the question is not whether there is adequate competition in the market for siloed messaging applications, but rather whether there is adequate oversight and competition in the market for messaging transit and interconnection—the reliable delivery of messages over an open and interoperable messaging system.<sup>87</sup> Here, oversight has been made thin and competition is scarce. Indeed, the major wireless carriers have launched a new venture to control the next generation of interconnected messaging. In short, the costs to send and receive messages seem likely to increase, with no guarantee of improvements in messaging reliability and functionality. Such gains, rather, will be conferred on businesses and consumers only at the whim of consortia like CCMI and CTIA and their agents, including Zipwhip.

The Agency erred by treating text messaging as some newfangled thing—some new “information service” in competition with iMessage and WhatsApp—rather than a well-established replacement for an existing “telecommunications service” platform.<sup>88</sup> What made each platform—first phone calls, later text messages—so important and so valuable was its

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85. *Id.* at 12098 (“Consumers have a wealth of options for wireless messaging service; if wireless providers do not ensure that messages consumers want are delivered, they risk losing those customers to other wireless providers or to over-the-top applications.”).

86. *Cf.* AOL and Time Warner Order, 16 FCC Rcd. 6547, 6626 (2001) (requiring that AOL Instant Messenger interoperate with other messaging platforms as a condition of approving the merger between America Online and Time Warner).

87. *Cf.* Mike Masnick, *Protocols, Not Platforms: A Technological Approach to Free Speech*, Knight First Amendment Inst. at Colum. Univ. (Aug. 21, 2019), <https://knightcolumbia.org/content/protocols-not-platforms-a-technological-approach-to-free-speech> [<https://perma.cc/BU6S-WG6T>] (arguing in favor of standard open protocols for interconnection and competition among interfaces and applications that use such protocols).

88. Compare Messaging Order, 33 FCC Rcd. at 12101 (stating that “utility-style regulation is not suitable for dynamic technological industries, such as [text] messaging services, that constantly undergo major developments, because such regulation inherently restricts the activities in which the regulated industry can engage”), with Duhaime-Ross, *supra* note 1, at 17:20–18:09 (explaining that SMS is more than twenty-five years old, and is a technology that reaches consumers “where they are”).

interconnectedness and reliability. The Agency's decision puts these very features at risk, undermining SMS's potential as a failsafe mode of communication.

#### CONCLUSION: TEXT MESSAGES & STATUTORY INTERPRETATION

In short, the structure of the text messaging markets, together with the empirical examples of system failures and potentially anticompetitive conduct, should give cause for concern. These conditions may affect safety- and security-related messages, messaging-related innovation, and competition in messaging markets.

The Commission can address these concerns. It has long held the regulatory power to ensure that communications providers—phone call carriers and text messaging service carriers, too—comply with interconnection mandates, conform to public safety standards, and refrain from anticompetitive leveraging. But the Agency has, instead, chosen a different, deregulatory approach, classifying text messaging services as an “information service.”<sup>89</sup>

The Commission's classification decision falls into a zone of substantial agency discretion. But this is not to suggest that there is not a *better* answer among “information service” and “telecommunications service.” The choice between the two classes depends on at least two factors, “consumer perception and the actual characteristics of the service.”<sup>90</sup> So what do consumers perceive carriers offer by way of their text messaging service? The means to send a message to a recipient—a message that consumers expect will timely arrive, in its original condition, to its intended recipient. And what do carriers actually offer? The delivery of those messages (via intermediaries, as appropriate) to their recipients. That is the very definition of a telecommunications service: “[T]he transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.”<sup>91</sup> The Agency's contrary decision is thus the worse interpretative choice. It is also the worse policy choice. It gives carriers practically unbridled discretion to block or throttle text messages and text-message-based services, thereby risking safety, security, and competition in the messaging market.

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89. See Messaging Order, 33 FCC Rcd. at 12075.

90. *Id.* at 12085.

91. 47 U.S.C. § 153(50) (2018).