

# The Duty to Read the Unreadable

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*The duty to read doctrine is a well-recognized building block of U.S. contract law. Under this doctrine, contracting parties are held responsible for the written terms of their contract, whether or not they actually read them. The application of the duty to read is especially interesting in the context of consumer contracts, which consumers generally do not read.*

*Under U.S. law, courts routinely impose this doctrine on consumers. However, the application of this doctrine to consumer contracts is unilateral. While consumers are expected and presumed to read their contracts, suppliers are generally not required to offer readable contracts. This asymmetry creates a serious public policy challenge. Put simply, consumers might be expected to read contracts that are, in fact, rather unreadable. This, in turn, undermines market efficiency and raises fairness concerns.*

*Numerous scholars have suggested that consumer contracts are indeed written in a way that dissuades consumers from reading them. This Article aims to empirically test whether this concern is justified. The Article focuses on the readability of an important and prevalent type of consumer agreement: the sign-in-wrap contract. Such contracts, which have already been the focal point of many legal battles, are routinely accepted by consumers when signing up for popular websites such as Facebook, Amazon, Uber, and Airbnb.*

*The Article applies well-established linguistic readability tests to the 500 most popular websites in the U.S. that use sign-in-wrap agreements. The results of this Article indicate, inter alia, that the average readability level of these agreements is comparable to the usual score of articles in academic journals, which typically do not target the general public. These disturbing empirical findings hence have significant implications on the design of consumer contract law.*

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## INTRODUCTION

Are sign-in-wrap contracts—which are commonly used by firms such as Google, Facebook, Uber and Amazon—readable? Can American consumers be expected to read these contracts? Should courts rely on the duty to read doctrine and enforce such contracts on consumers? This Article tackles these important questions by systematically and empirically testing the level of readability of highly prevalent online consumer contracts.

The duty to read doctrine—under which a contracting party has a burden to read an agreement before assenting to its terms<sup>1</sup>—is an important building

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<sup>1</sup> See *infra* Part I.

block of U.S. contract law.<sup>2</sup> While the duty to read is a general contract law doctrine, it has interesting and important implications in the context of consumer standard form contracts. On the one hand, consumers do not read such contracts.<sup>3</sup> This includes prominent law professors, consumer law academics, and the Chief Justice of the Supreme Court.<sup>4</sup> On the other hand, courts routinely apply the duty to read to consumer contracts,<sup>5</sup> including online boilerplate agreements.<sup>6</sup>

Many share a strong intuition that consumer standard form contracts, which bombard us on a daily basis, are unreasonably lengthy and complicated. Yet under U.S. law, the duty to read imposed on consumers is

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<sup>2</sup> Ian Ayres & Alan Schwartz, *The No-Reading Problem in Consumer Contract Law*, 66 STAN. L. REV. 545 (2014) ("Courts have routinely relied upon the duty to read doctrine in enforcing contracts."); Charles L. Knapp, *Is There a "Duty to Read"?*, 66 HASTINGS L.J. 1083, 1085 (2015) ("The notion that there is in general contract law a 'duty to read' persists in the decisions of American courts."); Michael Giusto, *Mortgage Foreclosure for Secondary Breaches: A Practitioner's Guide to Defining "Security Impairment"*, 26 CARDOZO L. REV. 2563, 2584 n.131 (2005) ("It is a fundamental precept of contract law that a party has a duty to read a contract"); Shmuel I. Becher, *Asymmetric Information in Consumer Contracts: The Challenge That Is Yet To Be Met*, 45 AM. BUS. L.J. 723, 729 (2008) ("The duty to read is a well-recognized common law doctrine."); Roy R. Anderson, *Disclaiming the Implied Warranties of Habitability and Good Workmanship in the Sale of New Houses: The Supreme Court of Texas and the Duty to Read the Contracts You Sign*, 15 TEX. TECH. L. REV. 517, 544 (1984) ("The duty to read has its place in the law of contract."); Michael L. Rustad & Thomas H. Koenig, *Wolves of the World Wide Web: Reforming Social Networks' Contracting Practices*, 49 WAKE FOREST L. REV. 1431, 1451 (2014) ("The duty to read is a long-standing principle in Anglo-American contract law."); Jennifer L. Nusbaum, *North Carolina's Duty to Read: The Demise of Accountability for Transactional Attorneys?*, 92 N.C. L. REV. ADDENDUM 147, 149 (2014) ("Courts have long recognized an individual's duty to read a document when contracting with another party.").

<sup>3</sup> See, e.g., Yanees Bakos, Florencia Marotta-Wurgler & David R. Trossen, *Does Anyone Read the Fine Print? Consumer Attention to Standard Form Contracts*, 43 J. LEG. STUD. 1 (2014) (providing empirical data that virtually no consumers read End Users License Agreements); Clayton P. Gillette, *Rolling Contracts as an Agency Problem*, 2004 WIS. L. REV. 679, 680 (2004) ("[C]ommentators agree that buyers, or the vast majority of them, do not read the terms presented to them by sellers."); Lewis A. Kornhauser, Comment, *Unconscionability in Standard Forms*, 64 CAL. L. REV. 1151, 1163 (1976) ("In general the consumer will not have read any of the clauses, and most will be written in obscure legal terms."); Shmuel I. Becher & Esther Unger-Aviram, *The Law of Standard Form Contracts: Misguided Intuitions and Suggestions for Reconstruction*, 8 DEPAUL BUS. & COM. L.J. 199, 206 (2010) (providing empirical data that most consumer are not likely to read typical consumer contracts ex ante).

<sup>4</sup> See, respectively, Richard A. Epstein, *Contract Not Regulation: UCITA and High-Tech Consumers Meet Their Consumer Protection Critics*, in CONSUMER PROTECTION IN THE AGE OF THE 'INFORMATION ECONOMY,' 227 (Jane K. Winn ed., 2006) ("It seems clear that most consumers—of whom I am proudly one—never bother to read these terms anyhow: we know what they say on the issue of firm liability, and adopt a strategy of 'rational ignorance' to economize on the use of our time."); Jeff Sovern, *The Content of Consumer Law Classes III*, 22 J. CONS. & COMMERCIAL L. (Forthcoming) (reporting survey results according to which 57% of consumer law professors "rarely or never" read consumer contracts); Debra Cassens Weiss, *Chief Justice Roberts Admits He Doesn't Read the Computer Fine Print*, A.B.A. J. (Oct. 20, 2010), [http://www.abajournal.com/news/article/chief\\_justice\\_roberts\\_admits\\_he\\_doesnt\\_read\\_the\\_computer\\_fine\\_print](http://www.abajournal.com/news/article/chief_justice_roberts_admits_he_doesnt_read_the_computer_fine_print).

<sup>5</sup> See, e.g., Ayres & Schwartz, *supra* note 2, at 548 n.10; see also, Wayne R. Barnes, *Toward a Fairer Model of Consumer Assent to Standard Form Contracts: In Defense of Restatement Subsection 211(3)*, 82 WASH. L. REV. 227, 230 (2007) ("Contract law has always assumed that consumers have a duty to read the contracts."); Becher, *supra* note 2, at 730 n.32 ("Indeed, applying a strict duty to read contracts, including SFCs [Standard Form Contracts], is currently a dominant approach taken by courts.").

<sup>6</sup> Rustad & Koenig, *supra* note 2, at 1453 ("courts have expanded the duty [to read] to [...] the world of electronic boilerplate...").

unilateral, in the sense that there is no general duty on suppliers to provide consumers with readable contracts.<sup>7</sup> While some states enacted plain language laws, these are often limited in scope and typically lack objective criteria defining what a ‘readable’ text is.<sup>8</sup> Given this legal reality, this Article empirically assesses whether consumer contracts – which consumers are legally presumed to read – are readable.<sup>9</sup>

The Article specifically tests, for the first time, the readability of a prevalent type of consumer agreement: the sign-in-wrap contract. As explained in more detail below,<sup>10</sup> in such contracts, users allegedly agree to the website’s terms by signing up to the website. This type of contract is rather ubiquitous,<sup>11</sup> and it is routinely “accepted” by consumers when they sign-up to various online websites.<sup>12</sup> Furthermore, it has been at the forefront of many legal battles, involving giant companies such as Facebook, Amazon, Uber, and Airbnb.<sup>13</sup>

The structure of this Article is as follows: Part I provides the theoretical context for the empirical test of this study. It presents the duty to read doctrine and its traditional justifications, which are based on the assumption that consumer contracts are indeed readable. Thereafter it briefly presents the definition and typical content of a consumer sign-in-wrap agreement, which is the focus of our empirical test. Subsequently, it discusses prior empirical studies on consumer contract readability and the contribution of this paper to the existing literature. Part II presents the empirical test of this study. It reviews the data that underlines the test and discusses its methodology. It then details the results of our test: in spite of their ubiquity, sign-in-wrap contracts are generally unreadable. Part III discusses the normative policy and legal implications of the empirical results. It further

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<sup>7</sup> See *infra* Part I.A.

<sup>8</sup> See, e.g., HAW. REV. STAT. ANN. § 487A-1 (LexisNexis 2012); MINN. STAT. ANN. § 325G.31 (West 2011); MONT. CODE ANN. § 30-14-1103 (West 2017); N.J. STAT. ANN. § 56:12-2 (West 2012 & Supp. 2018); N.Y. GEN. OBLIG. LAW § 5-702 (McKinney 2012 & Supp. 2018); OR. REV. STAT. § 180.545 (2003).

<sup>9</sup> See *infra* Part II.

<sup>10</sup> For further discussion see *infra* Part I.B.

<sup>11</sup> Among the most popular 988 websites in the U.S., 500 of them (about 51%) use sign-in-wrap contracts. See *infra* Part II.A.

<sup>12</sup> Colin P. Marks, *Online and As Is*, 45 PEPP. L. REV. 1, 11, 37-38 (2017) (sign-in-wrap agreements appear "to be gaining popularity among online vendors...Sign-in wrap agreements are...somewhat prolific...The trend, at least with regard to sellers of goods, appears to be moving toward sign-in wrap."); *Selden v. Airbnb, Inc.*, 2016 U.S. Dist. LEXIS 150863, at \*11 (D.D.C., 2016) ("Many internet websites...now use sign-in-wraps.").

<sup>13</sup> For cases involving sign-in-wrap agreements, although courts have not always explicitly labeled these agreements as such, see, e.g., *Fteja v. Facebook, Inc.*, 841 F. Supp. 2d 829 (S.D.N.Y. 2012); *In re Facebook Biometric Info. Privacy Litig.*, 185 F. Supp. 3d 1155 (N.D. Cal. 2016); *Amazon.com, Inc.*, 84 F. Supp. 3d 142, 150 (E.D.N.Y. 2015), *aff'd in part, vacated in part, remanded*, 834 F.3d 220 (2d Cir. 2016); *Cullinane v. Uber Techs., Inc.*, No. CV 14-14750-DPW, 2016 WL 3751652 (D. Mass. July 11, 2016), *rev'd*, 893 F.3d 53 (1st Cir. 2018); *Plazza v. Airbnb, Inc.*, 289 F. Supp. 3d 537 (S.D.N.Y. 2018); see also *infra* Part I.B.

explains the importance and the less obvious implications of readability; clarifies why market forces cannot suffice to discipline drafters of consumer contracts; and places readability in a wider, more holistic approach to consumer contracts. A short conclusion follows.

## I. THEORETICAL BACKGROUND

### A. *The Unilateral Duty to Read*

Under the duty to read doctrine, contracting parties are presumed to have read the contract before agreeing to its terms.<sup>14</sup> Failure to fulfill this duty has three central legal implications: first, a contractual party is normally bound by its terms notwithstanding its failure to read them.<sup>15</sup> Second, refraining from reading the contract does not constitute grounds for voiding the contract.<sup>16</sup> Third, failure to read the contract does not trigger a contractual mistake necessary for contract reformation.<sup>17</sup>

In the context of consumer contracts, the duty to read is traditionally based on both economic and fairness justifications. From an economic

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<sup>14</sup> *Rosenfeld v. JPMorgan Chase Bank, N.A.*, 732 F.Supp.2d 952, 965 (N.D. Cal. 2010) ("Plaintiff has a duty to read the terms of a contract before signing."); *Liggatt v. Emp'rs Mut. Cas. Co.*, 46 P.3d 1120, 1125 (Kan. 2002) ("A party to a contract has a duty to read the contract before signing it."); *Bailey v. Estate of Kemp*, 955 So. 2d 777, 783 (Miss. 2007) ("Parties to a contract have an inherent duty to read the terms of a contract prior to signing."); *THI of N.M. at Vida Encantada, LLC v. Lovato*, 848 F. Supp. 2d 1309, 1325 (D.N.M. 2012) ("Each party to a contract...has a duty to read and familiarize herself with its contents before signing it.").

<sup>15</sup> *Rosenbaum v. Texas Energies, Inc.*, 241 Kan. 295, 299 (Kan. 1987) ("A person who signs a written contract is bound by its terms regardless of his or her failure to read and understand its terms."); *Simeone v. Simeone*, 525 Pa. 392, 400 A.2d 162, 165 (Pa. 1990) ("Contracting parties are normally bound by their agreements, without regard to whether the terms thereof were read."); *MS Credit Ctr., Inc. v. Horton*, 926 So. 2d 167, 177 (Miss. 2006) (a party may not avoid a written contract "merely because he or she failed to read it."); *Heller Fin., Inc. v. Midwhey Powder Co., Inc.*, 883 F.2d 1286, 1292 (7th Cir. 1989) ("It is no defense to say, 'I did not read what I was signing'"); *Faur v. Sirius Int'l. Ins. Corp.*, 391 F. Supp. 2d 650, 658 (N.D. Ill. 2005) ("I did not read what I was signing' will not be considered a valid defense."); John C. Calamari, *Duty to Read--A Changing Concept*, 43 FORDHAM L. REV. 341, 341 (1974) ("A party who signs an instrument manifests assent to it and may not later complain that he did not read the instrument."); Kaustuv M. Das, *Forum-Selection Clauses in Consumer Clickwrap and Browsewrap Agreements and the "Reasonably Communicated" Test*, 77 WASH. L. REV. 481, 485 (2002) ("...parties to standard-form contracts are not relieved of their duties simply because they did not read the terms contained therein.").

<sup>16</sup> *Williamson v. Public Storage*, 2004 U.S. Dist. LEXIS 3799, at \*11 (D. Conn., 2004) ("plaintiff's failure to read contract before signing not ground for voiding contract in absence of evidence of fraud or artifice."); *MS Credit Ctr., Inc. v. Horton*, 926 So. 2d 167, 177 (Miss. 2006) (a party may not "avoid a written contract merely because he or she failed to read it.").

<sup>17</sup> *RS & P/WC Fields Ltd. Partnership v. BOSP Invs.*, 829 F. Supp. 928, 969 (N.D. Ill., 1993) ("failure to read the terms of a negotiated contract does not rise to the level of mutual mistake necessary for contract reformation."); *B. L. Ivey Constr. Co. v. Pilot Fire & Casualty Co.*, 295 F. Supp. 840, 845 (N.D. Ga. 1968) ("Negligence in not reading [the contract] before it is sent to one who acted in good faith can bar reformation by the negligent party."); *LG Mayfield LLC v. United States Liab. Ins. Grp.*, 88 N.E.3d 393, 404 (Ohio Ct. App., Geauga County 2017) ("A court should not reform an insurance policy where the party seeking reformation has failed to fulfill his duty to read the policy."); *Priore v. State Farm Fire & Cas. Co.*, 2014 Ohio App. LEXIS 681, at \*P27 (Ohio Ct. App., Cuyahoga County 2014) (same).

standpoint, it is assumed that the duty to read may produce several important social benefits. To begin with, it potentially increases the probability that consumers will read a contract before signing it.<sup>18</sup> Without such a duty and its accompanying legal implications, consumers could challenge, after signing the contract, an unfavorable contract term that they have not read.<sup>19</sup> Consequently, a consumer would have greater incentive to avoid reading the contract terms.<sup>20</sup> In contrast, under the duty to read consumers are legally bound to the contract terms, even if they failed to read them.<sup>21</sup> As a result, the consumer will be arguably more likely to read the contract than under a no-duty to read regime.<sup>22</sup>

By inducing consumers to review the contract, the duty to read may increase the probability that the transaction is based on a well-informed decision.<sup>23</sup> This, in turn, promotes consumer welfare.<sup>24</sup> Moreover, contract reading can potentially clarify the parties' obligations and rights.<sup>25</sup> Thus, the

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<sup>18</sup> Omri Ben-Shahar, *The Myth of the 'Opportunity to Read' in Contract Law*, 5 EUR. REV. CONT. L. 1, 7 (2009) (The duty to read "is a method to shift the burden of information acquisition to the passive party."); Becher, *supra* note 2, at 729 ("The application of the duty to read provides contracting parties with an incentive to read and understand contracts before entering them.").

<sup>19</sup> Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1269 (2003) ("If buyers could preserve the right to challenge ex post any contract term of which they were unaware ex ante, they would have a perverse incentive to avoid learning the content of all terms.").

<sup>20</sup> *Id.*

<sup>21</sup> See *supra* note 15 and accompanying text.

<sup>22</sup> Stewart Macaulay, *Private Legislation and the Duty to Read - Business Run by IBM Machine, the Law of Contracts and Credit Cards*, 19 VAND. L. REV. 1051, 1058 (1966) ("If one knows he will be legally bound to what he signs, he will take care to protect himself...").

<sup>23</sup> This, of course, is under the assumption that firms will follow the written contract, rather than deviate from it. At times, however, firms' behavior differ than the contractual language. For discussing this phenomenon and its application see, e.g., Shmuel I. Becher & Tal Z. Zarsky, *Minding the Gap*, 51 CONN. L. REV. (forthcoming 2019) (proposing that under some circumstances firms' lenient approach and willingness to deviate from their one-sided contracts may have surprising and harmful consequences); Lisa Bernstein & Hagay Volvovsky, *Not What You Wanted to Know: The Real Deal and the Paper Deal in Consumer Contracts—Comment on the Work of Florencia Marotta-Wurgler*, 12 JERUSALEM REV. LEGAL STUD. 128, 129 (2015) ("[This comment] suggests that studies of consumer contracts in particular contexts should move from looking almost exclusively at the terms of the paper deal to looking at the terms of the real deal—that is, the way sellers actually behave in the shadow of both written contracts and the wide variety of other forces that may constrain or influence their behavior."); Jason Scott Johnston, *The Return of Bargain: An Economic Theory of How Standard-Form Contracts Enable Cooperative Negotiation Between Businesses and Consumers*, 104 MICH. L. REV. 857, 858–59 (2006); Lucian A. Bebchuk & Richard A. Posner, *One-Sided Contracts in Competitive Consumer Markets*, 104 MICH. L. REV. 827 (2006); Richard Craswell, *Taking Information Seriously: Misrepresentation and Nondisclosure in Contract Law and Elsewhere*, 92 VA. L. REV. 565, 576-7 (2006) (considering the need for disclosures regarding the gap between the written contract and firm's actual behavior).

<sup>24</sup> Macaulay, *supra* note 22 (under the duty to read, "more bargains will approach the economists' ideal where both leave the bargaining table in a better position than when the negotiations began."); Becher, *supra* note 2, at 729-30 (an incentive to read the contract "increases the likelihood that agreements will be mutually informed and, thus, that the transaction will indeed promote the welfare of both contracting parties.").

<sup>25</sup> Macaulay, *supra* note 22, at 1058 (the duty to read will reduce the chances of dispute "since the process of reading and understanding should make clear who is to do what and who is to take what loss if a particular risk occurs.").

duty can also reduce the probability of costly disputes arising from contractual misunderstandings.<sup>26</sup> Overall, the duty to read has some economic benefits, and it potentially promotes efficient reliance on contracts.<sup>27</sup>

As noted, the duty to read is also based on a fairness justification. According to this justification, if a consumer could have read the contract but freely chose not to do so, it would normally be fair to prevent him from avoiding the contract just because he has not read it.<sup>28</sup> The duty to read supports a fairness rationale whereby people should be accountable for their decisions, including the decision to sign a contract without reading it.<sup>29</sup>

The duty to read has some important underlying justifications. However, these are based on one central implicit condition: that consumers can read and comprehend the contract.<sup>30</sup> If the contract is unreadable, the major economic and fairness justifications that underline the duty are questionable.

First, from an economic perspective, if the contract is unreadable, the duty is unlikely to induce consumers to read it. A consumer may be rationally deterred from reading an illegible contract given its high reading costs.<sup>31</sup> In addition, if the contract is difficult to understand, the duty to read may not necessarily increase the probability that the transaction will be based on a well-informed decision.<sup>32</sup> Consequently, the unreadable contract will not necessarily promote consumer welfare. In addition, an unreadable contract is unlikely to clarify consumers' rights and duties. Thus, the duty to

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<sup>26</sup> *Id.* (under the duty to read, "disputes during the life of the transaction should tend to be minimized...").

<sup>27</sup> See e.g., JOSEPH M. PERILLO, *CONTRACTS* 360 (7th ed. 2013) ("...no one could rely on a signed document if the other party could avoid the transaction by not reading [...] the record"); Calamari, *supra* note 15, at 342; Barnes, *supra* note 5, at 246.

<sup>28</sup> Ayres & Schwartz, *supra* note 2, at 549 ("The duty to read doctrine is contract law's analog to the assumption of risk doctrine in tort law. A buyer who could have read but did not assumes the risk of being bound by any unfavorable terms.").

<sup>29</sup> Justin P. Green, Comment, *The Consumer-Redistributive Stance: A Perspective on Restoring Balance To Transactions Involving Consumer Standard Form Contracts*, 46 *AKRON L. REV.* 551, 567 (2013) ("Other more general justifications for the duty to read include the belief that people should be accountable for their decisions, including the decision to sign a contract without reading it..."); Becher, *supra* note 2, at 730 ("The duty to read has a possible normative justification in that it embodies the belief that autonomous persons should be held liable for their decisions, including the decision not to read (or fully understand) contract terms.").

<sup>30</sup> Cf. Melvin A. Eisenberg, *Text Anxiety*, 59 *S. CAL. L. REV.* 305, 311 (1986) ("It is clear that the 'duty to read' imposed by classical contract law had no connection to human reality in the case of dense-text form contracts."); Alan M. White & Cathy Lesser Mansfield, *Literacy and Contract*, 13 *STAN. L. & POL'Y REV.* 233, 263 (2002) ("Insurance contracts are understood to be hopelessly unreadable, and the pretense of imposing a duty to read is simply too absurd to sustain for many judges.").

<sup>31</sup> Eisenberg, *supra* note 30, at 309 ("Reading text one can't understand is...extremely inefficient."); Ben-Shahar, *supra* note 18, at 7 ("...if the cost reading is not too great...then reading is indeed reasonable 'precaution' one should take before entering a contract...However...when reading a contract requires a significant investment of resources – the cost benefit analysis changes.").

<sup>32</sup> Becher, *supra* note 2, at 734 ("...imposing a duty to read on consumers may arguable reduce asymmetric information, as long as consumers can understand the SFCs [Standard Form Contracts] they read.").

read is unlikely to reduce costly disputes caused by contractual misapprehensions.

Second, if the contract is unreadable, the fairness justification that underlines the duty to read is also dubious. There is no legitimate reason to hold consumers accountable for terms they justifiably decided not to read.<sup>33</sup> In fact, when the contract is unreadable, the duty imposed on consumers to read the illegible contract becomes unfair.<sup>34</sup>

Put simply, for the duty to read to be fair and efficient, consumers must be able to read their contracts. However, the duty to read is not accompanied by a general balancing duty, one that requires suppliers to provide readable contracts. Slightly restated, the duty to read is unilateral; the burden is placed only on consumers, who are assumed to comply with the duty.<sup>35</sup>

This legal void generates an important empirical question: are consumer contracts, governed by a duty to read, readable? We examine this question while focusing on an important type of consumer contract: sign-in-wrap. The definition and features of this contract are explained next.

### *B. Consumer Sign-In-Wrap Contracts*

Sign-in-wrap contracts are a relatively new phenomenon.<sup>36</sup> In this Section we explain what such contracts are. We also clarify how they differ from other, older types of online consumer contracts.

Firms that operate online offer consumers a few prominent types of contracts, including clickwrap, browsewrap and sign-in-wrap. Under a clickwrap agreement, users are explicitly presented with the entire terms of the agreement. Only then are they required to click on a button labeled “I

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<sup>33</sup> Ben-Shahar, *supra* note 18, at 8 (“Why would we hold someone liable, then, for failing to take care measures that are recognized as excessively costly?...It is not reasonable to impose a duty to read the long boilerplate.”).

<sup>34</sup> Heather Daiza, *Wrap Contracts: How They Can Work Better for Businesses and Consumers*, 54 CAL. W. L. REV. 201, 211–12 (2017) (“When consumer contracts are functionally unreadable [], the duty to read becomes conceptually unfair.”).

<sup>35</sup> NANCY KIM, *WRAP CONTRACTS: FOUNDATIONS AND RAMIFICATIONS* 176 (2013) (“In evaluating whether the contract is enforceable, courts impose upon the non-drafting party a duty to read without also imposing upon the other party a duty to draft reasonably.”); Rustad & Koenig, *supra* 2, at 1460-61 (“Providers have no general duty to draft reasonable consumer contracts.”).

<sup>36</sup> Alexis Kramer, *‘Sign-In-Wraps’ Spreading From Court to Court* (Nov. 4, 2016), available at <https://www.bna.com/signinwraps-spreading-court-b57982082259/> (sign-in-wrap agreement is “a new breed of online agreements [] making its way through the federal district court system”); Katrina Carroll, *Internet Agreements to Arbitrate: Know the Four “Wraps”* (December 1, 2016), available at <http://www.litedepalma.com/internet-agreements-to-arbitrate-know-the-four-wraps/> (“sign-in wraps are the new kid on the block, recognized only recently by the courts”); Andrew Lind, *The Sign-in Wrap Contract: A New Type of Online Contract* (26 February, 2018), available at <https://www.lawexperts.com.au/commercial-law/sign-wrap-contract-new-type-online-contract/> (“the sign-in wrap contract is a relatively new type of online contract”).



accept” or “I agree.”<sup>37</sup> Under a browsewrap agreement, the website’s terms of use are normally merely posted on the website via a hyperlink at the bottom of the screen.<sup>38</sup> That is, the website usually makes no significant effort to bring the contract terms to the user’s attention.<sup>39</sup>

A common definition for a sign-in-wrap contract is an agreement that an online website requires its users to accept before they sign up to use the website’s services.<sup>40</sup> Under such contract, the website usually explicitly states that by signing up to the website, the user agrees to the contract.<sup>41</sup> The user could normally view the contract terms by clicking a hyperlink, which is located next to a sign-up button displayed on the screen.<sup>42</sup> This hyperlink is often labeled by the website as “Conditions of Use,” “Terms of Service,” or just “Terms.”

Accordingly, the sign-in-wrap contract should be distinguished from its two (older) “siblings,” clickwrap and browsewrap contracts. A sign-in-wrap agreement differs from a clickwrap in that the user can click the sign-up button whether or not they have been explicitly presented with the entire terms of the agreement, which are available via a hyperlink.<sup>43</sup> In addition,

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<sup>37</sup> *Nguyen v. Barnes & Noble Inc.*, 763 F.3d 1171, 1175–76 (9th Cir. 2014) (under clickwrap agreements “website users are required to click on an ‘I agree’ box after being presented with a list of terms and conditions of use.”); *United States v. Drew*, 259 F.R.D. 449, 462 (C.D. Cal. 2009) (“Clickwrap agreements require a user to affirmatively click a box on the website acknowledging awareness of and agreement to the terms of service before he or she is allowed to proceed with further utilization of the website.”); Erin Canino, *The Electronic “Sign-In Wrap” Contract: Issues of Notice and Assent, the Average Internet User Standard, and Unconscionability*, 50 U.C. DAVIS L. REV. 535, 537 (2016) (“Clickwrap contracts require Internet users to affirmatively click ‘I agree’ when assenting to the terms and conditions on a website or making online purchases.”).

<sup>38</sup> *Nguyen v. Barnes & Noble Inc.*, 763 F.3d 1171, 1176 (9th Cir. 2014) (under browsewrap agreements “website users are required to click on an “I agree” box after being presented with a list of terms and conditions of use.”);

<sup>39</sup> Robert V. Hale II, *Recent Developments in Online Consumer Contracts*, 71 BUS. L. 353, 357 (2015-2016) (Browsewrap “makes no effort to bring the terms to the user’s attention.”).

<sup>40</sup> *McKee v. Audible, Inc.*, No. CV 17-1941-GW(EX), 2017 WL 4685039, at \*6 (C.D. Cal., 2017) (Courts commonly refer to agreements in which websites “contain a disclosure statement that indicates if...user[s] signs up for a given service they accept the terms of service” as sign-in-wrap agreements.”); *Selden v. Airbnb, Inc.*, 2016 U.S. Dist. LEXIS 150863, at \*11 (D.D.C., 2016) (“Sign-in-wrap agreements are those in which a user signs up to use an internet product or service...”); *Cullinane v. Uber Technologies, Inc.*, 893 F.3d 53, 61 n.10 (2018) (“Sign-in-wrap couples assent to the terms of a website with signing up for use of the site’s services.”); Beatrice Kelly, *The (Social) Media is the Message: Theories of Liability for New Media Artists*, in 40 COLUM. J.L. & ARTS 503, 514 n.83 (2017) (in sign-in-wrap agreements “users assent to the agreement by signing up to use the website.”).

<sup>41</sup> *Meyer v. Uber Techs., Inc.*, 868 F.3d 66, 75-76 (2d Cir. 2017) (Sign-in-wrap agreements “advise the user that he or she is agreeing to the terms of service when registering or signing up.”); *TopstepTrader, LLC v. OneUpTrader, LLC*, No. 17 C 4412, 2018 U.S. Dist. LEXIS 64815, 2018 WL 1859040, at \*8 (N.D. Ill., 2018) (in sign-in-wrap agreements “usually during the sign up process, the webpage states something to the effect of: ‘By signing up for an account with [website provider], you are accepting the [website]’s terms of service’.”).

<sup>42</sup> *TopstepTrader, LLC v. OneUpTrader, LLC*, No. 17 C 4412, 2018 U.S. Dist. LEXIS 64815, 2018 WL 1859040, at \*8 (N.D. Ill., 2018) (in sign-in-wrap agreements a “hyperlink to the terms is provided.”); Hale *supra* note 39, at 357 (in sign-in-wrap agreements “the terms...are available via a hyperlink.”).

<sup>43</sup> *Fteja v. Facebook, Inc.*, 841 F. Supp. 2d 829 (S.D.N.Y. 2012) (Under Facebook’s online agreement, which has the characteristics of a sign-in-wrap agreement, and “unlike some clickwrap agreements, the user can click to assent whether or not the user has been presented with the terms.”); *see also Berkson v. Gogo LLC*, 97 F. Supp. 3d 359, 400 (E.D.N.Y. 2015).

unlike clickwrap agreements that require users to click “I agree,” sign-in-wraps may only state that by signing up to the website the user agrees to the contract.<sup>44</sup> Sign-in-wraps also differ from browsewraps in that they explicitly notify the user that signing up to the website means assenting to contract terms.<sup>45</sup>

In short, sign-in-wrap contracts combine the process of signing up for a website with agreeing to its terms and conditions. Sign-in-wrap contracts can therefore be viewed as a blend of clickwrap contracts, where users are required to tick or click on “I Agree,” and browsewrap contracts, where users presumably accept the website’s term and conditions merely by using it.<sup>46</sup>

Sign-in-wrap contacts often include a set of clauses that can significantly affect the user’s legal rights and duties. These typically include:

- 1) an intellectual property clause, which informs users that the website data is protected under copyright law;<sup>47</sup>
- 2) a prohibited use clause, which outlines actions that cannot be taken by the users while using the website, such as database scraping;<sup>48</sup>
- 3) a modification clause, which allows the website to occasionally and unilaterally change the terms of the contract;<sup>49</sup>
- 4) a termination clause, which specifies the circumstances under which the website can deactivate user accounts;<sup>50</sup>
- 5) a limitation of liability clause, which stipulates the degree of legal exposure that the website will be subject to if sued by the user on a claim arising from website usage;<sup>51</sup>
- 6) a disclaimer clause, which states that the website services are provided to the users without warranties of any kind;<sup>52</sup>

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<sup>44</sup> Hale, *supra* note 39, at 357 (“Sign-in-wrap differs from clickwrap, in that the latter requires the user to click on a button labeled ‘I Agree’ or the like, while the former only states that, if the user proceeds to the next step of the online process, she will be deemed to accept the terms...”); Cullinane v. Uber Techs., Inc., No. CV 14-14750-DPW, 2016 WL 3751652, at \*6 (D. Mass. July 11, 2016), rev’d, 893 F.3d 53 (1st Cir. 2018) (“sign-in-wrap agreements do not have an ‘I accept’ box typical of clickwrap agreements.”); Marks, *supra* note 12, at 11-12 (“Unlike clickwrap agreements, however, sign-in wrap agreements do not require that users click on a box to indicate acceptance of the terms of use before continuing. Instead, the website notifies users “of the existence and applicability of the site’s ‘terms of use’ when proceeding through the website’s sign-in or checkout process.”).

<sup>45</sup> *Id.* (“Sign-in-wrap...directly confronts the user with a statement that proceeding will be deemed assent to terms...”); Marks, *supra* note 12, at 12 (“sign-in wrap agreements are...more explicit than the pure browsewrap.”).

<sup>46</sup> Berkson v. Gogo, LLC, 97 F. Supp. 3d 359, 366 (E.D.N.Y. 2015).

<sup>47</sup> See, e.g., YouTube.com sign-in-wrap agreement, article 5.A., <https://www.youtube.com/static?template=terms&gl=US>.

<sup>48</sup> See, e.g., Zillow.com sign-in-wrap agreement, article 5, <https://www.zillow.com/corp/Terms.htm>.

<sup>49</sup> See, e.g., Facebook.com sign-in-wrap agreement, article 4.1., <https://www.facebook.com/legal/terms/update>.

<sup>50</sup> See, e.g., Twitch.com sign-in-wrap agreement, article 14, <https://www.twitch.tv/p/legal/terms-of-service/#14-termination>.

<sup>51</sup> See, e.g., Quora.com sign-in-wrap agreement, article 8.c, <https://www.quora.com/about/tos#>

<sup>52</sup> See, e.g., Reddit.com sign-in-wrap agreement, article 11, <https://www.redditinc.com/policies/user-agreement>.

7) a class action waiver clause, under which the user agrees to abstain from filing a class action lawsuit against the website<sup>53</sup>;

8) an arbitration clause, which mandates arbitration of disputes concerning the user's rights and duties;<sup>54</sup>

9) a forum-selection clause, which establishes the geographic location for litigation between the parties;<sup>55</sup>

10) a governing law clause, which specifies which law will govern a dispute between the parties;<sup>56</sup>

11) a time bar clause, which sets a time period within which the user may file a lawsuit against the website.<sup>57</sup>

Sign-in-wrap agreements and the duty to read them have already been at the forefront of various legal battles.<sup>58</sup> Naturally, these battles frequently involve well-known companies.<sup>59</sup> For example, in *Fteja v. Facebook*,<sup>60</sup> one Facebook user claimed that his account was deactivated by the website “based on [his] religion and ethnicity, specifically that he is a Muslim and his name is Mustafa.”<sup>61</sup> Importantly, the lawsuit, underlining the user’s discrimination claim, was filed against Facebook in a New York District Court.<sup>62</sup> Facebook’s sign-in-wrap contract,<sup>63</sup> however, contained a forum selection clause that stated that any claim against Facebook will be resolved exclusively in Santa Clara County, California.<sup>64</sup>

The user denied reading the sign-in-wrap contract before signing up for his Facebook account.<sup>65</sup> The court, nonetheless, implemented the duty to read doctrine. The judge stated that “failure to read a contract before agreeing to its terms does not relieve a party of its obligations under the

<sup>53</sup> See, e.g., Netflix.com sign-in-wrap agreement, article 7, <https://help.netflix.com/legal/termsofuse>.

<sup>54</sup> See, e.g., Walmart.com sign-in-wrap agreement, article 20, [https://help.walmart.com/app/answers/detail/a\\_id/8](https://help.walmart.com/app/answers/detail/a_id/8).

<sup>55</sup> See, e.g., Yelp.com sign-in-wrap agreement, article 13, <https://www.yelp.com/static?p=tos>.

<sup>56</sup> See, e.g., Ebay.com sign-in-wrap agreement, article 17.A., <https://www.ebay.com/help/policies/member-behaviour-policies/user-agreement?id=4259#17.%20Legal%20Disputes>.

<sup>57</sup> See, e.g., Tumblr.com sign-in-wrap agreement, article 13, <https://www.tumblr.com/policy/en/terms-of-service>.

<sup>58</sup> See Canino, *supra* note 37, at 544-46 (surveying sign-in-wrap cases).

<sup>59</sup> See, e.g., *Fteja v. Facebook, Inc.*, 841 F. Supp. 2d 829 (S.D.N.Y. 2012); *In re Facebook Biometric Info. Privacy Litig.*, 185 F. Supp. 3d 1155 (N.D. Cal. 2016); *Amazon.com, Inc.*, 84 F. Supp. 3d 142, 150 (E.D.N.Y. 2015), *aff'd in part, vacated in part, remanded*, 834 F.3d 220 (2d Cir. 2016); *Cullinane v. Uber Techs., Inc.*, No. CV 14-14750-DPW, 2016 WL 3751652 (D. Mass. July 11, 2016), *rev'd*, 893 F.3d 53 (1st Cir. 2018); *Plazza v. Airbnb, Inc.*, 289 F. Supp. 3d 537 (S.D.N.Y. 2018). See also *Starke v. Gilt Groupe, Inc.*, 2014 U.S. Dist. LEXIS 58006, 2014 WL 1652225, at \*6-9 (S.D.N.Y. Apr. 24, 2014).

<sup>60</sup> 841 F. Supp. 2d 829 (S.D.N.Y. 2012).

<sup>61</sup> *Id.* at 831.

<sup>62</sup> *Id.* at 831.

<sup>63</sup> Though the court did not explicitly label Facebook’s agreement as a sign-in-wrap contract, the facts of the case indicate that was the case. See *Id.* at 835 (“The following sentence appears immediately below that [Sign Up] button: ‘By clicking Sign Up, you are indicating that you have read and agree to the Terms of Service.’”).

<sup>64</sup> *Id.* at 834.

<sup>65</sup> *Id.* at 836-37.

contract.”<sup>66</sup> For this and other reasons, the court decided to transfer the user’s action to the court in California.<sup>67</sup> Given the lack of a general duty imposed on websites to draft readable contracts, the court did not consider whether Facebook’s sign-in-wrap agreement was indeed readable.

### C. Prior Empirical Research

In spite of their ubiquity, the readability of sign-in-wraps has not yet been systematically analyzed. This Article addresses this gap by systematically testing the readability of 500 highly popular sign-in-wraps. In doing so, it expands the efforts of two other major scholarly studies that empirically examined the readability of other types of consumer contracts.

The first study, conducted by Professors Marotta-Wurgler and Taylor, measured the readability level of 264 online End User License Agreements (EULAs) found with software products.<sup>68</sup> Most of these EULAs were extracted from browsewrap and clickwrap agreements.<sup>69</sup> The study found that EULAs are difficult to read.<sup>70</sup>

The second important study, conducted by Professors Rustad and Koenig, examined the readability level of the Terms of Use (TOUs) of 329 U.S. and foreign social media websites.<sup>71</sup> These TOUs were mainly extracted, once again, from browsewrap and clickwrap agreements.<sup>72</sup> For each website in the sample, the study tested the readability level of its entire TOUs and of three contractual clauses included in the TOUs: warranty disclaimer, exclusion of liability, and arbitration.<sup>73</sup> The authors found that the TOUs tested in the study are written at a reading level beyond the comprehension of the average American.<sup>74</sup>

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<sup>66</sup> *Id.* at 839.

<sup>67</sup> *Id.* at 844.

<sup>68</sup> Florencia Marotta-Wurgler & Robert Taylor, *Set in Stone? Change and Innovation in Standard-Form Contracts*, 88 N.Y.U.L. REV. 240, 243 and 250-51 (2013).

<sup>69</sup> *Cf.* Florencia Marotta-Wurgler, *Even More than You Wanted to Know about the Failures of Disclosure*, 11 JRS.L.M. REV. LEGAL STUD. 63, 66-67 (2015). For the definition of browsewrap and clickwrap agreements *see supra* Part I.B.

<sup>70</sup> Marotta-Wurgler & Taylor, *supra* note 68, at 253.

<sup>71</sup> Rustad & Koenig, *supra* 2, at 1437.

<sup>72</sup> *Id.* at 1512 (216 out of 329 contracts were browsewraps or clickwraps).

<sup>73</sup> *Id.* at 1435 (“We measure the readability of TOUs and...warranty disclaimers, limitations of liability, and predispute arbitration provisions.”).

<sup>74</sup> *Id.* at 1456 (“Our empirical study confirms that...social media providers are drafting onerous rights-foreclosure clauses at a reading level substantially beyond the comprehension of the average consumer.”). Another non-academic study, conducted by the Consumer Financial Protection Bureau, showed that arbitration clauses in a sample of 161 consumer financial agreements are difficult to read. *See* Consumer Financial Protection Bureau, *Arbitration Study, Report to Congress, pursuant to Dodd–Frank Wall Street Reform and Consumer Protection Act § 1028(a)* (March 2015), Section 2.4 and 3.3, [http://files.consumerfinance.gov/f/201503\\_cfpb\\_arbitration-study-report-to-congress-2015.pdf](http://files.consumerfinance.gov/f/201503_cfpb_arbitration-study-report-to-congress-2015.pdf)

Our article makes several major contributions to the existing empirical legal studies on consumer contract readability. First, previous studies focused only on one consumer contract category: software (Marotta-Wurgler and Taylor's study) or social networking (Rustad and Koenig's study). Our study, however, includes a highly heterogeneous sample. Our sample covers, for example, categories ranging from merchandise to news and media, tourism to video games and file sharing, business services and social networking to software.<sup>75</sup> Second, previous studies examined clickwraps, a type of agreement that is rarely used nowadays by internet websites.<sup>76</sup> In contrast, this paper focuses on sign-in-wraps, which are widespread online.<sup>77</sup> Third, previous studies examined the readability of browsewraps, which courts often refuse to enforce against consumers.<sup>78</sup> Browsewraps are normally viewed with suspicion by courts since consumers normally do not actively express assent to their terms.<sup>79</sup> This Article, however, focuses on sign-in-wrap agreements, which courts routinely enforce against consumers.<sup>80</sup>

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<sup>75</sup> See in more detail *infra* note 88, and accompanying text.

<sup>76</sup> Marks, *supra* note 12, at 37-38 ("...clickwrap [is] rarely used").

<sup>77</sup> *Id.* ("sign-in wrap agreements are...somewhat prolific...The trend, at least with regard to sellers of goods, appears to be moving toward sign-in wrap."); see also, *Selden v. Airbnb, Inc.*, 2016 U.S. Dist. LEXIS 150863, at \*11 (D.D.C., 2016) ("Many internet websites...now use 'sign-in-wraps'").

<sup>78</sup> *Fteja v. Facebook, Inc.*, 841 F. Supp. 2d 829, 836 (S.D.N.Y. Jan. 24, 2012) ("The cases in which courts have enforced browsewrap agreements have involved users who are businesses rather than consumers."); *Meyer v. Kalanick*, 200 F. Supp. 3d 408, 416 (S.D.N.Y. July 29, 2016) ("Courts will generally enforce browsewrap agreements only if they have ascertained that a user had actual or constructive knowledge of the site's terms and conditions, and...manifested assent to them. This is rarely the case for individual consumers."); Mark Lemley, *Terms of Use*, 91 MINN. L. REV. 459, 472 (2006) ("An examination of the cases that have considered browsewraps in the last five years demonstrates that the courts have been willing to enforce terms of use against corporations, but have not been willing to do so against individuals.").

<sup>79</sup> *Rodman v. Safeway Inc.*, 2015 U.S. Dist. LEXIS 17523, \*33 (N.D. Cal. Feb. 12, 2015) ("Courts view with skepticism" browsewrap agreements); *Meyer v. Kalanick*, 199 F. Supp. 3d 752, 759 (S.D.N.Y. July 29, 2016) ("Courts will generally enforce browsewrap agreements only if they have ascertained that a user had actual or constructive knowledge of the site's terms and conditions, and manifested assent to them. This is rarely the case for individual consumers.").

<sup>80</sup> *TopstepTrader, LLC v. OneUpTrader, LLC*, No. 17 C 4412, 2018 U.S. Dist. LEXIS 64815, 2018 WL 1859040, at \*9 (N.D. Ill., 2018) ("Courts applying Illinois law have upheld sign-in-wrap agreements, although they have not always characterized them as such."); *In re Facebook Biometric Info. Privacy Litig.*, 185 F. Supp. 3d 1155, 1166 (N.D. Cal. 2016) ("Our Circuit has indicated a tolerance for the single-click 'Sign Up' and assent practice."); *Berkson v. Gogo LLC*, 97 F. Supp. 3d 359, 400-401 (E.D.N.Y. 2015) ("Lower courts upholding sign-in-wrap arrangements...have done so...where the hyperlinked 'terms and conditions' is next to the only button that will allow the user to continue use of the website."); Gill I. Gross, *The Uberization of Arbitration Clauses*, in 9 ARB. L. REV. 43, \*10 (2017), <https://elibrary.law.psu.edu/cgi/viewcontent.cgi?article=1216&context=arbitrationlawreview> ("Most courts conclude 'that Uber's TAC [terms and conditions] is a valid sign-in wrap agreement'"); *Kai Peng v. Uber Techs., Inc.*, 2017 U.S. Dist. LEXIS 25840, at \*48 (E.D.N.Y., 2017) ("Courts in this Circuit have upheld 'Sign-In Wrap' agreements where plaintiffs did not even click an 'I Accept' button, but instead clicked a 'Sign Up' or 'Sign In' button where nearby language informed them that clicking the buttons would constitute accepting the terms of service"); see also *Saizhang Guan v. Uber Techs., Inc.*, 236 F. Supp. 3d 711, 723-24 (E.D.N.Y., 2017).

## II. THE EMPIRICAL TEST

### A. Data

The sample of this Article contains the 500 most popular websites in the U.S. that use sign-in-wrap agreements. Our initial source of data was the Alexa Top Sites web service, which provides a ranked list of the most popular websites in the U.S.<sup>81</sup> The Alexa Top Sites service is a leading website traffic measurement tool,<sup>82</sup> which is based on millions of internet users.<sup>83</sup> It is built on one of the biggest samples of internet users available in the world,<sup>84</sup> and it is therefore widely used as a source of data for empirical research.<sup>85</sup>

Out of the most popular websites in the U.S., we identified the 500 most popular sites – such as Google, Facebook, and Amazon – that use sign-in-wrap contracts. All of these 500 websites rank among the 1000 most popular websites in the U.S.<sup>86</sup> These websites served as our final sample. According to the aggregated data that we collected from Alexa, the websites in our sample are indeed popular. On average, more than 10 million unique U.S. visitors visited each website in the sample during the one-month period

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<sup>81</sup> See <https://aws.amazon.com/alexa-top-sites/>. According to Alexa, “a site’s ranking is based on a combined measure of Unique Visitors and Pageviews”. See <https://support.alexa.com/hc/en-us/articles/200449744>.

<sup>82</sup> Joel R. Reidenberg et al., *Disagreeable Privacy Policies: Mismatches Between Meaning and Users’ Understanding*, 30 BERKELEY TECH. L.J. 39, 54 (2015) (“Alexa.com [is] the most prominent measurement company for web traffic data.”); Arjun Thakur et al., *Quantitative Measurement and Comparison of Effects of Various Search Engine Optimization Parameters on Alexa Traffic Rank*, 26 INTERNATIONAL JOURNAL OF COMPUTER APPLICATIONS 15, 15 (2011); (“Alexa Traffic Rank is the most popular website traffic measurement unit.”); Estela Marine-Roig, *A Webometric Analysis of Travel Blogs and Review Hosting: The Case of Catalonia*, 31 J. OF TRAVEL & TOURISM MKTG. 381, 386 (2014) (same); Adela-Laura Popa et al., *The Online Strategy of Romanian Higher Education Institutions: Present and Future* in 1 ENTREPRENEURSHIP, BUSINESS AND ECONOMICS (MEHMET HUSEYIN BILGIN AND HAKAN DANIS, EDS., 2016) 413, 420 (“Alexa traffic rank is one of the most used instrument in analyzing a site performance.”); Liwen Vaughan & Rongbin Yang, *Web Traffic and Organization Performance Measures: Relationships and Data Sources Examined*, 7 J. INFORMATICS 699, 705 (2013) (“Alexa is currently the largest provider of publicly available Web traffic data.”).

<sup>83</sup> Greg Oreland, *Top 6 Myths about the Alexa Traffic Rank*, <https://blog.alexa.com/top-6-myths-about-the-alexa-traffic-rank/> (“Alexa’s traffic panel is based on millions of people.”).

<sup>84</sup> Alexa Top Sites, <https://aws.amazon.com/alexa-top-sites/> (“Alexa’s site popularity traffic rankings are based on the anonymous usage patterns of one of the largest...samples of internet users available in the world.”).

<sup>85</sup> Vaughan & Yang, *supra* note 82, at 705 (“[Alexa’s] data have been used in various studies.”); For examples of studies using Alexa, see Stephen K. Callaway, *Internet Banking and Performance: The Relationship of Web Site Traffic Rank and Bank Performance*, 26 AM. J. BUS. 12, 16 (2011); Agnieszka Wolk & Sven Theysohn, *Factors Influencing Website Traffic in the Paid Content Market*, 23 J. MKTG. MGMT. 769, 779 (2007); Chun-Yao Huang & Shin-Shin Chang, *Commonality of Web Site Visiting Among Countries*, 60 JOURNAL OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE AND TECHNOLOGY 1168, 1172 (2009); Christine Ennew et. al., *Competition in Internet Retail Markets: The Impact of Links on Web Site Traffic*, 38 LONG RANGE PLANNING 359, 362 (2005).

<sup>86</sup> To be precise, the 500<sup>th</sup> website in our sample is ranked 988 in popularity according to Alexa.com.

preceding our data collection.<sup>87</sup> In addition, during that period, over 200 million pageviews were counted, on average, for each website. Table 1 below summarizes the main statistical data about the traffic of the websites in our sample. These relate to the one-month period preceding our data collection.

TABLE 1. WEBSITE CHARACTERISTICS

	Mean	Median	Standard deviation
Unique Visitors	10,169,272	7,860,347	11,246,053
Pageviews	203,202,295	55,643,205	1,446,362,157

As noted, the categories of the websites in our sample are highly heterogeneous. These include search engines, social networks, general merchandise, news and media, video games, file sharing, email, software, financial management, sports, movies, directories, real estate, business services, programming, dictionaries, encyclopedias, music, telecom, employment, consumer electronics, tourism, web hosting, coupons, and home and garden.<sup>88</sup>

### B. Methodology

For each website in our sample, we tested the readability of its sign-in-wrap agreement.<sup>89</sup> This examination was conducted via two different readability tests, which are often used together in empirical readability studies:<sup>90</sup> 1) the Flesch Reading Ease (FRE) test; 2) the Flesch-Kincaid (F-

<sup>87</sup> We collected our data in September 2018. Alexa.com included concrete statistical data about the number of U.S. unique visitors and page views for 496 out of 500 websites in our sample. For four websites there was no data.

<sup>88</sup> The website categories were identified using the SimilarWeb search engine. *See e.g.* <https://www.similarweb.com/>.

<sup>89</sup> 4.8% of the sign-in-wrap webpages included some kind of a summary or clarifications alongside the agreement or some of its terms. In these cases, we tested the readability of the sign-in-wrap webpages including their embedded summary or clarifications. In addition, one exceptional website (typeform.com) had a sign-in-wrap agreement and a totally separate webpage, defined as non-binding by the website, aimed at simplifying the agreement. In this unique case, we tested the readability of the legal binding agreement and not of the separate non-binding webpage.

<sup>90</sup> For studies that utilized these tests *see, e.g.*, Rustad & Koenig, *supra* 2, at 1460-61 (using the Flesch Reading Ease and the Flesch-Kincaid tests to evaluate the educational level needed to understand social media terms of use); Richard Rogers et al., *An Analysis of Miranda Warnings and Waivers: Comprehension and Coverage*, 31 LAW & HUM. BEHAV. 177, 185 (2007) (applying these tests to evaluate the readability of Miranda warnings); Rachel Kahn et. al., *Readability of Miranda Warnings and Waivers: Implications for Evaluating Miranda Comprehension*, 30 LAW & PSYCHOL. REV. 119, 131 (2006) (using these tests to evaluate Miranda warnings and waiver sheets); Lance N. Long & William F. Christensen, *Does the Readability of Your Brief Affect Your Chance of Winning an Appeal?*, 12 J. APP. PRAC. & PROCESS 145, 147 (2011) (using these tests to analyze the readability of state, federal, and United States Supreme Court briefs); Ian Gallacher, *"When Numbers Get Serious": A Study of Plain English Usage in Briefs Filed Before the New York Court of Appeals*, 46 SUFFOLK U. L. REV. 451, 462-

K) test. The tests were executed using Microsoft Word,<sup>91</sup> which has been used in many other empirical readability studies.<sup>92</sup>

The FRE test, developed by Rudolph Flesch,<sup>93</sup> is based on two factors: the average sentence length in a text, and the average number of syllables per word in that text.<sup>94</sup> The test is based on the assumption that unreadable texts normally contain long sentences and words with many syllables.<sup>95</sup> To be specific, the formula that underlines the FRE test is as follows:  $206.835 - (1.015 * \text{average sentence length}) - (84.6 * \text{average number of syllables}$

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63 (2013) (using the FRE and F-K tests to measure the readability of briefs filed in the New York Court of Appeals).

<sup>91</sup> See e.g. Microsoft, *ReadabilityStatistics Object (Word)*, <https://docs.microsoft.com/en-us/office/vba/api/word.readabilitystatistics> [hereinafter Microsoft Word Readability]. Notably, Microsoft Word's readability test ignores phrases that end with a semicolon and are part of a vertical list of phrases. Ignoring these phrases seems reasonable, given their ambivalent readability consequences. Although phrases that end with a semicolon in vertical lists normally do not play a dominant role in privacy agreements, we decided to conduct a stringent readability test on 50 random policies in order to verify that ignoring these semicolons does not have significant implications on readability results. In each of these policies, we replaced the semicolons at the end of phrases in vertical lists, if any, with periods. The results of the test showed that this did not change readability levels in any significant way. (The average readability scores with semicolons: FRE = 35.428, F-K = 14.58, sentence length = 27.35; The average readability scores with periods replacing semicolons: FRE = 35.244, F-K = 14.578, sentence length = 27.152).

<sup>92</sup> See, e.g., Christopher B. Seaman, *Willful Patent Infringement and Enhanced Damages After in Re Seagate: An Empirical Study*, 97 IOWA L. REV. 417, 448 n. 186 (2012); Laurel LaMontagne, *Children under Pressure: The Problem of Juvenile False Confessions and Potential Solutions*, 41 W. ST. U. L. REV. 29, 53 n.234 (2013); Kahn et al., *supra* note 90, at 131; Anthony J. Domanico et al., *Overcoming Miranda: A Content Analysis of the Miranda Portion of Police Interrogations*, 49 IDAHO L. REV. 1, 12 (2012); Elmer V. Bernstam et al., *Instruments to Assess the Quality of Health Information on the World Wide Web: What Can Our Patients Actually Use?*, 74 INT'L J. MED. INFORMATICS 13, 15 (2005).

<sup>93</sup> Pranay Jindal & Joy C. MacDermid, *Assessing Reading Levels of Health Information: Uses and Limitations of Flesch Formula*, 30 EDUC. HEALTH. 84, 85 (2017) ("Rudolph Flesch developed the Flesch Reading Ease (FRE) formula..."); Rustad & Koenig, *supra* 2, at 1459 n.150 ("The Flesch Reading Ease Test was developed by Rudolf Flesch...").

<sup>94</sup> Thomas C. McKearney & Richard M. McKearney, *The Quality and Accuracy of Internet Information on the Subject of Ear Tubes*, INT'L. J. PEDIAT. OTORHINOLARYNGOLOGY 894, 895 (2013) (The FRE test "takes into account the average sentence length and average number of syllables per word").

<sup>95</sup> Joseph R. Razek & Randy E. Cone, *Readability of Business Communication Textbooks-An Empirical Study*, 18 J. OF BUS. COMMUNICATION 33, 34 (1981) ("Complex writing styles employ long sentences with many multisyllable words.").



per word).<sup>96</sup> The score produced by the FRE formula ranges from 0 to 100.<sup>97</sup> The lower the FRE score – the more unreadable the text.<sup>98</sup>

According to readability literature, an FRE score lower than 60 means that the text is not understandable by consumers.<sup>99</sup> In line with this literature, the statutes of some states apply the FRE test on specific texts, such as tax forms. These require that such texts meet a minimum score of sixty to satisfy statutory readability standards.<sup>100</sup> Similarly, a score of 60 or higher is often used by U.S. government agencies to ensure that documents are readable.<sup>101</sup> Along these lines, if sign-in-wrap agreements receive an average FRE score lower than 60, they should be considered unreadable by typical consumers.

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<sup>96</sup> Nicola J. Kalk & David D. Pothier, *Patient Information on Schizophrenia on the Internet*, 32 PSYCHIATRIC BULLETIN 409, 409 (2008); Marli Terblanche & Lesley Burgess, *Examining the Readability of Patient-Informed Consent Forms*, 2010:2 OPEN ACCESS JOURNAL OF CLINICAL TRIALS 157, 162 (2010); Barbara B. Ott & Thomas L. Hardie, *Readability of Advance Directive Documents* 29 JOURNAL OF NURSING SCHOLARSHIP 53, 55 (1997); Arthur C. Graesser et al., *Coh-Metrix: Analysis of Text on Cohesion and Language*, 36 BEHAVIOR RESEARCH METHODS, INSTRUMENTS, & COMPUTERS 193, 199 (2004).

<sup>97</sup> Donna M. D'Alessandro et al., *The Readability of Pediatric Patient Education Materials on the World Wide Web*, 155 ARCH. PEDIATR. ADOLESC. MED. 807, 808 (2001) ("The Flesch Reading Ease ranges from 0 to 100."); Brittain H. Tulbert et al., *Readability of Patient-oriented Online Dermatology Resources*, 4 J. CLINICAL & AESTHETIC DERMATOLOGY 27, 27-28 (2011) ("The Flesch Reading Ease Scale [] grades readability on a 0-to-100 scale."); D. Kerr, *Information in Diabetes Care: Is there a Need to Dumb Down Even More?*, DIABET. MED. 561, 562 (2007) ("The Flesch-Reading Ease rates text on a 100-point scale"); Hon. Arthur J. Hanes et. al., *The "Plain English" Project of the Alabama Pattern Jury Instructions Committee-Civil*, 68 ALA. LAW. 369, 375 (2007).

<sup>98</sup> Cf. Philip M. Linsley & Michael J. Lawrence, *Risk Reporting by the Largest UK Companies: Readability and Lack of Obfuscation*, 20 ACCOUNTING, AUDITING & ACCOUNTABILITY JOURNAL 620, 621 (2007) ("The higher the reading ease score the more readable the text."); Bernstam et al., *supra* note 92, at 16 ("The higher the 'Flesch reading ease' score, the easier a document is to read."); Kerr, *supra* note 97, at 562 ("The higher the score the easier it is to understand the document."); Marcello Moccia et al., *Can People with Multiple Sclerosis Actually Understand What They Read in the Internet Age?*, 25 JOURNAL OF CLINICAL NEUROSCIENCE 167, 167 (2016).

<sup>99</sup> Bernstam et al., *supra* note 92, at 14 ("a score of 60 or greater is considered to be minimally acceptable for consumer-oriented information."); Rustad & Koenig, *supra* 2, at 1472 ("a score between sixty and sixty-nine is considered the acceptable standard for American consumers."); *see also e.g.*, Peter Breese et al., *The Health Insurance Portability and Accountability Act and the Informed Consent Process*, 141 ANNALS OF INTERNAL MEDICINE 897, 897 (2004) ("We defined forms with...a Flesch Reading ease score less than 60 (more complex language than "standard English") as having inappropriately complex language."); Kalk & Pothier, *supra* note 96, at 410 (The Flesch Reading Ease score of 60 is "the lower limit for 'plain English'"); Norman E. Plate, *Do As I Say, Not As I Do: A Report Card on Plain Language in the United States Supreme Court*, 13 T.M. COOLEY J. PRAC. & CLINICAL L. 79, 93 (2010) ("...to reach a plain-language standard, you need to aim for a minimum score of sixty on the Flesch scale."); Harold A. Lloyd, *Plain Language Statutes: Plain Good Sense or Plain Nonsense?*, 78 LAW LIBR. J. 683, 689 (1986) ('Plain English' is defined as a text with a score of 60 or better).

<sup>100</sup> *See, e.g.*, Or. Rev. Stat. Ann. § 316.364(1) (West) ("The instructions to an individual state income tax return form shall have a total Flesch Reading Ease Score of 60 or higher."); *see also e.g.*, Rustad & Koenig, *supra* 2, at 1458 ("States incorporating the Flesch test will frequently require statutory provisions to meet a score of sixty or greater to satisfy minimum readability standards.").

<sup>101</sup> McKearney & McKearney, *supra* note 94, at 897 ("A score of 60-70...is in fact regularly used by US government agencies, amongst others, to ensure that documents are written to an appropriate level of readability."); Vishal Narwani et al., *Readability and Quality Assessment of Internet-Based Patient Education Materials Related to Laryngeal Cancer*, 38 HEAD & NECK 601, 603 (2016) ("A score of 60 to 70 is utilized by U.S. government agencies.").

The second readability test applied in this Article is the F-K test, developed by Rudolph Flesch and John P. Kincaid.<sup>102</sup> Much like the FRE test, the F-K test is based on the average number of words per sentence and the average number of syllables per word.<sup>103</sup> However, the coefficients of the F-K formula, among other things, differ from those of the FRE formula. To be specific, the F-K formula is as follows:  $(0.39) * (\text{average number of words per sentence}) + (11.8) * (\text{average number of syllables per word}) - 159$ .<sup>104</sup>

This formula, which was derived by testing a large sample of readers,<sup>105</sup> produces a score that estimates the grade level required to understand the text.<sup>106</sup> For example, an F-K score of 7 indicates that only a 7th grader and above will be able to easily understand the text.<sup>107</sup> When the formula results in a number greater than 12, it indicates the overall number of years of education needed to understand the text.<sup>108</sup> Accordingly, the higher the number, the harder it is to understand the text.<sup>109</sup>

In readability literature, the maximum recommended F-K score for consumer-oriented texts is 8th grade.<sup>110</sup> This recommendation seems to reflect, among other things, the fact that most U.S. adults read at an eighth-

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<sup>102</sup> Adriene Lim, *The Readability of Information Literacy Content on Academic Library Web Sites*, 36 THE JOURNAL OF ACADEMIC LIBRARIANSHIP 296, 297 (2010) (The Flesch-Kincaid "was created by Rudolph Flesch and John P. Kincaid."); Thomas H. Koenig & Michael L. Rustad, *Digital Scarlet Letters: Social Media Stigmatization of the Poor and What Can Be Done*, 93 NEB. L. REV. 592, 616 n.131 (2015).

<sup>103</sup> Nancy Cotugna et al., *Evaluation of Literacy Level of Patient Education Pages in Health-Related Journals*, 30 J. COMMUNITY HEALTH 213, 215 (2005) ("The Flesch-Kincaid Index assesses readability based on the average number of syllables per word and the average number of words per sentence."); Plate, *supra* note 99, at 93; Rogers et al., *supra* note 90, at 181 ("The Flesch-Kincaid estimates the needed grade level for comprehension via a formula that combines sentence length with the average number of syllables per word."); Ott & Hardie, *supra* note 96, at 54.

<sup>104</sup> K.K. DuVivier, *Grammar and Style Check Programs: Machine v. Man*, COLO. LAW., MAY 1996, at 27; Plate, *supra* note 99, at 93; Graesser et al., *supra* note 96, at 199; Terblanche & Burgess, *supra* note 96, at 162.

<sup>105</sup> Glenda M. McClure, *Readability Formulas: Useful or Useless?*, PC-30 IEEE TRANSACTIONS ON PROFESSIONAL COMMUNICATION 12, 12 (1987) (The formula was originally derived "by testing a large sample of Navy technical personnel on their understanding of Navy technical passages.").

<sup>106</sup> Gallacher, *supra* note 90, at 458 ("The Flesch-Kincaid test is a reformulation of the Flesch Reading Ease Score test that expresses its result in terms of the grade level a hypothetical reader should have achieved before the selected passage would be readable."); Plate, *supra* note 99, at 93 (The Flesch-Kincaid "provides an estimated grade level needed to comprehend a written passage."); Rogers et al., *supra* note 90, at 181.

<sup>107</sup> Cotugna et al., *supra* note 103, at 215 ("a Flesch-Kincaid reading level of 10 indicates that a 10th grader will be able to read and understand that particular text.").

<sup>108</sup> Terblanche & Burgess, *supra* note 96, at 158 (The Flesch-Kincaid Grade Level formula "indicates the number of years of education generally required to understand the text, relevant when the formula results in a number greater than 12.").

<sup>109</sup> Graesser et al., *supra* note 96, at 199 ("The higher the number, the harder it is to read the text.").

<sup>110</sup> Cynthia R. Farina et al., *Rulemaking 2.0*, 65 U. MIAMI L. REV. 395, 438 (2011) ("The recommended readability level for...text written for broad public consumption is no higher than 8.0 on the Flesch-Kincaid scale."); Bernstam et al., *supra* note 92, at 16 ("The maximum recommended 'Flesch-Kincaid reading level' for consumer-oriented materials is 8th grade."); D'Alessandro et al., *supra* note 97, at 807 ("Materials should be written at the 8th-grade level or lower.").

grade level.<sup>111</sup> In keeping with this recommendation, many state insurance regulators require that insurance contracts be written at or below an eighth grade reading level.<sup>112</sup> Likewise, the U.S. Department of Education recommends that health-related information be written at or below the eighth grade level.<sup>113</sup> In the same vein, the Food and Drug Administration (FDA) and National Institutes of Health (NIH) recommend designing consent forms at or below an 8th grade reading level.<sup>114</sup> Similarly, the U.S. National Cancer Institute (NCI) recommended that informed consent forms for NCI-sponsored trials be written at no higher than an 8th grade reading level.<sup>115</sup> Given all these recommendations, if the sign-in-wrap agreements in our sample receive an average F-K score higher than 8th grade, they should be considered as unreadable by casual consumers.

As noted, the FRE and F-K tests are considered to be reliable measures for detecting text readability.<sup>116</sup> Both tests are now used by many federal and state agencies.<sup>117</sup> The FRE test has also been used in several U.S. statutes aiming to ensure the readability of specific documents, such as instructions on income tax returns,<sup>118</sup> financial institution forms,<sup>119</sup> and insurance

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<sup>111</sup> Elena T. Carbone, *Nutrition and Health Literacy: A Systematic Review to Inform Nutrition Research and Practice*, 112 J. ACAD. NUTR. DIET. 254, 254 (2012) ("Most adults read at an eighth-grade level."); Kendall McCarty & Jayne Rogers, *Inpatient Asthma Education Program*, 38 PEDIATR. NURS. 257, 259 (2012); Marie F. Kuczmarski et al., *Health Literacy and Education Predict Nutrient Quality of Diet of Socioeconomically Diverse, Urban Adults*, 2 J. EPIDEMIOL. PREV. MED. 1, 7 (2016); Meghan M. Yi et al., *Readability of Patient Education Materials From the Web Sites of Orthopedic Implant Manufacturers*, 32 J. ARTHROPLASTY 3568, 3570 (2017).

<sup>112</sup> Richard J. Wirth, *What's Puzzling You . . . Is the Nature of Variable Annuity Prospectuses*, 34 W. NEW ENG. L. REV. 127, 130 (2012) ("Most state insurance regulators require that insurance contracts be written at or below an eighth grade reading level..."); see, e.g., R.I. Gen. Laws § 27-74-11(c)(1) (2018); S.C. Code Ann. § 34-29-165; S.C. Code Ann. § 37-4-201; S.C. Code Ann. § 34-29-166; S.C. Code Ann. § 37-4-105; S.C. Code Ann. § 37-3-202.

<sup>113</sup> John O. Elliott et al., *A Health Literacy Assessment of the Epilepsy.com Website*, 18 SEIZURE 434, 434 (2009) ("The Institute of Medicine and the U.S. Department of Education have recommended that health related information be written at the 6th–8th grade level or below.").

<sup>114</sup> Kris A. Wolter & Micboel R. Howell, *Consent Forms, Lower Reading Levels, and Using Flesch-Kincaid Readability Software*, 42 THERAP. INNOV. & REGULATORY SCI. 385, 386 (2008) ("The FDA...and National Institutes of Health (NIH) often advise developing consent forms between a 6th and 8th grade reading level."); Andrew Schumacher et al., *Informed Consent in Oncology Clinical Trials: A Brown University Oncology Research Group Prospective Cross-Sectional Pilot Study*, 12 PLOS ONE 1, 8 (2017) ("Food and Drug Administration (FDA) guidelines recommend presenting medical information at or below the 8th grade level.").

<sup>115</sup> Nancy E. Kass et al., *Length and Complexity of US and International HIV Consent Forms from Federal HIV Network Trials*, 26 J. GENER. INTERNAL MED. 1324, 1324 (2011) ("The US National Cancer Institute (NCI) recommended that informed consent forms for NCI-sponsored trials be written at no more than the 8th grade reading level.").

<sup>116</sup> Roger E. Alexander, *Readability of Published Dental Educational Material* 131 THE J. AM. DENTAL ASSOC. 937, 938 (2000) ("The Flesch-Kincaid Formula has been shown to be reliable."); Rogers et al., *supra* note 90, at 181 ("The Flesch Reading Ease [test] is a highly reliable measure."); Razek & Cone, *supra* note 95, at 34 (same).

<sup>117</sup> Hanes et. al., *supra* 97, at 375 (The Flesch Reading Ease score and Flesch-Kincaid test "are now government standards, with many federal and state agencies requiring documents to be written to specified levels on these tests.").

<sup>118</sup> Or. Rev. Stat. Ann. § 316.364(1) (West).

<sup>119</sup> Cal. Fin. Code § 4053(d)(1)(J) (West).

forms.<sup>120</sup> In addition, the F-K test is used as a standard readability test by the U.S. Government Department of Defense.<sup>121</sup> It has also been used in several U.S. statutes aiming to ensure the readability of specific documents concerning, for example, production contracts,<sup>122</sup> credit life insurance,<sup>123</sup> and health benefit plans.<sup>124</sup>

Furthermore, the FRE and F-K tests are often used, in conjunction, in legal empirical studies on text readability.<sup>125</sup> They are also frequently used in non-legal empirical studies.<sup>126</sup> Last but not least, they are also highly correlated with other readability test formulas.<sup>127</sup>

### C. Results

This Section begins by presenting the fundamental empirical results using FRE and F-K scores. It then examines the statistical relationships between four website variables: (a) the number of U.S. unique visitors; (b) the number of page views; (c) the FRE score; (d) the F-K scores.

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<sup>120</sup> N.J. Stat. Ann. § 17B:17-21(a)(1) (West); N.D. Cent. Code Ann. § 26.1-33-30(1)(a) (West); Okla. Stat. Ann. tit. 36, § 3645(A)(1) (West); D.C. Code Ann. § 31-4725(a)(1) (West); N.D. Cent. Code Ann. § 26.1-36-14(1)(a) (West); Tenn. Code Ann. § 56-7-1605(a)(1) (West); S.D. Codified Laws § 58-11A-3(1); W. Va. Code Ann. § 33-29-5(a)(1) (West); Ark. Code Ann. § 23-80-206 (West)(a)(1); Colo. Rev. Stat. Ann. § 10-4-633.5(1)(a) (West); Ga. Code Ann. § 33-3-25(b) (West); Haw. Rev. Stat. Ann. § 431:10-105(a) (West); Mont. Code Ann. § 33-15-325(1)(a) (West); Haw. Rev. Stat. Ann. § 431:10-104(1) (West).

<sup>121</sup> Paul Harris, *The Readability of Sample Stories for Eye Movement Recording*, 22 J. BEHAV. OPTOMETRY 88, 89 (2011); Sven Meyer zu Eissen et al., *Plagiarism Detection without Reference Collections*, in ADVANCES IN DATA ANALYSIS 359, 361 (Decker & Lenz, eds., 2007).

<sup>122</sup> 505 Ill. Comp. Stat. 17/20(a)(4) (West 2018).

<sup>123</sup> S.C. Code Ann. § 34-29-166 (2006); *see also* S.C. Code Ann. § 37-4-105(B) (2018); S.C. Code Ann. § 37-4-201(2) (2018).

<sup>124</sup> C.R.S. 10-16-107.3(1)(a) (2018).

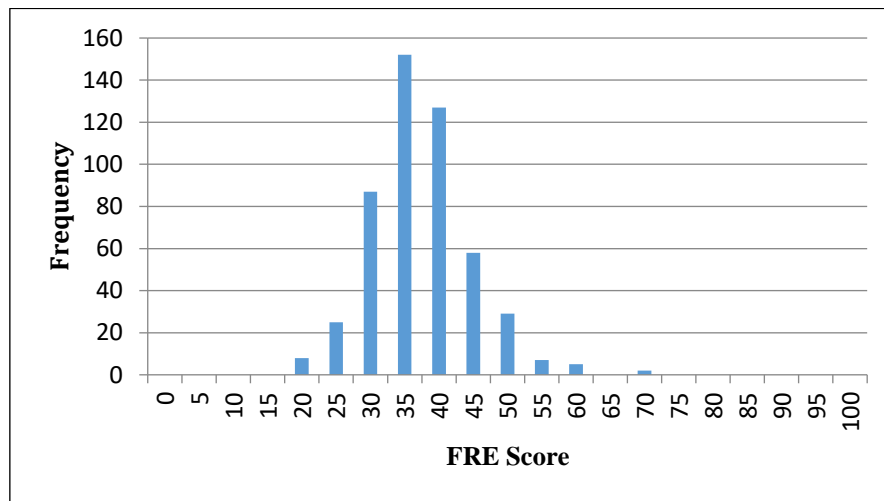
<sup>125</sup> *See for example* Rustad & Koenig, *supra* 2, at 1460-61; Rogers et al., *supra* note 90, at 185 (applying these tests to evaluate the readability of Miranda warnings); Kahn et al., *supra* note 90, at 131 (using these tests to evaluate Miranda warnings and waiver sheets); Long & Christensen, *supra* note 90, at 147 (using these tests to analyze the readability state, federal, and United States Supreme Court briefs); Plate, *supra* 99, at 82 & 93 (using the Flesch Reading Ease scale to test the readability U.S. Supreme Court majority opinions); Gallacher, *supra* note 90, at 462-63 (using these tests to measure the readability of briefs filed in the New York Court of Appeals).

<sup>126</sup> Bernstam et al., *supra* note 92, at 15 ("For readability, we measured the Flesch reading ease and the Flesch-Kincaid reading level."); D'Alessandro et al., *supra* note 97, at 808; Kalk & Pothier, *supra* note 96, at 409 ("Readability of health-related information in other disciplines has been assessed using the Flesch-Kincaid Grade Level and Flesch Reading Ease."); Kerr, *supra* 97, at 561; L.M. Greene et al., *Severity of Nasal Inflammatory Disease Questionnaire for Canine Idiopathic Rhinitis Control: Instrument Development and Initial Validity Evidence*, 31 J. VET. INTERN. MED. 134, 135 (2017).

<sup>127</sup> José L. Calderón et al., *FONBAYS: A Simple Method for Enhancing Readability of Patient Information*, 13 ANNALS BEHAV. SCI. & MED. EDU. 20, 21 (2007) ("The F-K and FREI formulas have been shown to be highly correlated with other commonly used readability assessment methods.").

### 1. Readability of Sign-In-Wrap Contracts

Our results indicate that consumer sign-in-wrap contracts are usually unreadable. Recall that the recommended FRE score for consumer-related information should be 60 or higher.<sup>128</sup> However, the median FRE score in our sample is 34.20, and the mean FRE score is 34.86. To put these FRE scores in context, they are comparable to the usual score of articles found in academic journals, which typically do not target the general public.<sup>129</sup> Furthermore, almost all of the sign-in-wrap agreements in our sample, i.e., 99.6% of the contracts – 498 out of 500 contracts, received an FRE score that is lower than the recommended score of 60. The frequency distribution histogram of the FRE scores is represented in Figure 1.<sup>130</sup>



**Figure 1.** Frequency distribution histogram for FRE score

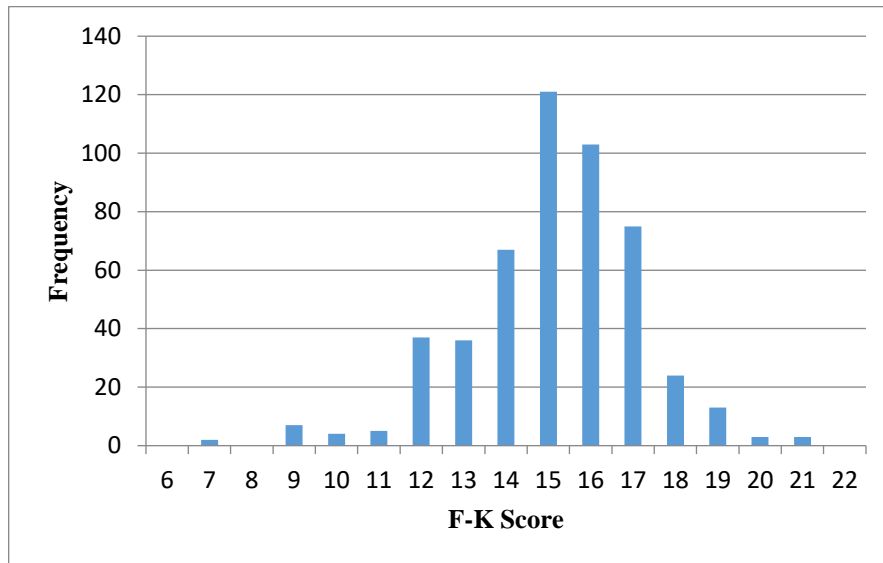
Similarly, while the recommended F-K score for consumer-oriented materials is 8th grade, the median F-K score in our sample is 14.9, and the mean F-K score is 14.67. Moreover, almost all the contracts, i.e., 498 out of

<sup>128</sup> See *supra* note 99 and accompanying text.

<sup>129</sup> Sheila Payne et al., *Written Information Given to Patients and Families by Palliative Care Units: A National Survey*, 355 LANCET 1792, 1792 (2000) (The FRE score of academic journals ranges from 31 to 50); Laurence Coey, *Readability of Printed Educational Materials Used to Inform Potential and Actual Ostomates*, 5 J. CLINICAL NURSING 359, 361, Table 2 (1996); Alastair Scotland, *Towards Readability and Style*, 7 COMMUNITY MEDICINE 126, 127, Table 1 (1985); Health and Safety Executive, *Evaluation of Product Documentation Provided by Suppliers of Hand Held Power Tools* 14, table 2 (2009), available at <http://www.hse.gov.uk/research/rrpdf/rr714.pdf>.

<sup>130</sup> For the vigilant reader who is not used to reading histograms it is important to clarify that the short blue column in figure 1 under the value ‘60’ represents scores ranging from 55 to 60.

500 (99.6%), received an F-K score that is higher than the recommended score of 8th grade. This means, as in the case of the FRE test, that 99.6% of the contracts are unlikely to be understood by consumers under the F-K test. Figure 2 represents the frequency distribution histogram for the F-K scores.



**Figure 2.** Frequency distribution histogram for F-K scores

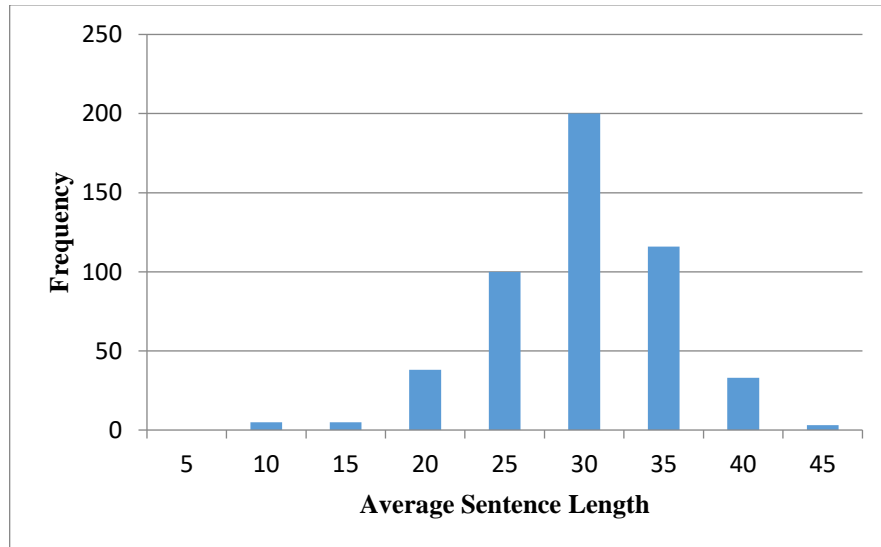
Furthermore, according to readability literature, the average sentence length of a text should be no more than 25 words;<sup>131</sup> otherwise, the text is likely to be hard to read.<sup>132</sup> Yet in 70.4% of the sign-in-wrap agreements in our sample, the average (!) sentence length is longer than 25 words.<sup>133</sup> This result also indicates that sign-in-wrap agreements are typically unreadable.

<sup>131</sup> See, e.g., RICHARD C. WYDICK, *PLAIN ENGLISH FOR LAWYERS* 36 (5th ed. 2005) (“Keep the average sentence length below 25 words.”); BRYAN A. GARNER, *LEGAL WRITING IN PLAIN ENGLISH* 27 (2d ed. 2013) (“Keep your average sentence length to about 20 words.”); Gallacher, *supra* note 90, at 477–78; Joseph Kimble, *The Elements of Plain Language*, 81 MICH. BAR. J., Oct. 2002, at 44, 44 (“Prefer short and medium-length sentences. As a guideline, keep the average length to about 20 words.”); see also Wayne Schiess, *The Art of Consumer Drafting*, 11 SCRIBES J. LEGAL WRITING 1, 4–5 (2007).

<sup>132</sup> BRYCE T. MCINTYRE, *ENGLISH NEWS WRITING* 19 (1996); Nirmaldasan, *Longer the Sentence, Greater the Strain*, READABILITY MONITOR, (April 30, 2012), <https://strainindex.wordpress.com/2012/04/30/longer-the-sentence-greater-the-strain/>; Sara Vincent, *Sentence Length: Why 25 Words is Our Limit*, GOV.UK: INSIDE GOV.UK, <https://insidegovuk.blog.gov.uk/2014/08/04/sentence-length-why-25-words-is-our-limit/>.

<sup>133</sup> The average sentence length of each sign-in-wrap was obtained via Microsoft Word. See Microsoft Word Readability, *supra* note 92,

Figure 3 represents the frequency distribution histogram for the average sentence length.



**Figure 3.** Frequency distribution histogram for sentence length

Anecdotally, we found several sign-in-wrap agreements with extremely long sentences; much more than 25 words. As one illustration, the following 161-word sentence, which is difficult to read, was found in one of the sign-in-wrap contracts.<sup>134</sup> Challenge yourself and try reading it without running out of air.

*"To the greatest extent permitted by law, under no circumstances will Grinding Gear Games, its employees, contractors or agents be liable to you in contract, tort, equity, statute, regulation or otherwise for any loss, damage, costs, legal costs, professional and other expenses of any nature whatsoever incurred or suffered by you or by any third-party, whether direct or consequential (including without limitation any economic loss or other loss of turnover, profits, business or goodwill) arising out of any dispute or contractual, tortious or other claims or proceedings made by or bought against you which relate in any way to your access and use of any of the Website, Materials and Services, including without limitation in relation to any Posts or Images or any breach by you of the Posting Policy or Image*

<sup>134</sup> See <https://www.pathofexile.com/account/create>.

*Policy, or in respect of any failure or omission on the part of Grinding Gear Games to comply with its obligations as set out in these Terms of Use."*

Did you do it? We believe that most readers did not even bother trying. Perhaps the very few who did, abandoned the task without completing it and quickly moved on. This is exactly how consumers are likely to respond to such a dense text.

## 2. Statistical Relationships

In order to quantify the statistical relationships between a website's unique U.S. visitors count, number of page views, FRE score, and F-K score, we calculated the Spearman's rank correlation coefficient between these variables. This coefficient is a nonparametric measure that assesses the relationship between the rankings of two variables rather than between their actual values. It is therefore robust to outliers,<sup>135</sup> which we identified in our data.

Specifically, yet unsurprisingly, the website Google.com is an outlier for two aggregate reasons. First, it had a substantially higher rate of page views than all other websites. Notably, while it boasted approximately 31,000,000,000 page views, the second largest observation in our sample, Reddit.com, had about 5,000,000,000 page views (a ratio of about 6:1). Second, Google.com had the highest number of unique visitors, about 171 million, significantly higher than all other websites, including the second-largest observation, Facebook.com, which had 89 million visitors.

The results of the bivariate analysis are troubling from a consumer policy perspective. First, the results show that the relationships between the number of unique visitors and the FRE and F-K scores are weak and do not attain statistical significance.<sup>136</sup> These results might imply that the poor readability scores found in our sample are not limited to popular websites with many unique visitors. Hence, they might also be found in many other less crowded sites not examined in this study. Even worse, the associations between the number of page views and the FRE and F-K scores were weak and statistically significant, meaning that they could not be attributed merely to chance.<sup>137</sup> These results might imply that websites with less page views

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<sup>135</sup> See e.g., M. M. Mukaka, *Statistics Corner: A guide to Appropriate Use of Correlation Coefficient in Medical Research*, 24 MALAWI MED. J. 69, 69 (2012) (Spearman's rank correlation coefficient is "appropriate when one or both variables are skewed or ordinal and is robust when extreme values are present.").

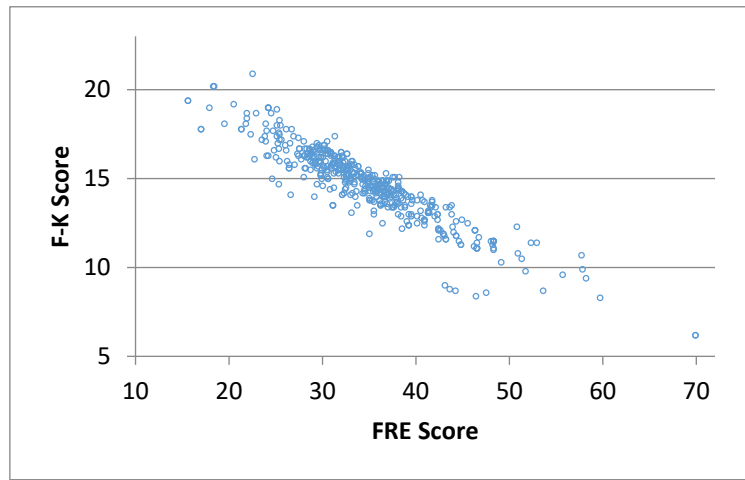
<sup>136</sup>  $r=0.06$ ,  $p=0.15$  and  $r=-0.05$ ,  $p=0.32$  for FRE and F-K, respectively.

<sup>137</sup>  $r=0.15$ ,  $p<0.001$  and  $r=-0.12$ ,  $p=0.01$  for FRE and F-K, respectively.



than the popular sites tested in this study are likely, to some degree, to have even poorer readability scores.<sup>138</sup>

Unsurprisingly, the correlation between the FRE and F-K scores was strong and negative.<sup>139</sup> This implies that the two scores quantify readability in a comparable way. Figure 4 is a scatterplot for the FRE and F-K scores that illustrates the linear negative relationship between these two variables.



**Figure 4.** Scatterplot for FRE and F-K Scores

### III. DISCUSSION AND NORMATIVE IMPLICATIONS

Under the duty to read, consumers are legally expected to read consumer contracts before agreeing to their terms.<sup>140</sup> However, our study empirically indicates that these contracts are often unreadable. Specifically, our study indicates that the sign-in-wrap contracts of highly popular websites in the U.S. are mostly written in an unreadable manner.<sup>141</sup>

This, in turn, entails higher transaction costs for those consumers who wish to become familiar with the terms of their contracts. Unreadable contracts also denotes that less consumers are able to make informed decisions based on their contracts. While this is true with respect to all

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<sup>138</sup> Notably, the results of our analysis also show a moderate correlation between the number of unique visitors and page views ( $r=0.58$ ,  $p<0.001$ ).

<sup>139</sup>  $r=-0.92$ ,  $p<0.001$ .

<sup>140</sup> See *supra* Part I.A.

<sup>141</sup> See *supra* Part II.C.1.

consumers, it is especially acute in the case of some vulnerable groups of consumers, such as immigrants, the poor and those less-educated.

Overall, unreadable contracts increase the risk of a fundamental market failure in the form of information asymmetry.<sup>142</sup> Such contracts also reduce consumers' ability to engage in comparison shopping,<sup>143</sup> which in turn reduces firms' incentive to draft efficient contracts. Along these lines, unreadable contracts increase the reading costs of third parties—such as pro-consumer organizations and online review websites and platforms—that may be willing to compare, study and rank consumer contracts.<sup>144</sup> All this weakens competition over contractual terms, which means that the market is more likely to offer low-quality contracts.<sup>145</sup>

The results of our study, which indicate that consumer sign-in-wrap contracts are difficult to read, are relevant to the general pools of consumers. Approximately 90% of adult U.S. consumers use the internet at least occasionally.<sup>146</sup> 85% of Americans get online news from their desktop computer.<sup>147</sup> Roughly 80% are online shoppers.<sup>148</sup> More than 70% of

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<sup>142</sup> See, e.g., Becher, *supra* note 2, at 734 (“The existence of obligational asymmetric information is a serious market failure that can undermine the efficiency of many consumer transactions. Contracts will systematically increase welfare if, and only if, contracting parties have the information necessary for an informed evaluation of all transactional aspects (including, of course, contract terms).”).

<sup>143</sup> See, e.g., Marotta-Wurgler & Taylor, *supra* note 68, at 275 (“The implication of this trend [of drafting hard-to-read contracts] is that, to the extent consumers read terms to comparison shop, the cost of becoming informed about terms has increased”); see also Becher, *id.*, at 742 (“Another premise that the market analysis relies on is that, in a competitive market, consumers can choose among different SFCs and thus avoid unfair provisions.”).

<sup>144</sup> See, e.g., Marotta-Wurgler & Taylor, *supra* note 68, at 275 (“The cost [entailed in long and hard-to-read contracts] is also higher for would-be intermediaries such as ratings websites and consumer nonprofits.”); cf. Becher & Unger-Aviram, *supra* note 3, at 223-24.

<sup>145</sup> See, e.g., Becher, *supra* note 2, at 743 (“...in light of the asymmetric information that characterizes consumer contracts, it seems more plausible to assume that firms have a strong incentive to compete over several salient transactional terms while racing to the bottom on others. This race to the bottom allows firms to offset for the costs of competing over the salient terms, most prominently the price.”); Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1270 (2003) (when contractual terms become non-salient it “creates an incentive for sellers to make the terms low quality, whether or not low-quality terms are efficient.”).

<sup>146</sup> Statista, *Share of Adults in the United States Who Use the Internet from 2000 to 2018*, <https://www.statista.com/statistics/185700/percentage-of-adult-internet-users-in-the-united-states-since-2000/> (“In 2018, 89 percent of U.S. adults were reported to use the internet at least occasionally.”); Pew Research Center, *Internet/Broadband Factsheet*, <http://www.pewinternet.org/fact-sheet/internet-broadband/> (“Roughly nine-in-ten American adults use the internet.”).

<sup>147</sup> Michael Barthel & Amy Mitchell, *Americans' Attitudes about the News Media Deeply Divided Along Partisan Lines* 16, file:///C:/Users/User/Downloads/PJ\_2017.05.10\_Media-Attitudes\_FINAL.pdf (85% of Americans ever get news “on a desktop computer.”).

<sup>148</sup> Aaron Smith & Monica Anderson, *Online Shopping and E-Commerce 2*, [http://assets.pewresearch.org/wp-content/uploads/sites/14/2016/12/16113209/PL\\_2016.12.19\\_Online-Shopping\\_FINAL.pdf](http://assets.pewresearch.org/wp-content/uploads/sites/14/2016/12/16113209/PL_2016.12.19_Online-Shopping_FINAL.pdf) (“Roughly eight-in-ten Americans are online shoppers.”).

Americans have used some type of shared or on-demand online service.<sup>149</sup> The majority of U.S. adults also use two or more social media platforms.<sup>150</sup>

### A. Policy Recommendations

In view of the alarming results of our study, we recommend that policy makers impose a general *readability duty* on consumer contract drafters. Under the readability duty, drafters will be required to provide consumers with contracts that they can easily understand. As noted, some states have already taken this path, at least with respect to some types of contracts.<sup>151</sup> We believe this should be a general duty accompanied by clear criteria.

To make this proposal practical and easy to enforce (and comply with), we suggest that consumer contracts be aligned with the FRE and F-K standards. These standards are easy to employ and verify,<sup>152</sup> and they are commonly recommended for consumer-oriented materials. According to the suggested readability duty, if a consumer contract that targets the general pool of consumers receives an FRE score under 60 or an F-K score above 8th grade, the drafter would be considered in breach of this duty.<sup>153</sup> In such cases, consumers should be relieved from the duty to read.<sup>154</sup> To further incentivize firms, courts can substitute the unreadable (and thus invalid) term with a punitive term that is strongly unfavorable to the drafter.<sup>155</sup>

Interestingly, a few websites (4.8%) in our sample opted to provide some kind of a summary or clarifications alongside the contract or some of its terms.<sup>156</sup> Arguably, this can be viewed as an attempt to make the contract

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<sup>149</sup> Aaron Smith, *Shared, Collaborative and On Demand: The New Digital Economy*, <http://www.pewinternet.org/2016/05/19/the-new-digital-economy/> (“72% of Americans have used some type of shared or on-demand online service.”).

<sup>150</sup> Kevin Murnane, *Which Social Media Platform Is The Most Popular In The US?*, <https://www.forbes.com/sites/kevinmurnane/2018/03/03/which-social-media-platform-is-the-most-popular-in-the-us/#51939b681e4e> (“Most US adults use more than one social media platform.”).

<sup>151</sup> See *supra* notes 8 and 112.

<sup>152</sup> As noted, the two tests are rather accessible as they are available, for instance, via Microsoft Word; see *supra* note 92.

<sup>153</sup> At the same time, contracts that target specific groups of consumers – such as immigrants or the elderly – may require different readability scores.

<sup>154</sup> It may well be that not all consumer contracts are the same, and that some might merit a more challenging text. In such cases, courts can determine the exact readability threshold after carefully reviewing the contract and consulting with experts or consumer organizations. Of course, in these cases firms will bear the burden to demonstrate clearly that the contract is reasonably drafted. This is beyond the scope of this article, and we leave the conceptual development of such an alternative to future studies and analysis.

<sup>155</sup> For a detailed analysis see Omri Ben-Shahar, *Fixing Unfair Contracts*, 63 STAN. L. REV. 869 (2011) (examining the optimal substitute for invalid excessive contract terms); Eyal Zamir & Ori Katz, *Substituting Invalid Contract Terms: Theory and Empirics* (work in progress, on file with authors) (criticizing and developing Ben-Shahar’s model while providing empirical evidence as to what substitute is preferred by people, how the chosen substitute changes parties’ inclination to challenge excessive terms, and how it may influence decision-makers’ inclination to invalidate these excessive clauses).

<sup>156</sup> See *supra* note 89. Examples include [linkedin.com](https://www.linkedin.com/legal/user-agreement), [tumblr.com](https://www.tumblr.com/policy/en/terms-of-service), [pinterest.com](https://www.pinterest.com) and [github.com](https://www.github.com). See <https://www.linkedin.com/legal/user-agreement>; <https://www.tumblr.com/policy/en/terms-of-service>;

more accessible to the general public. Consider, for instance, the following example taken from Tumblr.com’s sign-in-wrap agreement.<sup>157</sup>

***Eligibility:***

*You may not use the Services, provide any personal information to Tumblr, or otherwise submit personal information through the Services (including, for example, a name, address, telephone number, or email address) if you are under the Minimum Age. The Minimum Age is (i) thirteen (13), or (ii) for users in the European Union, sixteen (16) (or the lower age that your country has provided for you to consent to the processing of your personal data) . You may only use the Services if you can form a binding contract with Tumblr and are not legally prohibited from using the Services.*

Immediately after this term, Tumblr.com provides the following explanation, contained in a rectangular shaded frame:

*You have to be the Minimum Age to use Tumblr. We're serious: it's a hard rule. "But I'm, like, almost old enough!" you plead. Nope, sorry. If you're not old enough, don't use Tumblr. Ask your parents for a Playstation 4, or try books.*

Admittedly, we are somewhat ambivalent with respect to such a strategy.<sup>158</sup> On the one hand, these “clarifications” help consumers to better understand the contract. It makes reading the terms less boring and strenuous, and arguably more memorable and fun. On the other hand, it raises some serious concerns. For instance, consumers might be confused as to what exactly they should read: the formal term, the annotation, or perhaps both? Relatedly, what parts of the text are binding? In case of disputes, should the courts prefer one type of text over the other; or maybe the latter should merely serve as an interpretive aid? Moreover, why should firms use the complicated and formal version, if the essence of the term can be captured in a more “relaxed” text? On top of that, can more colloquial and humoristic language lead consumers to reduce their vigilance, thus make them not fully realize the legal risks and obligations the contract allocates? Lastly, will such simplification serve firms as a fig leaf, i.e. – an excuse for not holding them responsible for drafting unreadable contracts? If this

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<https://policy.pinterest.com/en/terms-of-service/>;

<https://help.github.com/articles/github-terms-of-service/>

<sup>157</sup> See <https://www.tumblr.com/policy/en/terms-of-service>.

<sup>158</sup> For an interesting and detailed discussion of similar practices and their potential positive implications see David A. Hoffman, *Relational Contract of Adhesion*, 85 CHI. L. REV. 1395 (2018).

indeed becomes a more ordinary practice,<sup>159</sup> these and other concerns will be adjudicated and probably require further analysis.

Overall, for now, we tend to believe that the FRE and F-K readability tools should apply. However, we suggest that these formal linguistic readability tests serve only as a *perquisite* legal standard for examining the readability of consumer contracts. True, poor readability scores of texts with long sentences and multisyllable words may normally indicate that the text is difficult to read. However, it is imperative to keep in mind that suppliers might manipulatively generate good readability scores that do not necessarily mean that the text is indeed readable.<sup>160</sup> A sign-in-wrap contract with short sentences and with monosyllabic words may receive decent readability scores under the FRE and F-K tests. Yet, such a contract might be unreadable since its grammatical structure is deliberately flawed, lacking, for example, a subject and verb in each sentence.

Policy makers should therefore consider requiring suppliers to comply not only with the common FRE and F-K readability standards. They should also prohibit suppliers from providing consumers with contracts that include substantial grammatical flaws. One tool to consider in this context is to require firms to ensure that a large segment of their consumers do indeed possess the grammatical capacity to understand key contractual terms, rights and obligations.<sup>161</sup> Yet another path to keep in mind is technological. Detecting grammatical flaws can be facilitated by using modern machine learning platforms.<sup>162</sup> In this respect, researchers and developers are now toying with artificial intelligence platforms and apps as means to read legal texts.<sup>163</sup>

While policy makers need to consider *ex ante* regulation, courts, in the meantime, can intervene *ex post*. Given the results of our study, judges can step in and relax the application of the duty to read *vis-a-vis* consumers who face unreadable contracts. This, of course, is not limited to sign-in-wrap contracts. Rather, judicial intervention should be determined on a case-by-case basis. When considering legal intervention, the courts' toolkit comprises a range of doctrines and principles. For starters, courts can find no assent when contracts are written in an unreadable manner. Furthermore,

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<sup>159</sup> As noted, only 4.8% of the sample websites moved in that direction; *see supra* note 89. *See also* Hoffman, *supra* note 158, at 1442 (“the vast majority of firms, including almost all new economy platform firms, have terms and conditions that are ordinary in form and function”).

<sup>160</sup> *Cf.* Lauren E. Willis, *The Consumer Financial Protection Bureau and the Quest for Consumer Comprehension*, 3 RUSSELL SAGE FOUNDATION J. SOC. SCI. 74, 74 (2017) (noting in the context of financial disclosures that “firms will run circles around [regulatory requirement] misleading consumers and defying consumers’ expectations.”).

<sup>161</sup> Compare Willis, *supra* note 160, at pp.74-75.

<sup>162</sup> *See, e.g.*, Wizenozze, *Readability Classification: Combining the Power of Machine Learning and Natural Language Processing*, <https://www.wizenozze.com/2016/11/14/readability-classification/>.

<sup>163</sup> *See, e.g.*, Lisa M. Austin et al., *Towards Dynamic Transparency: The AppTrans (Transparency for Android Applications) Project*, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3203601](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3203601) (July 16, 2018).

courts can utilize and develop in this context doctrines such as good faith,<sup>164</sup> reasonable expectations,<sup>165</sup> and perhaps procedural unconscionability.<sup>166</sup> Such an approach taken by the courts may have a significant impact in the context of consumer contracts. Empirical findings indicate that firms are generally sensitive to litigation outcomes, and that they tend to draft—and sometimes change—their contracts accordingly.<sup>167</sup>

At times, courts do in fact intervene when the contractual language is unreadable or confusing. For instance, the New Jersey Supreme Court has recently found a lack of consumer assent to a contract while referring to the unreadability of an arbitration provision.<sup>168</sup> The court cited the State’s legislation, which requires consumer contracts to be readable.<sup>169</sup> Though the court did not employ a formal readability test, it noted that “[a]n arbitration clause should at least be clear about its meaning; mutual assent is not achieved through ignorance”.<sup>170</sup> We believe this rationale is applicable to other contractual terms as well.

## B. Can Readability indeed make a Difference?

The suggestions we make in this Part target the problem of readability, which is the focus of this article. The critical reader may, however, question our ambition to make consumer contracts more readable. According to this potential line of reasoning, consumers will keep not reading their contracts, regardless of readability levels. Making consumer contracts more readable, the argument goes, will not change consumers attitude and behavior. True, firms may be forced to draft readable contracts. Yet, consumers will

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<sup>164</sup> U.C.C. §§ 1–203, 2–305(2), 2–306(1), 2–311(1), 2–615(a) (AM. LAW INST. & UNIF. LAW COMM’N 2012) (detailing the obligation to perform a contract in good faith).

<sup>165</sup> The doctrine was originally adopted with respect to insurance contracts. According to this doctrine, “[i]n dealing with standardized [consumer] contracts courts have to determine what the weaker contracting party could legitimately expect by way of services according to the enterpriser’s ‘calling,’ and to what extent the stronger party disappointed reasonable expectations based on the typical life situation.” Gray v. Zurich Ins., 419 P.2d 168, 172 (Cal. 1966) (quoting Friedrich Kessler, Contracts of Adhesion, 43 COLUM. L. REV. 629, 637 (1943)). See also Darner Motor Sales, Inc. v. Universal Underwriters Ins., 682 P.2d 388, 394–95 (Ariz. 1984) (en banc) (upholding a similar formulation of the reasonable expectations doctrine)

<sup>166</sup> U.C.C. § 2-302 (titled “Unconscionable contract or Clause”). See also Anthony M. Balloon, Comment, *From Wax Seals to Hypertext: Electronic Signatures, Contract Formation, and a New Model for Consumer Protection in Internet Transactions*, 50 EMORY L.J. 905, 914 (2001) (discussing procedural unconscionability and e-contracts); Canino, *supra* note 37 (discussing unconscionability and sign-in-wrap contracts).

<sup>167</sup> Marotta-Wurgler & Taylor, *supra* note 68, at pp. 266-274 (finding, among other things, that if a term has a lower probability of enforcement, or if its enforcement is declining, firms are more likely to respond by removing it).

<sup>168</sup> Amanda Kernahan v. Home Warranty Administrator of Florida, Inc. (A-15-17) (079680) (10.1.2019).

<sup>169</sup> *Id.*, referring to New Jersey’s Plain Language Act, N.J.S.A. 56:12-1 to -13 (PLA).

<sup>170</sup> *Id.*

nevertheless refrain from reading these contracts. Consumers are likely to view these contracts as unduly long and boring,<sup>171</sup> they may have a (false) belief of legal protection,<sup>172</sup> they may dismiss contractual risks in light of over-optimism and other cognitive biases,<sup>173</sup> many might rationally prefer to “free ride” and be enlightened through the reading of others,<sup>174</sup> and they may as well have other good (and not so good) reasons to abstain from reading.<sup>175</sup>

Our response to this important reservation is fivefold. First, it is next to impossible to determine the impact of making contracts readable on consumer behavior in a void. Only once contracts become readable can we examine whether consumers read them more. If anything, experimental evidence suggests that simplified presentation of legal materials and forms, such as disclosures, indeed improves people’s understanding.<sup>176</sup> This, it should be noted, seems to be conditioned on an appropriate surrounding, i.e. – that sufficient focus and attention are directed to the relevant text.<sup>177</sup>

While the existing literature mainly argues that consumers do not read, our study suggests that even if they wanted to – that would be quite impossible. It may well be the case that when consumers expect contracts to be unreadable they are dissuaded from reading them to begin with.<sup>178</sup> Naturally, reading a text without being able to understand it is not an enjoyable and rewarding experience.<sup>179</sup>

Second, we do not claim with any degree of certainty that readable contracts will revolutionize consumers behavior. Readability is not a panacea. Decades of unsettled scholarship, legislation and litigation

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<sup>171</sup> Cf. Claire A. Hill & Christopher King, *How Do German Contracts Do as Much with Fewer Words*, 79 CHI. KENT L. REV. 889 (2004) (discussing the possible reasons for having long contracts in the U.S.); See, e.g., OMRI BEN-SHAHAR & CARL E. SCHNEIDER, MORE THAN YOU WANTED TO KNOW: THE FAILURE OF MANDATED DISCLOSURE (2014) (arguing that people cannot be expected to effectively read legal texts such as disclosures and contracts due to the excessive length of these texts).

<sup>172</sup> See, e.g., Shmuel I. Becher, *Concrete Content to Vague Standards: Behavioral Analysis of Consumer Contracts*, 33 TEL AVIV U. L. REV. 277 (2010).

<sup>173</sup> See, e.g., Oren Bar-Gill, *Seduction by Plastic*, 98 NW. U. L. REV. 1373, 1407 (2004); Shmuel I. Becher, *Behavioral Science and Consumer Standard Form Contracts*, 68 LA. L. REV. 117 (2007); Korobkin, *supra* note 19.

<sup>174</sup> See Avery Katz, *The Strategic Structure of Offer and Acceptance: Game Theory and the Law of Contract Formation*, 89 MICH. L. REV. 215, 280 (1990).

<sup>175</sup> See, e.g., Robert A. Hillman & Jeffery J. Rachlinski, *Standard-Form Contracting in the Electronic Age*, 77 N.Y.U. L. REV. 429 (2002) (detailing economic, cognitive and social reasons that may lead consumers not to read or accurately assess consumer contracts).

<sup>176</sup> See, e.g., Michael E.J. Masson & Mary Anne Waldron, *Comprehension of Legal Contracts by Non-Experts: Effectiveness of Plain Language Redrafting*, 8 APPLIED COG. PSYCHOL. 67, 77 (1994) (“simplifying drafting style increases comprehension”); Patrick Gage Kelley et al. *Standardizing Privacy Notices: An Online Study of the Nutrition Label Approach CyLab* (2010).

<sup>177</sup> See Omri Ben-Shahar & Adam Chilton, *Simplification of Privacy Disclosures: An Experimental Test*, 45 J. LEGAL STUD. S41, S45 (2016) (“our findings suggest that when people are engaged in a real world task that focuses their attention elsewhere, the incidental presentation of simplified disclosures does not affect their behaviour”).

<sup>178</sup> See, e.g., Melvin Aron Eisenberg, *Comments: Text Anxiety*, 59 S. CAL. L. REV. 305, 309 (1986) (“The consumer’s reaction to the prospect of reading such text is therefore likely to be anxiety and avoidance”).

<sup>179</sup> See, e.g., Becher, *supra* note 2, at 175 (“Reading a text without being able to understand it can definitely be emotionally frustrating.”)

demonstrate that the long-lasting puzzle of consumer contracts will not be solved by any magic bullet. We do believe, however, that while one cannot read all consumer contracts all the time,<sup>180</sup> reading some contracts some of the time is a feasible strategy for many.<sup>181</sup>

Third, it is of course true that many consumers may not read their contracts *ex ante*, even if these contracts are readable. However, consumers do reveal a stronger tendency to read contracts *ex post* – once a dispute or a problem arises.<sup>182</sup> Making contracts readable will hence well-serve consumers who tend to ignore their contracts *ex ante*.

Fourth, as noted, consumer organization and other intermediaries may wish to study, review, rank or comment on consumer contracts. Given the potential impact of such platforms,<sup>183</sup> the benefit of making contracts more readable—even if read mainly by such third parties—should not be overlooked. Lowering the transaction costs for those who wish to serve the general pool of consumers by evaluating standardized contracts is, to our mind, a positive side-effect of making these contracts readable.

Fifth, placing the burden on consumers to read unreadable contracts yields a strong sense of unfairness. Imposing on consumers the responsibility to perform a task they are unable to accomplish due to firms' behavior is hard to legitimize. Restoring (some of) people's trust in the ability of the legal system to level the consumer-seller playing field is a worthwhile objective in and of itself.<sup>184</sup> Along somewhat similar lines, consumers have the right to know what their contracts say, even if they choose not to pursue this right.<sup>185</sup> Generally speaking, promoting a reality in

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<sup>180</sup> With apologies to Abraham Lincoln and to Bob Marley, *Get Up Stand Up, on Burning*' (Island Records 1973).

<sup>181</sup> See, e.g., Becher & Unger-Aviram, *supra* note 3 (providing evidence that some consumers do read some of their contracts); Sovern, *supra* note 4 (reporting a survey of consumer law professors in which some respondents indicated that they occasionally read consumer contracts).

<sup>182</sup> See, e.g., Becher & Unger-Aviram, *supra* note 3, at 214-15 (noting that “a significantly larger proportion of consumers reported that they would read the contract *ex post* (rather than *ex ante*) in three out of the four scenarios [examined in this article]”); Meirav Furth-Matzkin, *On the Surprising Use of Unenforceable Contract Terms: Evidence from the Residential Rental Market*, 9 J. LEG. ANALYSIS 1 (2017) (finding that tenants are likely to be deterred by the terms of their lease agreement once dispute arises even if these terms are unenforceable); Shmuel I. Becher & Tal Z. Zarsky, *E-Contract Doctrine 2.0: Standard Form Contracting in the Age of Online User Participation*, 14 MICH. TELECOMM. & TECH. L. REV. 303, 315 (2008) 315 (“Most of the reasons for the lack of effective reading and comprehension of ‘non-salient’ terms *ex ante* do not apply to the *ex post* context”).

<sup>183</sup> See, e.g., Becher & Zarsky, *supra* note 182 (discussing in detail the importance of online information flow and the way it may impact the scope and nature of legal intervention in consumer contracts).

<sup>184</sup> Cf. Shmuel I. Becher & Jessica C. Lai, *In Consumer Protection we Trust? Re-thinking the Legal Framework for Country of Origin Cases*, 55 SAN DIEGO L. REV. 539 (2018) (discussing the importance of trust for consumers, sellers, economic flourishing and wellbeing).

<sup>185</sup> We thank Eyal Zamir for making that point.



which people perceive the justice system as fair is important for its effectiveness.<sup>186</sup>

### C. Can Market Forces Discipline Firms?

One might argue that readability may not be a problem if other tools and mechanisms efficiently discipline sellers. As a prominent example, proponents of the “informed minority” thesis may not find our results troubling. According to the informed minority model, it is not necessary that all consumers read all their contracts all the time. Rather, in competitive markets, a minority of sophisticated consumers who read their contracts and shop for better ones may suffice to discipline sellers and encourage them to draft fair terms.<sup>187</sup> Following this logic, the fact that most consumers cannot read their contracts does not pose a serious problem, as long as a significant minority of them can. In a competitive market the supplier will fear losing these informed marginal consumers to a competitor, who may well offer a better contract.

In spite of its appeal, the literature provides ample reasons to question this wisdom. For instance, firms can offer all consumers the same contract yet neutralize the effect of the informed consumers by discriminating in their favor and providing them with favorable treatment.<sup>188</sup> Sophisticated and aggressive consumers may be aware of this practice, thus not being too bothered by the one-sided contract.<sup>189</sup> On top of the theoretical limitations of the informed minority model, there are also empirical critiques. As noted, empirical studies indicate that the actual number of contract readers is far smaller than the number of readers required by the informed minority model.<sup>190</sup>

But even if one accepts the informed minority argument, there are nonetheless at least two good reasons to be worried about our findings. First, the more complex and complicated contracts are, the less likely it is to find a significant informed minority. Put simply, as contracts become easier to read and understand, it is more probable that enough consumers will indeed

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<sup>186</sup> See, e.g., Paul H. Robinson & John M. Darley, *The Utility of Desert*, 91 NW. U. L. REV. 453, 497 (1997) (“Studies suggest that increasing the law’s moral credibility can enhance its compliance power”).

<sup>187</sup> See, e.g., Alan Schwartz & Louis L. Wilde, *Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis*, 127 U. PA. L. REV. 630, 655 (1979).

<sup>188</sup> See, e.g., R. Ted Cruz & Jeffery J. Hinck, *Not My Brother’s Keeper: The Inability of an Informed Minority to Correct for Imperfect Information*, 47 HASTINGS L. J. 635 (1996) (explaining why ex post discrimination undermines the efficacy of the informed minority thesis); Becher, *supra* note 2 (same); Becher & Zarsky, *supra* note 23 (discussing ways and circumstances in which such ex post discrimination may be worrisome and justify legal scrutiny).

<sup>189</sup> Furthermore, consumer heterogeneity might prevent the marginal consumer group’s activity from being of use to consumers as a class. One prominent concern in the economic literature is that dealers may manufacture goods that suit the preferences of marginal consumers, while disregarding those of other consumers. See, e.g., Michael A. Spence, *Monopoly, Quality, and Regulation*, 6 BELL J. ECON. 417 (1975).

<sup>190</sup> See, e.g., Becher & Unger-Aviram, *supra* note 3; Bakos et al., *supra* note 3.

read them. If we want the informed minority to discipline sellers, we should make it as easy as possible to form such a minority. Second, unreadable contracts impose higher transaction costs on those consumers who wish to become informed. Given the positive contribution of these informed consumers, it is hard to think of a legitimate reason to make it harder and costlier for them to become informed.

While the “informed minority” argument has been seriously questioned, alternative claims maintain that other market-based tools may yield an efficient equilibrium. One such claim is that one way or another unfair contract terms will be discovered eventually. Exposure of these terms, especially in light of online realities that allow expansive information flows, will harm the dealers’ reputation. Therefore, firms that worry about their reputation will avoid the use of one-sided contracts.<sup>191</sup> Alternatively, rational consumers would respond to unreadable contracts by lowering their willingness to pay, perhaps assuming the worst-case scenario.

Although these arguments in favor of a market-based approach have merit, they are not entirely persuasive. The assumption that one-sided contracts will grievously injure the vendor’s reputation is doubtful for a variety of reasons.<sup>192</sup> For starters, for that to happen, consumers need to care about their contracts, and the public – to be aware of the issue. This is most often not the case, given, *inter alia*, that these contracts are often unreadable, as this study has shown.<sup>193</sup>

In addition, seller concern for reputation is more likely to take the form of waiving enforcement of biased terms *ex post*, rather than excluding them *ex ante*.<sup>194</sup> Such a strategy allows firms more flexibility and discretion and it portrays them as kind, consumer friendly or even generous.<sup>195</sup> Furthermore, and most importantly, empirical evidence suggests that consumer contacts are indeed one-sided,<sup>196</sup> which in turn indicates that overall reputation is an insufficient tool to rely on.

The assumption that consumers will respond to unreadable contracts by lowering their willingness to pay is also rather doubtful. For that to happen, consumers first need to be aware of the information that is not available for them to evaluate. Then, they need to draw the conclusion that this missing information is unfavorable, thus adjusting their willingness to transact. Such

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<sup>191</sup> Becher & Zarsky, *supra* note 182.

<sup>192</sup> See generally EYAL ZAMIR & DORON TEICHMAN, *BEHAVIORAL LAW & ECONOMICS* 306–13 (2018) (discussing market solutions and reviewing the role of reputation).

<sup>193</sup> Becher & Zarsky, *supra* note 182, at 317 (“Stories of imbalanced contractual provisions rarely engage the mass media, which must tailor their content to meet a broad audience with a limited attention span in a very competitive setting. Aggrieved *ex post* consumers might find their story “hard to sell” to the mass media, given their general interest in sensationalism.”).

<sup>194</sup> Becher & Zarsky, *supra* note 23.

<sup>195</sup> *Id.* (“Faced with a firm’s generous response to an alleged problem, some consumers will naively accept such kindness without second-guessing it [...]”).

<sup>196</sup> Marotta-Wurgler & Taylor, *supra* note 68.

a strategy, however, attributes much rationality and sophistication to consumers, while a large body of research opines that this is often not the case.<sup>197</sup> Moreover, much of the language of standard form contracts is usually a hidden, non-salient attribute from consumers' perspective.<sup>198</sup> Consumers do not pay attention to these terms, cannot properly evaluate them, and therefore do not price them rationally. Indeed, empirical data shows that when facing no information consumers do not assume the worst – and therefore do not lower their willingness to pay in the same way economists assume they will.<sup>199</sup>

#### D. Readability in Context

To be sure, our analysis should not relax other concerns, embedded in the law of standard form contracts. Consumers may happily accept biased or unfair terms, even when fully informed by readable contracts.<sup>200</sup> While one can hope that making contracts more readable will yield further pressure on firms to draft clear and balanced contracts, there is no guarantee that this will indeed materialize.<sup>201</sup> True, anecdotal evidence suggests that simplifying contracts may be accompanied by more balanced terms.<sup>202</sup> However, perfectly readable contracts may yet use legal terms of art that are incomprehensible for the average consumer. Such readable contracts may as well be unconscionable, excessively long, lacking proper sub-headings, written in rather small font, not easily found, or deliberately presented to consumers at a late or uncomfortable time when reading becomes unlikely.

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<sup>197</sup> Endless studies confirm (and debate) that. *See, e.g.*, sources cited *supra* notes 172-178; OREN BARGILL SEDUCTION BY CONTRACT: LAW, ECONOMICS, AND PSYCHOLOGY IN CONSUMER MARKETS (2012).

<sup>198</sup> *See, e.g.*, Todd D. Rakoff, *Contracts of Adhesion: An Essay in Reconstruction*, 96 HARV. L. REV. 1173 (1983) (proposing that invisible terms in consumer standard form contracts should be presumed unenforceable); Korobkin, *supra* note 19; Becher, *supra* note 2, at 751.

<sup>199</sup> *See, e.g.*, Sunita Sah et al., *Disclosure and the Dog That Didn't Bark: Consumers Are Too Forgiving of Missing Information* (working paper, on file with authors) (presenting five experiments which show that contrary to standard theory people are relatively unresponsive to missing information and thus do not assume the worst).

<sup>200</sup> *Cf.* Florencia Marotta-Wurgler, *Does Contract Disclosure Matter?*, 168 J. INST. & THEORETICAL ECON. 94, 113–14 (2012) (finding that exposure to a biased contractual term in a software license agreement did not impact the likelihood that consumers will indeed purchase the product).

<sup>201</sup> Furthermore, one may argue that businesses would respond to readability duties by increasing the prices of goods and services. Arguably, such a move will allow businesses to compensate for the costs involved, including those entailed in not being able to incorporate the terms they prefer in their contracts. Slightly restated, according to this argument sellers are likely to respond by externalizing the costs to the general pool of consumers. However, even if this theoretical concern materializes it will not necessarily lead to inefficiencies. Readable terms are likely to reduce information gaps and make the transaction as a whole more transparent. Hence, even if consumers end up paying higher prices for better terms, readability rules may help them to avoid contract terms they cannot evaluate and shop among. Compare Shmuel I. Becher, *A "Fair Contracts" Approval Mechanism: Reconciling Consumer Contracts and Conventional Contract Law*, 42 U. MICH. J.L. REFORM 747, 801 (2009) (making a similar argument in a different context).

<sup>202</sup> *See* Hoffman, *supra* note 158, at 1443 (explaining that while the surveyed firms simplified their contracts by reducing legalese and focusing on declarative sentences, they also forgo some one-sided terms which in turn "increased their formal legal exposure").

Courts should not relax their vigilance towards these problems just because a contract is readable.<sup>203</sup>

Indeed, readability is merely one piece of the puzzle – even with respect to consumers’ comprehension of their form contracts.<sup>204</sup> Tackling all the problems and concerns that consumer contracts raise requires experimenting with some innovative and creative ideas.<sup>205</sup> The unreadability of consumers contracts, we believe, further supports exploring this path.

### CONCLUSION

Millions of American consumers use the services of highly popular U.S. websites on a regular basis. Under the duty to read doctrine, these consumers are legally expected to read the sign-in-wrap contracts that they agree to when signing up to the services offered by these websites. Accordingly, courts typically enforce these agreements against consumers even if consumers do not read them.

Sign-in-wrap contracts permit online firms to contract with millions of users, with no negotiation and without verifying that the contract was read (let alone understood). While consumers are legally presumed to read these contracts, websites are not obliged to provide consumers with readable ones. This legal void raises an important question: are sign-in-wrap contracts, which consumers are obliged to read, in fact readable? Is it fair and efficient to impose the duty to read on consumers who allegedly accept these contracts?

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<sup>203</sup> Cf. Tess Wilkinson-Ryan, *The Perverse Consequences of Disclosing Standard Terms*, 103 CORNELL L. REV. 117 (2017) (warning that increased readability might be counterproductive to consumers since it can lead the courts to view readable terms as more legitimate, even if they are one-sided and unfair).

<sup>204</sup> Masson & Waldron, *supra* note 176, at 79 (“plain language drafting alone will take us only part way to the goal of making the law more broadly understood”).

<sup>205</sup> The literature provides some interesting ideas for coping with the problem of standard form contracting. See, e.g., Todd D. Rakoff, *The Law and Sociology of Boilerplate*, 104 MICH. L. REV. 1235, 1243 (2006) (pointing out suggestions in favour of “expert administrative agencies, non-profit trade associations, law firms that are leaders in a field, and even (although somewhat uncertainly) publicity-minded watchdog groups” (footnotes omitted) as potential approaches to consumer contracts); LOUIS KAPLOW & STEVEN SHAVELL, FAIRNESS VERSUS WELFARE 217 n.146 (2002) (mentioning the possibility of administrative control over consumer form contracts); Ayres & Schwartz, *supra* note 2 (proposing the use of warning boxes as a response to the ‘no-reading’ problem); Hoffman, *supra* note 158 (discussing humoristic and informal language as means to communicate with users); P. Gillette, *Pre-Approved Contracts for Internet Commerce*, 42 HOUS. L. REV. 975 (2005) (examining the idea of pre-approval of online consumer contracts); Becher, *supra* note 201 (proposing administrative control over – and pre-approval of – consumer contracts, while also examining, among other things, the possibility of contract rating); Becher & Zarsky, *supra* note 182 (discussing online information flows as a potential mechanism to discipline sellers). See also Lauren Willis, *Performance-Based Remedies: Ordering Firms to Eradicate Their Own Fraud*, 80 L. & CONTEMP. PROB. 7 (2017) (proposing that firms will have the burden to reduce consumers’ confusion and will be required to demonstrate that their consumers comprehend key features of the firm’s products and services); Jacob H. Russell, *Unconscionability’s Greatly Exaggerated Death*, available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3213542](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3213542) (Jan. 14, 2019) (suggesting that the doctrine of unconscionability be tailored to the individual consumer so to better address the problem of consumer heterogeneity).

According to the findings of our study, the disturbing answer to these questions is a resounding ‘no.’ Lacking a clear and strong incentive to draft readable agreements, firms often utilize unreadable texts as their contracts. But by insisting on applying the duty to read in these cases, courts undermine notions of both fairness and efficiency. Considering the empirical findings delineated in this article, it is no doubt time for a change.