

Nova Law Review

Volume 43, Issue 3

2019

Article 2

Touching, Tapping, and Talking: The Formation of Contracts in Cyberspace

Mark E. Budnitz*

*Georgia State University College of Law, mbudnitz@gsu.edu

Copyright ©2019 by the authors. *Nova Law Review* is produced by The Berkeley Electronic Press (bepress). <https://nsuworks.nova.edu/nlr>

TOUCHING, TAPPING, AND TALKING: THE FORMATION OF CONTRACTS IN CYBERSPACE

MARK E. BUDNITZ*

I.	INTRODUCTION.....	235
II.	TECHNOLOGY HAS FOREVER CHANGED THE LIVES OF CONSUMERS FOR GOOD AND BAD	236
III.	LAWMAKERS HAVE NOT RESPONDED TO THE TECHNOLOGICAL REVOLUTION	240
IV.	A BRIEF HISTORY OF CONTRACT MEDIA AND SIGNATURES	244
V.	THE LAW HAS NOT CAUGHT UP WITH TECHNOLOGY	250
	A. <i>E-Sign</i>	251
	B. <i>EFTA</i>	251
	C. <i>FTC Act</i>	252
	D. <i>UCC</i>	254
	E. <i>UETA</i>	264
	F. <i>Case Law</i>	265
VI.	WHERE SHOULD WE GO FROM HERE?	271
	A. <i>Legislation</i>	272
	B. <i>Case Law</i>	279
	C. <i>Independent Development of Principles, Standards, Model Acts, and Best Practices</i>	284
VII.	CONCLUSION.....	285

I. INTRODUCTION

Technology has transformed the consumer marketplace.¹ It has radically changed the way consumers enter into contracts for goods and

* Mark E. Budnitz is the Bobby Lee Cook Professor of Law Emeritus, Georgia State University College of Law. He received his B.A. from Dartmouth College and his J.D. from Harvard Law School. He gratefully acknowledges the assistance of his graduate research assistant Tianqi Xu; Pam Brannon, Coordinator of Faculty Library Services; and Karen Butler, Administrative Specialist. He thanks Editor-in-Chief Bryan Siddique and the other organizers for the opportunity to participate in the *Nova Law Review* Symposium Progression 2018. He would also like to thank Lead Articles Editor Veronika Balbuzanova and the other editors for their editorial expertise.

1. Orrin Broberg, *Eight Ways Technology Is Changing Business*, MODUS: MODUS BLOG (Dec. 5, 2013, 1:35 AM), <http://www.gomodus.com/blog/eight-ways-technology-changing-business>.

services.² Part II of this Article provides the broader context in which online contracting occurs, describing the general electronic environment that technology has made possible, including its costs as well as its benefits.³ The law has failed to keep up with this transformation and Part III points out these gaps in the law.⁴ The major focus of this Article is on issues raised by the new ways in which consumers and businesses enter into online contracts.⁵ Part IV begins this inquiry by providing a brief history of the various media people have used to embody contract terms and to document the parties' intention to enter into a contract.⁶ Part V reviews applicable legislation.⁷ It also analyzes the emerging case law in which courts struggle to determine whether consumers have entered into a contract when they use a mouse to click on a button labeled "I agree" or have the opportunity to click on a hyperlink that leads to an agreement but does not require any explicit indication of their consent.⁸ Part V describes the new environment in which consumers order goods by touching or tapping on small mobile device screens or by talking to virtual personal assistants.⁹ Unique legal issues relating to the formation of contracts arise when agreements are made using these devices.¹⁰ Part VI discusses various approaches policymakers could adopt to develop the law on contracting in cyberspace in an ever-changing consumer e-commerce marketplace.¹¹

II. TECHNOLOGY HAS FOREVER CHANGED THE LIVES OF CONSUMERS FOR GOOD AND BAD

The focus of this article is on the formation of online consumer contracts by consumers when they touch or tap mobile devices and talk to virtual assistants.¹² But in developing legal rules for formation of contracts, courts and policymakers should consider the wider context in which online contracting occurs.¹³ Online contracting using mobile devices and virtual

2. *See id.*

3. *See discussion infra* Part II.

4. *See discussion infra* Parts II–III.

5. *See discussion infra* Part III.

6. *See discussion infra* Part IV.

7. *See discussion infra* Part V.

8. *See discussion infra* Part V.

9. *See discussion infra* Part V.

10. *See discussion infra* Part V.

11. *See discussion infra* Part VI.

12. *See discussion infra* Parts II–IV.

13. *See* KARL N. LEWELLYN, *THE BRAMBLE BUSH: ON OUR LAW AND ITS STUDY* 63–64 (7th ed. 1981); Mark E. Budnitz, *Consumers Surfing for Sales in Cyberspace: What Constitutes Acceptance and What Legal Terms and Conditions Bind the Consumer?*, 16 GA. ST. U. L. REV. 741, 743–45 (2000).

assistants takes place in a world in which technology in general, and electronic devices in particular, are increasingly pervasive.¹⁴ As the following examples illustrate, these developments have brought significant benefits to the consumer who is able to have access to them.¹⁵ They also have introduced costs and risks, have had unintended negative consequences, and have increased the disparity between the haves and the have-nots.¹⁶ For the most part, the law has not responded in a timely or adequate manner, if at all, as described in Part III.¹⁷

Technology has been a *boon* for the disabled.¹⁸ For example, an app enables a blind person to use a smartphone or glasses with a camera to livestream video to a helper, who then assists the blind person to get to the desired destination.¹⁹ But connected health services may collect huge amounts of very personal information.²⁰

Services, such as Florida's SunPass, enable people to drive right through toll booths and receive a monthly bill instead of having to carry cash and face the delay of long lines at the toll booths.²¹ A *botched system*

It is society and not the courts which gives rise to, which shapes in the first instance . . . emerging institution[s]; which kicks the courts into action. It is only from observation of society that the courts can pick their notions of what needs the new institution serves, what needs it baffles.

LLEWELLYN, *supra*, at 63.

14. See Broberg, *supra* note 1.

15. See Christopher G. Bradley, *FinTech's Double Edges*, 93 CHI.-KENT L. REV. 61, 71 (2018). The poor and elderly have limited access to the benefits of technology. *Id.* at 72. Rural areas and minority communities lack adequate access to broadband, presenting "a major constraint on economic opportunity and mobility." K. Sabeel Rahman, *The New Utilities: Private Power, Social Infrastructure, and the Revival of the Public Utility Concept*, 39 CARDOZO L. REV. 1621, 1653 (2018). Financial institutions have not designed websites and apps tailored to meet the needs of the elderly. See Joshua C.P. Reams, Comment, *Twenty-First Century Advertising and the Plight of the Elderly Consumer*, 52 WILLAMETTE L. REV. 325, 333 (2016).

16. Bradley, *supra* note 15, at 71–72; Monica Anderson, *Digital Divide Persists Even as Lower-Income Americans Make Gains in Tech Adoption*, PEW RES. CTR. (Mar. 22, 2017), <http://www.pewresearch.org/fact-tank/2017/03/22/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/>.

17. See discussion *infra* Part III.

18. "Technology, a Boon to Disabled", DECCAN HERALD (Jan. 16, 2010, 11:08 PM), <http://www.deccanherald.com/content/47216/technology-boon-disabled.html>.

19. Joshua Brockman, *Tech Makes Life Easier for Disabled Travelers, Until They Board*, N.Y. TIMES, June 26, 2018, at B5.

20. FED. TRADE COMM'N, INTERNET OF THINGS: PRIVACY & SECURITY IN A CONNECTED WORLD i–ii, vii (2015), <http://www.ftc.gov/system/files/documents/reports/federal-trade-commission-staff-report-november-2013-workshop-entitled-internet-things-privacy/150127iotrpt.pdf>.

21. FLA. TURNPIKE ENTERPRISE, FLORIDA'S TURNPIKE: ALL-ELECTRONIC, NO-CASH TOLLING FREQUENTLY ASKED QUESTIONS 1 (Sept. 2015),

upgrade, however, resulted in drivers receiving erroneous bills for hundreds of dollars.²²

Google dominates internet search with an almost ninety percent market share, and Facebook is the main social network.²³ If they do not deliver the services users want, they would not be so tremendously popular, but they also collect, store, and use huge amounts of information about users.²⁴ As a result, “[t]hey can affect not only our wallets but our privacy, autonomy, democracy, and well-being.”²⁵

Carriers, such as AT&T and T-Mobile, have brought consumers the many revolutionary features of cell phones that have benefitted users in many ways—providing convenient communication with others, email, text messages, navigation tools, and cameras.²⁶ Consumers can increase the phone’s level of service by consenting to share their location to the carrier.²⁷ But it turns out that carriers actually depend on third parties to maintain location information, and some third parties ascertain user locations without obtaining their consent.²⁸

http://www.floridasturnpike.com/documents/aet/All-Electronic%20Tolling%20FAQs%20Sept%202015_print.pdf.

22. Sheri Kotzum, *Botched Upgrade Leaves SunPass Users Facing Huge Fees*, NW. FLA. DAILY NEWS (Aug. 13, 2018, 11:51 AM), <http://www.nwfdailynews.com/news/20180811/botched-upgrade-leaves-sunpass-users-facing-huge-fees>.

23. Greg Ip, *Capital Account: Bail-Bond Ad Bans Spark Web Debate*, WALL ST. J., July 5, 2018, at A2.

24. Maurice E. Stucke, *Here Are All the Reasons It’s a Bad Idea to Let a Few Tech Companies Monopolize Our Data*, HARV. BUS. REV. (Mar. 27, 2018), <http://hbr.org/2018/03/here-are-all-the-reasons-its-a-bad-idea-to-let-a-few-tech-companies-monopolize-our-data>.

25. *Id.*

26. See Drew FitzGerald, *Third Parties Know Exactly Where You Are*, WALL ST. J., July 16, 2018, at B4; *8 Advantages and Disadvantages of Cell Phones*, FUTUREOFWORKING, <http://www.futureofworking.com/8-advantages-and-disadvantages-of-cell-phones> (last visited May 1, 2019).

27. Zack Whittaker, *Verizon, Sprint, AT&T and T-Mobile Stop Sharing Real-Time Cell Phone Location Data*, ZDNET (June 19, 2018, 11:49 AM), <http://www.zdnet.com/article/senator-rebukes-carriers-sharing-real-time-location-data/>; Fred Zahradnik, *Tracking and Other Cell Phone GPS Services*, LIFEWIRE (Oct. 30, 2018), <http://www.lifewire.com/gps-tracking-and-services-on-phone-1683467>.

28. Whittaker, *supra* note 27. “Mapping a cell phone’s location over the course of [one hundred twenty-seven] days provides an all-encompassing record of the holder’s whereabouts. As with GPS information, the time-stamped data provides an intimate window into a person’s life” *Carpenter v. United States*, 138 S. Ct. 2206, 2217 (2018).

Airlines use technology to provide passengers with many conveniences.²⁹ Passengers can relax by watching television programs, movies, or the news on the screen provided on the back of the seat in front of them.³⁰ Or they can connect to the airline's Wi-Fi and use their laptop to catch up on work.³¹ Alaska Airlines gives its flight attendants an app on their mobile devices that they can use to report passengers who create problems, such as sexual harassment, to the company.³² Flight attendants on United Airlines have an app that provides them with information about each frequent flyer passenger.³³

“[T]he Internet of Things (“IoT”) [is] an interconnected environment where all manner of objects have a digital presence and the ability to communicate with other objects and people.”³⁴ IoT has the potential to provide substantial benefits to users.³⁵ There are many obvious risks, however, including security breaches and privacy invasions.³⁶ An unanticipated risk has emerged as well.³⁷ IoT is being used as an instrument of domestic abuse in which the abuser uses IoT “as a means for harassment, monitoring, revenge, and control.”³⁸

29. Marisa Garcia, *6 Innovative In-Flight Technologies Keeping Passengers Distracted*, SKIFT (May 13, 2015, 7:15 AM), <http://www.skift.com/2015/05/13/six-hand-me-down-ife-solutions-which-are-pretty-good-news-for-passengers/>.

30. *Id.*

31. *See id.*

32. Scott McCartney, *The Middle Seat: What the Airline Knows About the Guy in Seat 12A*, WALL ST. J., June 21, 2018, at A11.

33. *Id.* Flight attendants on United Airlines flights have an app that can show them detailed information on each passengers' last five flights. *Id.*

34. FED. TRADE COMM'N, *supra* note 20, at 1. “[T]he [IoT] involves a transformation of everyday physical objects into smart objects able to react to and communicate with the world around them in an efficient and frictionless way.” Jessie Cheng, *Toward the Internet of Value: The Internet of Things and the Future of Payment Systems*, in ELECTRONIC PAYMENT SYSTEMS: LAW AND EMERGING TECHNOLOGIES 287, 287 (1st ed. 2017).

35. *See* FED. TRADE COMM'N, *supra* note 20, at 2. “Connected health devices will allow consumers with serious health conditions to work with their physicians to manage their diseases.” *Id.* “Connected cars will notify first responders in the event of an accident.” *Id.* IoT in the home can provide homeowners with information allowing them to use energy more efficiently and alerting them to water in their basement. *Id.* at 8–9.

36. *Id.* at 10–11.

37. *See* Nellie Bowles, *Thermostats, Locks and Lights: Digital Tools of Domestic Abuse*, N.Y. TIMES: TECH. (June 23, 2018), <http://www.nytimes.com/2018/06/23/technology/smart-home-devices-domestic-abuse.html>.

38. *Id.* Abusers use home IoT to “watch and listen . . . scare or show power. Even after a partner had left the home, the devices often stayed and continued to be used to intimidate and confuse.” *Id.*

Video games have provided children with many hours of entertainment.³⁹ In addition, “[t]hey can help students improve in math and history, plus nurture team-building skills and creativity.”⁴⁰ But experts fear they may also have serious negative effects on behavior.⁴¹ Young children have difficulty telling the difference between what is real and what is fantasy.⁴² This creates behavioral problems when they interact with a virtual personal assistant such as Alexa or Siri.⁴³

Having described some of the features of the current technological revolution and the problems they cause, Part III briefly reviews lawmakers’ failure to take action to provide safeguards or remedies for injury that may occur.⁴⁴

III. LAWMAKERS HAVE NOT RESPONDED TO THE TECHNOLOGICAL REVOLUTION

The technological developments described in Part II have had a profound impact on consumers.⁴⁵ While they have provided consumers with many benefits, they also have inflicted many costs.⁴⁶ To an overwhelming extent, legislatures and government agencies have been silent.⁴⁷

39. See Keith Stuart, *What Every Parent Needs to Know About Video Games: A Crash Course*, GUARDIAN (June 2, 2014, 7:16 PM), <http://www.theguardian.com/technology/2014/jun/02/parents-guide-video-games-playstation-xbox-wii-apps-children>.

40. Sarah E. Needleman, *Game Developers Are Making It Hard for Players to Stop — Availability on Multiple Devices Add to Allure, Long Hours*, WALL ST. J., Aug. 21, 2018, at B4.

41. See *id.* The World Health Organization has added a new disease classification—*gaming disorder*. *Id.*

42. Sue Shellenbarger, *Alexa! Tell My Child to Behave! — Children as Young as 1 Are Using Voice-Activated Technology, but Some Parents Worry They’re Picking Up Rude Habits*, WALL ST. J., July 11, 2018, at A9.

43. See *id.* “Many [young children] see smart speakers as magical, imbue them with human traits and boss them around like a Marine drill sergeant, according to several new studies in the past year.” *Id.* Because adults have difficulty restricting the amount of time they spend on various apps, Apple and Google are developing tools that allow users to limit the time they spend each day on various apps. Joanna Stern, *Willpower Eased iPhone Addiction*, WALL ST. J., Sept. 12, 2018, at B4.

44. See discussion *infra* Part III.

45. See discussion *supra* Part II.

46. See Daniel Callahan, *Health Care Costs and Medical Technology, in FROM BIRTH TO DEATH AND BENCH TO CLINIC: THE HASTINGS CENTER BIOETHICS BRIEFING BOOK FOR JOURNALISTS, POLICYMAKERS, AND CAMPAIGNS* 79, 79–80 (Mary Crowley ed., 2008).

47. See *id.* at 81.

The most important areas in which lawmakers have not acted are data security and consumer privacy.⁴⁸ The technological developments described in Part II have greatly increased the risk that data about personal consumer information will be collected, often secretly stored, sold to others, or stolen.⁴⁹ As a result, there has been a substantial loss of consumer privacy.⁵⁰ The United States, however, has no comprehensive law ensuring consumer privacy.⁵¹ Instead, it has laws covering narrowly-defined situations with limited scope and inadequate consumer remedies.⁵²

There are exceptions, however.⁵³ A few states have enacted statutes or regulations that begin to deal with consumer privacy.⁵⁴ The European Union's General Data Protection Regulation, effective in May 2018, may impact consumers in the United States because some multi-national companies are adopting it as their standard operating practice in every

48. FED. TRADE COMM'N, *supra* note 20, at vii–viii.

49. Cheng, *supra* note 34, at 294; McCartney, *supra* note 32; John D. McKinnon, *Lawmakers to Quiz Tech Giants on Privacy*, WALL ST. J., Sept. 13, 2018, at A6; *see also* discussion *supra* Part II.

50. FED. TRADE COMM'N, *supra* note 20, at 10–11.

51. *See* David Lott, *The GDPR's Impact on U.S. Consumers*, FED. RES. BANK ATLANTA (June 4, 2018), <http://takeonpayments.frbatlanta.org/2018/06/the-gdprs-impact-on-us-consumers.html>. “There have been numerous efforts in the United States to pass uniform privacy legislation, with little or no change.” *Id.*

52. *See* 15 U.S.C. §§ 6501–6506 (2012) (coverage limited to children under thirteen and no private right of action); 15 U.S.C. §§ 6801–6809, 6821–6827 (2012) (limited privacy disclosures to customers of the financial institutions that are covered by the Act; no private right of action); 15 U.S.C. § 7701 (2012); 15 U.S.C. § 7706 (2012) (no private right of action); 47 U.S.C. § 227 (2012) (protections limited to *automat[ed] telephone dialing systems*). Each of these statutes has its own limitations in terms of type of institutions or situations covered as well as no or restricted consumer remedies. Eleanor Lumsden, *Securing Mobile Technology & Financial Transactions in the United States*, 9 BERKELEY BUS. L.J. 139, 172 (2012). Part II explains that cell phone carriers use third parties to obtain location data without users' consent. FitzGerald, *supra* note 26; *see also* discussion *supra* Part II. Some experts believe that does not violate any law. FitzGerald, *supra* note 26.

53. *See* CAL. CIV. CODE §§ 1798.100–1798.199 (West 2019); Ben Kochman, *3 Things You Need to Know About NY's Latest Cyber Regs*, LAW360 (Aug. 30, 2018, 6:23 PM), <http://www.law360.com/articles/1077789/3-things-you-need-to-know-about-ny-s-latest-cyber-regs>.

54. *See* CAL. CIV. CODE §§ 1798.100–1798.199. California Assembly Bill No. 375 deals with the collection, storage, and sale of personal information of California residents. Assemb. B. 375, 2017-2018 Leg., Reg. Sess. (Cal. 2018). It becomes effective on Jan. 1, 2020. *Id.* § 1798.100. New York's Department of Financial Services issued regulations that became effective in September 2018 requiring the destruction of old data, safeguarding sensitive information on company devices or servers, and having the ability to digitally trace the source of a data breach. Press Release, Dep't of Fin. Servs., DFS Superintendent Vullo Reminds Regulated Entities of Approaching Cybersecurity Regulation Compliance Effective Date (Aug. 8, 2018) (on file with author); Kochman, *supra* note 53.

country where they do business—regardless of whether the regulation applies to consumers in those countries.⁵⁵

In addition, there are no laws explicitly dealing with problems consumers might face related to the electronic age in which they now live.⁵⁶ Examples include the IoT;⁵⁷ facial and voice recognition;⁵⁸ surveillance by drones;⁵⁹ electronic monitoring by stores in order to collect, store, and sell customer information,⁶⁰ or charge customer accounts for purchases;⁶¹ and injury to persons and property caused by drones⁶² and self-driving vehicles.⁶³

As discussed in Part II, many technology developments have resulted in products that provide consumers with significant benefits.⁶⁴ But

55. See Tony Romm et al., *Europe, Not the U.S., Is Now the Most Powerful Regulator of Silicon Valley*, WASH. POST (May 25, 2018), http://www.washingtonpost.com/business/technology/europe-not-the-us-is-now-the-most-powerful-regulator-of-silicon-valley/2018/05/25/f7dfb600-604f-11e8-8c93-8cf33c21da8d_story.html.

56. See Daniel Malan, *The Law Can't Keep Up with New Tech. Here's How to Close the Gap*, WORLD ECON. F. (June 21, 2018), <http://www.weforum.org/agenda/2018/06/law-too-slow-for-new-tech-how-keep-up/>.

57. FED. TRADE COMM'N, *supra* note 20, at vii. As described in Part II, IoT is being used as an instrument of domestic abuse. Bowles, *supra* note 37. Victims sometimes request courts to issue restraining orders prohibiting the abuser from having contact with the victim. *Id.* Often, they do not realize they need to ask the judge to specifically prohibit using IoT to abuse the victim. *Id.* If the restraining order merely forbids contact, it may not cover the abuser remotely manipulating devices connected to IoT. *Id.*

58. Natasha Singer, *Tech to Spot Faces Gets It Wrong, Say Lawmakers*, N.Y. TIMES, July 27, 2018, at B4; Oleksandr Pastukhov & Els Kindt, *Voice Recognition: Risks to Our Privacy*, FORBES (Oct. 6, 2016, 5:16 PM), <http://www.forbes.com/sites/realspin/2016/10/06/voice-recognition-every-single-day-every-word-you-say/#2a2f570e786d>.

59. Gail Schontzler, *MSU Moves to Restrict Drones on Campus*, BOZEMAN DAILY CHRON. (Sept. 6, 2018), http://www.bozemandailychronicle.com/news/montana_state_university/msu-moves-to-restrict-drones-on-campus/article_18443f34-51b4-5731-bb4d-b1ad15e353c2.html.

60. JOSEPH TUROW, *THE AISLES HAVE EYES: HOW RETAILERS TRACK YOUR SHOPPING, STRIP YOUR PRIVACY, AND DEFINE YOUR POWER* 3–5 (2017).

61. Dominik Bosnjak, *Amazon's Mission of Making Cashiers Redundant Continues*, ANDROID HEADLINES (Sept. 10, 2018, 7:23 AM), <http://www.androidheadlines.com/2018/09/amazons-mission-of-making-cashiers-redundant-continues.html>.

62. Schontzler, *supra* note 59.

63. Bridget Clerkin, *Are Today's Laws Adequate for Self-Driving Cars?*, DMV.ORG: ARTICLES (May 8, 2018), <http://www.dmv.org/articles/can-current-laws-handle-self-driving-vehicles>; see also Keith Laing, *Few Carmakers Submit Self-driving Car Safety Reports*, DETROIT NEWS (Sept. 10, 2018, 1:51 PM) <http://www.detroitnews.com/story/business/autos/mobility/2018/09/10/few-carmakers-submit-self-driving-safety-assessments/1076691002/>.

64. See discussion *infra* Part II.

only those who can afford those products realize those benefits.⁶⁵ For those who do not have the financial means, the impact of the *digital divide* will only increase.⁶⁶ It is not only the poor who are deprived of this technological revolution.⁶⁷ Regardless of how much money a person has, access also depends on the availability of high-speed internet, cell phone towers, etc.⁶⁸ Many rural areas lack that access.⁶⁹ Legislation to improve affordability and access may be the only way to provide services that are increasingly regarded as essential.⁷⁰ Examples of government programs from the past include rural electrification⁷¹ and universal access to telephone service.⁷²

Social scientists have only begun to assess the psychological impact of this world of pervasive technology.⁷³ But some studies suggest many have become dependent on it and, as a result, may have become socially isolated.⁷⁴ In the future, they may decide legal measures are necessary, at least with regard to young people.⁷⁵ An example of legislation to protect children is the Children's Online Privacy Protection Act.⁷⁶ It prohibits

65. See Anderson, *supra* note 16.

66. See *id.* The models introduced in September 2018 cost an average of \$949—fifteen percent more than a year earlier. Tripp Mickle, *Apple's Phones Get Bigger, Pricier — Latest Models Cost \$949 on Average, 15% More than iPhones Launched a Year Ago*, WALL ST. J., Sept. 13, 2018, at B1.

67. Anderson, *supra* note 16; see also Mark Niese, *Power Co-ops Become Rural Internet Saviors: Utilities Step in to Close Digital Gap in Georgia's Remote Communities*, ATLANTA J.-CONST., Sept. 10, 2018, at A1.

68. See Niese, *supra* note 67.

69. *Id.*

70. See *id.*

71. Jim Galloway, *Rescuing Rural Georgia: A Search for Economic, Political Rationality*, ATLANTA J.-CONST., Sept. 9, 2018, at B1 (quoting Professor Joe Crespino saying there is a *straight-up direct analogy* between the rural electrification program under former President Roosevelt and Congress and the need for government support for rural broadband); see also Niese, *supra* note 67.

72. See Edward Wyatt, *Appeals Court Rules for F.C.C. on Broadband Fund*, N.Y. TIMES, May 24, 2014, at B2. A Federal Communications Commission plan has partially ameliorated the problem of internet access. *Id.* It has converted the universal telephone program to one that would provide a subsidy for high-speed internet service in designated areas of need. *Id.* It has withstood a legal challenge in a case before the Tenth Circuit. See *In re FCC 11-161*, 753 F.3d 1015, 1159 (10th Cir. 2014).

73. See Kaveri Subrahmanyam et al., *The Impact of Computer Use on Children's and Adolescents' Development*, 22 J. APPLIED DEVELOPMENTAL PSYCHOL. 7, 18–19 (2001).

74. *Id.* at 19.

75. See Joanne Orlando, *Banning Kids from Using Technology Is Counter-Productive*, CONVERSATION: SCI. & TECH. (Feb. 10, 2015, 6:44 PM), <http://www.theconversation.com/banning-kids-from-using-technology-is-counter-productive-37173>.

76. 15 U.S.C. §§ 6501–6506 (2012); 16 C.F.R. § 312 (2018).

companies from collecting personal information online from children without parental consent.⁷⁷

Parts II and III have described the larger technological context in which online contracting occurs.⁷⁸ Part IV begins the examination of the formation of contracts in cyberspace by first briefly contrasting how parties entered into contracts over roughly the last two millennia.⁷⁹

IV. A BRIEF HISTORY OF CONTRACT MEDIA AND SIGNATURES

In the ancient Middle East, most people were illiterate⁸⁰ and paper in the form of papyrus was expensive,⁸¹ fragile, not pliable, and subject to deterioration from moisture or cracking if conditions were too dry.⁸² People engaging in business who wanted a tangible manifestation of their transaction used seals.⁸³ A seal could function as a signature.⁸⁴ For example, persons would carve their own unique image on a stone and make an impression of it onto clay.⁸⁵ The center of the object containing the image “was hollowed out and a cord passed through so that it could be worn around the neck. This highly personal object performed the function of a signature in modern society.”⁸⁶ Today, passwords that consumers use online also serve as a way to uniquely identify themselves.⁸⁷

77. 15 U.S.C. § 6502(b)(1)(A)(ii); 16 C.F.R. § 312.3.

78. Budnitz, *supra* note 13, at 743, 745; *see also* discussion *supra* Parts II–III.

79. *See* discussion *infra* Part IV.

80. Dan Falk, *More People Were Literate in Ancient Judah than We Knew*, MENTAL FLOSS (Apr. 11, 2016), <http://www.mentalfloss.com/article/78416/more-people-were-literate-ancient-judah-we-knew>. Christopher Rollston, an expert in Semitic languages and literature at George Washington University, opined that “[I]teracy in ancient Israel and Judah was probably [fifteen] or [twenty] percent of the population, at most.” *Id.*

81. WILLIAM V. HARRIS, *ANCIENT LITERACY* 194–95 (1991).

82. *Papyrus*, WIKIPEDIA, <http://en.wikipedia.org/wiki/Papyrus> (last updated Mar. 31, 2019, 4:35 PM). In Egypt, in the years before and after the first century A.D., parchment was also available, but its use was limited because it was made from animal skins. *See id.*

83. Joshua J. Mark, *Cylinder Seals in Ancient Mesopotamia — Their History and Significance*, ANCIENT HIST. ENCYCLOPEDIA (Dec. 2, 2015), <http://www.ancient.eu/article/846/cylinder-seals-in-ancient-mesopotamia---their-hist/>.

84. *Id.*

85. *See id.*

86. THE RABBINICAL ASSEMBLY: THE UNITED SYNAGOGUE OF CONSERVATIVE JUDAISM, ETZ HAYIM: TORAH AND COMMENTARY 236 & n.18, (David L. Leiber et al. eds. & trans., Jewish Publ’n. Soc’y 1999) (2001). The Biblical story of Judah and Tamar illustrate the use of the seal as a pledge. *Id.* Judah promises to pay Tamar one goat when he returns to his home. *Id.* To ensure that he will satisfy this obligation, he gives Tamar his seal. *Id.*

87. *See More than Words*, ATLANTIC, <http://www.theatlantic.com/sponsored/ibm-2018/beyond-passwords/1859/> (last visited May 1, 2019).

With increased literacy and the wide availability of inexpensive paper, written agreements became widespread and the parties to a transaction could indicate their consent by affixing their signature to a piece of paper.⁸⁸ Although a forger can produce a *perfect signature*, as a general matter, each signature is different from every other, so it serves as a unique identifier.⁸⁹ Handwriting experts often testify in court as to the authenticity of a signature.⁹⁰ As described in Part V.F, clicking with a mouse on a button labeled “I agree” often has replaced the written signature when parties contract online.⁹¹

The Uniform Commercial Code (“UCC”) illustrates modern American law with regard to the medium on which contracts are written and what constitutes a signature.⁹² UCC Article 2 applies to the sale of goods.⁹³ It has been amended to conform to the federal law validating electronic records—the Electronic Signatures in Global and National Commerce Act (“E-Sign”).⁹⁴ It replaces the former UCC definitions of *writing* and *written* with a new term—a *record*.⁹⁵ A record “means information that is inscribed [in] a tangible medium or that is stored in an electronic or other medium and is retrievable in perceivable form.”⁹⁶

The UCC defines signed as including “any symbol executed or adopted [by a party] with present intention to adopt or accept a writing.”⁹⁷

88. See Hope Restle, *The History of Successful Business Agreements in One Handy Chart*, BUS. INSIDER (June 17, 2015, 12:51 PM), <http://www.businessinsider.com/history-of-the-handshake-2015-6>; *Paper*, WIKIPEDIA, <http://en.wikipedia.org/wiki/Paper> (last updated Mar. 28, 2019, 3:57 AM). Paper was invented in China in the early second century, A.D. *Paper*, *supra*.

89. See Jacques Mathyer, *The Expert Examination of Signatures*, 52 J. CRIM. L., CRIMINOLOGY & POLICE SCI. 122, 122, 124–25 (1961).

90. See *Yarbrough v. Yarbrough*, No. 107677-RD, 2018 Tenn. App. LEXIS 259, at *1, *16–18 (Tenn. Ct. App. May 11, 2018) (describing in detail qualification of expert forensic document examiner and the three-step process of his examination of wife’s handwriting).

91. Jeff C. Dodd & James A. Hernandez, *Contracting in Cyberspace*, COMPUTER L. REV. & TECH. J., Summer 1998, at 1, 3–4. In a clickwrap agreement, “clicking an ‘I Agree’ button . . . is the digital equivalent of a signature at the bottom of a printed form.” RESTATEMENT OF CONSUMER CONTRACTS, § 2, at 33 (AM. LAW INST., Discussion Draft 2017).

92. U.C.C. § 1-201 (AM. LAW INST. & UNIF. LAW COMM’N 2017).

93. *Id.* § 2-102.

94. Electronic Signatures in Global and National Commerce Act, Pub. L. No. 106-229, § 101, 114 Stat. 464, 464–65 (2000) (codified as amended at 15 U.S.C. § 7001 (2012)).

95. *Id.* § 101(c).

96. 15 U.S.C. § 7006(9) (2012); U.C.C. § 1-201(31).

97. U.C.C. § 1-201(37). The consumer’s signature, or its electronic equivalent, may not always be required. *Zacher v. Comcast Cable Commc’n LLC*, No. 17 CV 7256, 2018 WL 3046955, at *3–*4 (N.D. Ill. June 20, 2018). In *Zacher v. Comcast Cable*

As explained in an Official Comment, “[t]he symbol may be printed, stamped or written; it may be by initials or by thumbprint The question always is whether the symbol was executed or adopted by the party with present intention to adopt or accept the writing.”⁹⁸ Under this definition, a username or password typed onto a website apparently could qualify as a signature.⁹⁹ But neither legislation nor case law has determined whether a click with a mouse would satisfy this provision.¹⁰⁰

Additional guidance is provided from definitions in two statutes specifically tailored to apply to electronic transactions: E-Sign and the Uniform Electronic Transactions Act (“UETA”) that forty-seven states and the District of Columbia have enacted.¹⁰¹ For example, E-Sign requires that in consumer transactions electronic records be perceivable in tangible form.¹⁰² UETA requires, in addition, that the electronic record be *capable of retention* and the sender cannot inhibit the recipient’s ability to print or store the record.¹⁰³ Sellers can satisfy this requirement by posting the agreement in a format in which consumers can produce a paper copy through their printers.¹⁰⁴ It is apparent from this requirement that policymakers recognized

Communications LLC, the court held that the Federal Arbitration Act (“FAA”) requires an arbitration agreement to be in writing but does not require such agreements to be signed. *Id.*

98. U.C.C. § 1-201 cmt. 37.

99. Dodd & Hernandez, *supra* note 91, at 18; *see also* U.C.C. § 1-201 cmt. 37.

100. *See* U.C.C. § 1-201 cmt. 37; Dodd & Hernandez, *supra* note 91, at 18.

101. UETA — *Uniform Electronic Transactions Act*, RIGHTSIGNATURE, <http://www.rightsignature.com/legality/ueta-act> (last visited May 1, 2019); *see also* 15 U.S.C. § 7001; UNIF. ELEC. TRANSACTIONS ACT § 2 (UNIF. LAW COMM’N 1999). E-Sign is codified in 15 U.S.C. § 7001. 15 U.S.C. § 7001(a). *Electronic signature* is defined in 15 U.S.C. § 7006(5). *Id.* § 7006(5). *Record* is defined in 15 U.S.C. § 7006(9). *Id.* § 7006(9). E-Sign and UETA apply to UCC Article 2, the article governing transactions in goods. *Id.*; UNIF. ELEC. TRANSACTIONS ACT § 3(b)(2), cmt. 4. *See* U.C.C. § 1-108 on the relationship between the UCC and E-Sign. U.C.C. § 1-108. “[UETA] is not a general contracting statute, and questions of substantive contract law are governed by the applicable body of contract law, such as the common law of contracts or Article 2 of the [UCC]” Juliet M. Moringiello & William L. Reynolds, *Electronic Contracting Cases 2008 – 2009*, 65 BUS. LAW. 317, 322 (2009). Nevertheless, “for practical purposes the UETA and E-SIGN may be viewed as adjuncts of the UCC.” Donald C. Lampe, *The Uniform Electronic Transactions Act and Federal E-SIGN Law: An Overview*, 55 CONSUMER FIN. L.Q. REP. 255, 256 (2001).

102. 15 U.S.C. § 7006(9); U.C.C. § 1-201(31). E-Sign also includes provisions requiring a business to obtain the consumer’s consent to provide information through electronic records. 15 U.S.C. § 7001(c)(1).

103. UNIF. ELEC. TRANSACTIONS ACT § 8(a).

104. *See id.* § 8(a), (c). The Official Comment to this section explains that the recipient “must have the ability to get back to the information in some way at a later date.” *Id.* § 8, cmt. 3. “The policies underlying laws requiring the provision of information in writing warrant [requiring] the sender to make the information available in a manner which will permit subsequent reference.” *Id.*

the risk of consumers having to rely only on records in electronic form and the continuing reliability of paper documents.¹⁰⁵

In addition, UETA defines *electronic signature* to mean “an electronic sound, symbol, or process attached to or logically associated with a record and executed or adopted by a person with the intent to sign the record.”¹⁰⁶ Intent is particularly problematic when consumers engage in online transactions and payments because anyone can type any consumer’s name into an online form.¹⁰⁷ The Personal Identification Number (“PIN”) or password is one way for consumers to authenticate who they are.¹⁰⁸ Biometrics such as facial recognition and scanning a person’s fingerprint or iris are other methods being developed.¹⁰⁹

UCC Article 2 applies to *transactions in goods*.¹¹⁰ It is not clear from the text of the UCC whether software qualifies as a good.¹¹¹ Lacking the inclusion of software in the definition of *goods*, courts have not universally held that software qualifies as a good.¹¹² It is clear, however, that

105. See *id.* § 8(a).

106. UNIF. ELEC. TRANSACTIONS ACT § 2(8). E-Sign’s definition of *electronic signature* is almost identical. 15 U.S.C. § 7006(5).

107. See Matthew A. Cordell, *An Introduction to the Law of Electronic Signatures and Electronic Records in North Carolina (Part 2)*, TECH., PRIVACY & DATA SEC. L. BLOG (May 24, 2014, 6:39 PM), <http://www.privacylawnc.blogspot.com/2014/05>.

108. NAT’L TELECOMM. & INFO. ADMIN., U.S. DEP’T OF COMMERCE, ELECTRONIC SIGNATURES: A REVIEW OF THE EXCEPTIONS TO THE ELECTRONIC SIGNATURES IN GLOBAL AND NATIONAL COMMERCE ACT 6 (2003), <http://www.ntia.doc.gov/files/ntia/publications/esignfinal.pdf>. UCC Article 9 replaces the terms *sign* and *signed* with the term *authenticate*. U.C.C. § 9-102(a)(7) (AM. LAW INST. & UNIF. LAW COMM’N 2017). It did this “to . . . authenticat[e] . . . all records, not just writings.” *Id.* § 9-102, cmt 9b; see also UNIFORM COMPUTER INFORMATION TRANSACTIONS ACT § 102(a)(6) (NAT’L CONFERENCE COMM’N’S UNIF. STATE LAWS 2002). The Uniform Computer Information Transaction Act was enacted in Maryland and Virginia. *What Is the Uniform Computer Information Transaction Act (UCITA)?*, DANIEL W. UHLFELDER P.A., <http://www.dwulaw.com/news/what-is-the-uniform-computer-information-Transaction-Act-UCITA.shtml> (last visited May 1, 2019); see also UNIF. COMP. INFO. TRANSACTIONS ACT § 102.

109. See Bryan Yurcan, *Corporate Customers Want Retail’s Bells and Whistles, Too*, AM. BANKER (July 3, 2018, 11:43 AM), <http://www.americanbanker.com/news/corporate-customers-want-retail-banking-techs-bells-and-whistles-too> (reporting that a Merrill Lynch mobile app includes fingerprint and facial recognition biometric authentication).

110. U.C.C. § 2-102.

111. See U.C.C. § 2-105(1). UCC section 2-105(1) defines goods generally as “all things . . . which are movable.” *Id.*

112. Stacy-Ann Elvy, *Hybrid Transactions and the INTERNET of Things: Goods, Services, or Software?*, 74 WASH. & LEE L. REV. 77, 126–27 (2017). In *Advent System Ltd. v. Unisys Corp.*, the court found a computer program was a good because it could be put in the form of a *floppy disc* or other medium that was tangible and movable. 925 F.2d 670, 674–75 (3d Cir. 1991). But some courts refuse to apply the UCC. See Elvy, *supra*, at 126–

the sale of personal services do not qualify as goods.¹¹³ E-Sign and UETA include definitions that would apply to these transactions.¹¹⁴ State contract law applies to contracts for services.¹¹⁵ In important respects, the UCC differs significantly from the common law of contracts.¹¹⁶

As described above, in ancient times, a party to a transaction could be authenticated by a seal that served as a unique personal identifier, rather than a signature.¹¹⁷ In cyberspace transactions, a party is authenticated by a unique electronic personal identifier, such as a password, instead of a signature.¹¹⁸ It is not clear, however, that electronic identifiers are reliable.¹¹⁹ For example, facial recognition is unreliable because it may incorrectly identify black women.¹²⁰ As a result, some modern methods may even be less reliable than the ancient seal.¹²¹

Throughout history, some agreements have been oral rather than written.¹²² These agreements often are referred to as *gentlemen's agreements*.¹²³ Typically, the parties signify their intention to be bound to

27. For example, some courts determine that the transaction is a license of software, not a sale, and several UCC Article 2 provisions apply only to sales. *Id.* at 126.

113. Bonna Lynn Horovitz, Note, *Computer Software as a Good Under the Uniform Commercial Code: Taking a Byte Out of the Intangibility Myth*, 65 B.U. L. REV. 129, 130 (1985).

114. See 15 U.S.C. § 7006 (2012); UNIF. ELEC. TRANSACTIONS ACT § 2 (UNIF. LAW COMM'N 1999).

115. *Common Law and Uniform Commercial Contracts*, LUMEN, <http://courses.lumenlearning.com/workwithinthelaw/chapter/formation-and-types-of-contracts/> (last visited May 1, 2019); see also Raymond T. Nimmer, *Through the Looking Glass: What Courts and UCITA Say About the Scope of Contract Law in the Information Age*, 38 DUQ. L. REV. 255, 262–63 (2000).

116. Horovitz, *supra* note 113, at 140. The rights and remedies of sellers and buyers vary significantly “in the areas of implied warranties, consequential damages, disclaimers, and limitations on liability and taxes,” as well as regarding procedural issues. *Id.*

117. Mark, *supra* note 83.

118. NAT'L TELECOMM. & INFO. ADMIN., *supra* note 108, at 6.

119. See Cordell, *supra* note 107.

120. Derek Hawkins, *The Cybersecurity 202: Lawmakers Worry Amazon's Facial Recognition Tech Could Reinforce Racial Profiling*, WASH. POST: POWER POST (May 29, 2018), <http://www.washingtonpost.com/news/powerpost/paloma/the-cyber-security-202/2018/05/29/the-cybersecurity-202-lawmakers-worry-amazon-s-facial-recognition-tech-could-reinforce-racial-profiling/5b0c10741b326b492dd07eb8>.

121. See Michael Liebi, *Future Trends and Standards in Authentication*, UNITED SECURITY PROVIDERS: WEB SECURITY (Dec. 6, 2016, 9:24 AM), <http://www.united-security-providers.com/blog/future-trends-and-standards-in-authentication/>; Mark, *supra* note 83.

122. See *Gentleman's Agreement – Definition and Meaning*, MKT. BUS. NEWS, <http://www.marketbusinessnews.com/financial-glossary/gentlemans-agreement/> (last visited May 1, 2019).

123. *Id.* A discussion of the sexist nature of this term, implying that only men enter into business transactions, is beyond the scope of this Article.*

their agreement by shaking hands and courts enforce this method of contracting.¹²⁴ This symbolic act involving two persons, often strangers, touching each other's flesh is in stark contrast to consumers accepting a seller's terms by touching and tapping computer screens where a consumer's consent is acknowledged, if at all, by the seller's electronic agent.¹²⁵ The issue is whether touching and tapping should be treated differently when analyzing the legal validity of online contract formation than other methods of showing agreement.¹²⁶

Cyberspace transactions substitute the tangible piece of paper with an electronic record.¹²⁷ The agreement may be easily accessible, as in a pop-up box that automatically appears, known as a *clickwrap contract*.¹²⁸ The consumer may engage in conduct comparable to signing a piece of paper by clicking on a box accompanied by words such as "I agree" or "accept."¹²⁹ Alternatively, it may be relatively inaccessible, as in a *browsewrap contract* where the website does not require the consumer to do anything affirmative or explicit.¹³⁰ If the consumer denies entering into a binding transaction, the seller may contend that engaging in the transaction by selecting what goods to buy and supplying debit or credit card information clearly indicates intent to adopt or accept the seller's agreement.¹³¹

If the consumer enters into a contract online, two other features are involved that are unique to such contracting: Electronic hardware used by the consumer, such as a desktop computer or a smartphone, and a software program.¹³² In addition, the seller must maintain a site accessible on the

124. See Peter Meijes Tiersma, Comment, *The Language of Offer and Acceptance: Speech Acts and the Question of Intent*, 74 CAL. L. REV. 189, 206 (1986). "A party can accept an offer by . . . shaking hands with the other party . . ." *Id.*

125. See *id.* at 206, 216; Dodd & Hernandez, *supra* note 91, at 10.

126. See Budnitz, *supra* note 13, at 750–51.

127. Dodd & Hernandez, *supra* note 91, at 3.

128. See RESTATEMENT OF CONSUMER CONTRACTS § 2, at 33 (AM. LAW INST., Discussion Draft 2017). "In electronic and web-based transactions, assent is often [manifested] by clicking an 'I agree' button. This . . . is the digital equivalent of a signature at the bottom of a printed form." *Id.* Usually the transaction involves payment as well as purchasing. *Id.* at 18. If the consumer instructs the seller to bill the consumer's credit card account, the Truth in Lending Act and Regulation Z apply. See 15 U.S.C. § 1601 (2012); 12 C.F.R. § 1026.1 (2018). If the consumer instructs the seller to obtain funds from a debit card account, the EFTA and Regulation E apply. 15 U.S.C. § 1693; 12 C.F.R. § 1005.1.

129. See Dodd & Hernandez, *supra* note 91, at 3–4.

130. RESTATEMENT OF CONSUMER CONTRACTS § 2, at 35 (AM. LAW INST., Discussion Draft 2017). In a browsewrap contract, there is no "I agree" button to click on. *Id.* "The website includes a link to another page with the standard terms, and consumers, by proceeding with the purchase or simply by continuing to use the website, are deemed to have adopted the standard terms as part of the contract." *Id.*

131. See *id.* at 18–19.

132. See 15 U.S.C. § 7001(c).

internet.¹³³ The agreement is typically on one of the site's pages.¹³⁴ It is entirely within the power of the seller to remove the agreement that was on the site when the consumer indicated his or her agreement and replace it with a different agreement.¹³⁵ Unless consumers save a copy of the contract at the time they indicate their agreement, it may be impossible—short of discovery in a lawsuit or arbitration—for them to disprove the terms the seller may claim were posted on the site at the time of the transaction.¹³⁶

V. THE LAW HAS NOT CAUGHT UP WITH TECHNOLOGY

There are serious gaps in the law that apply to sellers and buyers entering into a contractual relationship in the new consumer e-commerce environment that technological developments have produced.¹³⁷ Federal and state legislation leave enormous gaps.¹³⁸ Federal agencies have provided scant guidance.¹³⁹ State statutes, such as those modeled after the UCC and UETA, were not designed to deal with the issues raised by the new ways parties enter into contracts.¹⁴⁰ Case law is divided and does not consider the

133. A.J. Zottola & Robert Parr, *Guidelines for Creating Enforceable Contracts Online* — “The New Way Is the Same as the Old Way,” ASS’N CORP. COUNS. (Dec. 20, 2012), <http://m.acc.com/legalresources/quickcounsel/gfcco.cfm>.

134. *See id.*

135. *See* Deborah R. Eltgroth, Note, *Best Evidence and the Wayback Machine: Toward a Workable Authentication Standard for Archived Internet Evidence*, 78 *FORDHAM L. REV.* 181, 184–85 (2009).

136. *See id.* at 185. Many consumer agreements include mandatory arbitration clauses requiring consumers to use arbitration services. Richard M. Alderman, *Pre-Dispute Mandatory Arbitration in Consumer Contracts: A Call for Reform*, 38 *HOUS. L. REV.* 1237, 1240 (2001). These services typically permit the arbitrator to restrict discovery. *Id.* at 1249–50. A litigant may be able to retrieve a web page from the past through the *Wayback Machine*. *Using the Wayback Machine*, INTERNET ARCHIVE: WAYBACK MACHINE, <http://help.archive.org/hc/en-us/articles/360004651732-Using-The-Wayback-Machine> (last visited May 1, 2019). But not all sites are available either because the Wayback Machine’s *automated crawlers* are not aware of the site when they engaged in their crawl to access sites, because they were password protected or otherwise inaccessible or because the site owner requested that their sites not be included. *Id.*; Holly Andersen, Note, *A Website Owner’s Practical Guide to the Wayback Machine*, 11 *J. ON TELECOMM. & HIGH TECH. L.* 251, 266 (2013). Furthermore, a litigant may encounter evidentiary obstacles to introducing screen shots of past website pages into evidence. *See* Eltgroth, *supra* note 135, at 191.

137. *See* Adine Mitrani et al., *e-Commerce*, GETTING THE DEAL THROUGH (Aug. 2018), <http://gettingthedealthrough.com/area/11/jurisdiction/23/e-commerce-united-states/>.

138. *See id.*

139. *See id.*

140. *See* UNIF. ELEC. TRANSACTIONS ACT § 8 (UNIF. LAW COMM’N 1999); U.C.C. §§ 2-102, 2-103 (AM. LAW INST. & UNIF. LAW COMM’N 2017); Charles W. Mooney,

ever-changing ways in which technology enables consumers and sellers to enter into these relationships.¹⁴¹

A. *E-Sign*

E-Sign does not deal directly with the manner in which parties enter into an agreement when consumers engage in transactions in an electronic environment.¹⁴² Rather, its chief function is to provide that:

- (1) [A] signature, contract, or other record relating to [a transaction in or affecting interstate commerce] may not be denied legal effect, validity, or enforceability solely because it is in an electronic form; and
- (2) [A] contract relating to such transaction may not be denied legal effect, validity, or enforceability solely because an electronic signature or electronic record was used in its formation.¹⁴³

E-Sign does, however, provide consumers limited safeguards that are related to electronic contracting.¹⁴⁴ If a “rule of law requires information relating to a transaction . . . to be . . . in writing,” the seller may not provide the information in an electronic record unless the consumer has *affirmatively consented*.¹⁴⁵ Moreover, an agreement can be in the form of an electronic record, but it must be *retrievable in perceivable form*.¹⁴⁶

B. *EFTA*

Like E-Sign, the Electronic Fund Transfers Act (“EFTA”) does not directly regulate the manner in which consumers and financial institutions

Jr., *Surveys, Introduction to the Uniform Commercial Code Annual Survey: Same Observations on the Past, Present, and Future of the U.C.C.*, 41 BUS. L. 1343, 1346 (1986).

141. See *Cullinane v. Uber Techs., Inc.*, 893 F.3d 53, 64 (1st Cir. 2018).

142. Electronic Signatures in Global and National Commerce Act, Pub. L. No. 106-229, § 101, 114 Stat. 464, 464 (2000) (codified as amended at 15 U.S.C. § 7001 (2012)); Mike Watson, Comment, *E-Commerce and E-Law: Is Everything E-Okay? Analysis of the Electronic Signatures in Global and National Commerce Act*, 53 BAYLOR L. REV. 803, 813–14 (2001).

143. Electronic Signatures in Global and National Commerce Act, § 101, 114 Stat. at 464.

144. See *id.*; Watson, *supra* note 142, at 821.

145. Electronic Signatures in Global and National Commerce Act, § 101, 114 Stat. at 465; Watson, *supra* note 142, at 815.

146. 15 U.S.C. § 7006(9) (2012); see also Watson, *supra* note 142, at 815.

enter into an agreement in an electronic environment.¹⁴⁷ Instead, it requires that financial institutions provide certain protections to consumers who pay via *electronic fund transfers*.¹⁴⁸ The protections cover transfers made using computers, including smartphones.¹⁴⁹ Those protections include an error resolution procedure, if the consumer claims an error occurred.¹⁵⁰

The EFTA requires a financial institution to provide consumers a periodic statement with information about each electronic transfer, fees, balances, and other information.¹⁵¹ A question that arises is whether the EFTA or its accompanying regulations should be amended to clarify what constitutes an adequate statement when the financial institution sends the statement knowing the consumer will be receiving it only on a mobile device with its small screen.¹⁵² Arguably, it may be far more difficult for consumers to identify errors, especially those that are not in substantial amounts, if they are disclosed on such a small screen.¹⁵³

C. *FTC Act*

In determining whether a seller has complied with the requirements for the formation of a contract that appears on the screen of a mobile device, courts often pay particular attention to the design of the website or app.¹⁵⁴ The Federal Trade Commission (“FTC”) has issued a guidance that indirectly provides information that may assist sellers who want to design agreements that appear on mobile devices that will pass muster with courts and consumers attempting to determine how the agreement should be

147. See 15 U.S.C. § 1693; Electronic Signatures in Global and National Commerce Act, § 101, 114 Stat. at 464; Jessie Cheng et al., *Does It Matter How I Pay?*, A.B.A.: BUS. L. TODAY (June 29, 2017), http://www.americanbar.org/groups/business_law/publication/blt/2017/05/08_Cheng/.

148. 15 U.S.C. § 1693a(7); Cheng et al., *supra* note 147. The term is defined in 15 U.S.C. § 1693a(7) to include debiting a consumer’s account at the point-of-sale. 15 U.S.C. § 1693a(7).

149. See 15 U.S.C. § 1693a(7). 15 U.S.C. § 1693a(7) defines an electronic fund transfer to include *transfers initiated by telephone*. *Id.*

150. *Id.* § 1693f(a). The EFTA also provides the protection of limited liability to consumers when there is an unauthorized transfer. *Id.* § 1693g(a).

151. *Id.* § 1693h.

152. See 15 U.S.C. § 1693h; 12 C.F.R. § 1005.1 (2018).

153. See 15 U.S.C. § 1693f; 12 C.F.R. § 1005.1(b); FED. TRADE COMM’N, .COM DISCLOSURES: HOW TO MAKE EFFECTIVE DISCLOSURES IN DIGITAL ADVERTISING 18 (2013), <http://www.ftc.gov/sites/default/files/attachments/press-releases/ftc-staff-revises-online-advertising-disclosure-guidelines/130312dotcomdisclosures.pdf>.

154. Cullinane v. Uber Techs., Inc., 893 F.3d 53, 61 n.10 (1st Cir. 2018); Nicosia v. Amazon.com, Inc., 834 F.3d 220, 233 (2d Cir. 2016); Nguyen v. Barnes & Noble, Inc., 763 F.3d 1171, 1177 (9th Cir. 2014).

disclosed on a small screen such as those on a smartphone and how the screen should be designed to gain the consumer's acceptance.¹⁵⁵

The specific subject matter of the guidance is how sellers should make disclosures in digital advertising that complies with the Federal Trade Commission Act ("FTC Act").¹⁵⁶ The FTC Act prohibits unfair and deceptive acts and practices.¹⁵⁷ The FTC guidance explains that this requires "[c]lear and [c]onspicuous [d]isclosures in [o]nline [a]dvertisements."¹⁵⁸ The guidance addresses disclosure issues that arise because of the small size of the screen on mobile devices, and how that requires considerations that are different from disclosures on the screen of a desktop computer.¹⁵⁹ For example, because of the size of the screen on the mobile device, a consumer would have to engage in "significant vertical and horizontal scrolling" to see disclosures.¹⁶⁰ The guidance includes specific suggestions for how to design the mobile device's website pages to avoid discouraging consumers from scrolling to view disclosures.¹⁶¹ Disclosures on smartphones are more likely to comply with the law "on websites that are optimized for mobile devices or created using responsive design, which automatically detects the kind of device the consumer is using to access the site and arranges the content on the site so it makes sense for that device."¹⁶²

Privacy and security are constant concerns for those participating in e-commerce.¹⁶³ The FTC has brought major enforcement actions, contending that it has the authority under the FTC Act to ensure that sellers safeguard the privacy of consumers shopping online.¹⁶⁴ An Eleventh Circuit Court of Appeals decision, however, may impose major obstacles on the FTC's ability to do so in future cases.¹⁶⁵

155. FED. TRADE COMM'N, *supra* note 153, at 1.

156. *Id.*; *see also* 15 U.S.C. § 45 (2012).

157. 15 U.S.C. § 45(a)(1).

158. FED. TRADE COMM'N, *supra* note 153, at 4.

159. *Id.* at 8.

160. *Id.*

161. *Id.* at 9–10.

162. *Id.* at A-22.

163. Bob Angus, *6 Steps to an Effective Ecommerce Privacy Policy*, PRACTICAL ECOMMERCE: MGMT. & FIN. (Nov. 21, 2014), <http://www.practicalecommerce.com/6-steps-to-an-effective-ecommerce-privacy-policy>.

164. *See* LabMD, Inc. v. FTC, 894 F.3d 1221, 1236 (11th Cir. 2018).

165. *Id.* at 1237. The specific holding in the case is that the FTC's consent order was void because its requirements for LabMD's security program were not sufficiently specific to be enforceable. *Id.* But the court raised more fundamental issues as well. *See id.*

[The consent order] does not enjoin a specific act or practice. Instead, it mandates a complete overhaul of LabMD's data-security program and says precious little about how this is to be accomplished. Moreover, it effectually charges the district court with managing the overhaul. This is a scheme Congress could not have envisioned.

D. UCC

In addition to the definitions discussed above, the UCC includes other definitions and provisions that come into play in determining whether the parties have consented to the terms of the agreement and are bound by those terms.¹⁶⁶ The UCC distinguishes between the parties' *agreement* and the parties' *contract*.¹⁶⁷ An agreement is "the bargain of the parties in fact, as [set forth] in their language or inferred from other circumstances, including course of performance, course of dealing, or usage of trade."¹⁶⁸ Thus, the agreement may be more than the document that appears on a company's website.¹⁶⁹ Importantly, for purposes of determining the legal effect of consumers agreeing by a click, tap, touch, or voice, it is appropriate for courts to look at all the circumstances.¹⁷⁰ Although this definition is useful in that it instructs courts on how to analyze what constitutes the parties' agreement, it does nothing to clarify how courts should determine the parties' agreement under the ever-changing consumer e-commerce environment.¹⁷¹ In contrast to the agreement, the parties' contract is "the total legal obligation that results from the parties' agreement."¹⁷²

Another UCC provision that bears upon the formation of online contracts addresses offer and acceptance.¹⁷³ That section provides that "[u]nless otherwise unambiguously indicated by the language or circumstances . . . an offer to make a contract shall be construed as inviting acceptance in any manner and by any medium reasonable in the circumstances."¹⁷⁴ Therefore, if the online seller is making an offer, it does not matter whether the consumer accepts by signing a piece of paper,

Id. The case raises many questions as to how the FTC can fashion *consent orders* that meet the court's standard. Paige M. Boshell, *The LabMD Case and the Evolving Concept of Reasonable Security*, A.B.A.: BUS. L. TODAY (July 16, 2018), <http://www.businesslawtoday.org/2018/07/labmd-case-evolving-concept-reasonable-security/>.

166. See U.C.C. § 1-201(b) (AM. LAW INST. & UNIF. LAW COMM'N 2017).

167. *Id.* § 1-201(b)(3).

168. *Id.* "[C]ourse of performance, course of dealing, or usage of trade" are defined in UCC section 1-303. *Id.* §§ 1-201(b)(3); 1-303(a)-(c).

169. See *id.* § 1-201(b)(3).

170. See U.C.C. § 1-303.

171. See *id.*

172. *Id.* § 1-201(b)(12). Both in the definition of *agreement* and the definition of *contract*, the UCC notes that the two terms are not the same; instead, they must be distinguished from one another. *Id.* § 1-201(b)(3), (12). The term *contract*, however, "sometimes [is] used as a synonym for [the terms] *agreement* and *bargain*." RESTATEMENT (SECOND) OF CONTRACTS § 1, cmt. a (AM. LAW INST. 1981). The Restatement follows the UCC approach. *Id.* In this Article, *contract* is used as a synonym for *agreement*. See *id.*

173. U.C.C. § 2-206 (AM. LAW INST. & UNIF. LAW COMM'N 2017).

174. *Id.*

clicking on a mouse, or touching or tapping on a screen.¹⁷⁵ In fact, the Official Comment anticipates a changing contracting environment.¹⁷⁶

To form a bilateral contract, one party must make an offer and the other party must accept.¹⁷⁷ On many websites, in order to complete the transaction, the consumer must click on or tap a button labelled “I agree.”¹⁷⁸ On the surface, this would seem to mean the seller is making the offer and the consumer is the party accepting.¹⁷⁹ But this assumes the seller can dictate that it is the party making the offer.¹⁸⁰ In *ProCD v. Zeidenberg*,¹⁸¹ a prominent case involving a business seller and a business buyer entering into a contract online, the court agreed with this assumption, declaring that the seller is the *master of the offer*.¹⁸² In *Klocek v. Gateway, Inc.*,¹⁸³ a case involving a business seller and consumer buyer, the court refused to follow *ProCD*’s conclusion that the seller is the master of the offer and found the consumer made the offer.¹⁸⁴

175. *See id.*

176. *Id.* “This section is intended to remain flexible and its applicability to be enlarged as new media of communication develop or as the more time-saving present-day media come into general use.” *Id.*

177. *Rosin v. First Bank of Oak Park*, 466 N.E.2d 1245, 1249 (Ill. App. Ct. 1984). According to the Restatement (Second) of Contracts, there must be a “[m]anifestation of mutual assent [in which] each party either makes a promise or begins or renders performance.” RESTATEMENT (SECOND) OF CONTRACTS § 18 (AM. LAW INST. 1981). “The manifestation of mutual assent . . . ordinarily takes the form of an offer or proposal by one party followed by an acceptance by the other party or parties.” *Id.* § 22. Section 24 of the Restatement (Second) of Contracts defines *offer*. *Id.* § 24. Under UCC section 2-204, “[a] contract for sale of goods may be made in any manner sufficient to show agreement, including [offer and acceptance], conduct by both parties which recognizes the existence of a contract,” the interaction of electronic agents, and the interaction of an electronic agent and an individual. U.C.C. § 2-204. The Restatement (Second) of Contracts defines *acceptance* in section 50, *acceptance by performance* in section 54, and *acceptance by telephone* in section 64. RESTATEMENT (SECOND) OF CONTRACTS §§ 50, 54, 64.

178. Ed Bayley, *The Clicks That Bind: Ways Users Agree to Online Terms of Service*, EFF (Nov. 16, 2009), <http://www.eff.org/wp/clicks-that-bind-ways-users-agree-online-terms-service>.

179. *Id.*

180. *See id.*

181. 86 F.3d 1447 (7th Cir. 1996).

182. *Id.* at 1452. The court does not explain its blanket statement that the seller, whom the court calls the vendor, is the *master of the offer*, or cite any cases to support this position. *See id.* A comment to the Restatement (Second) of Contracts states: “The offeror is the master of his offer.” RESTATEMENT (SECOND) OF CONTRACTS § 52, cmt. a. But this does not address the question of whether, in a specific transaction, it is the seller or the buyer who is the offeror. *See id.*

183. 104 F. Supp. 2d 1332 (D. Kan. 2000).

184. *Id.* at 1340. The court noted that the court in *ProCD* provided “no explanation for its conclusion that ‘the vendor is the master of the offer.’” *Id.*; *ProCD, Inc.*, 86 F.3d at 1452.

Furthermore, cases have held that “the mere use of the word *accept* does not automatically make a communication an acceptance of an offer.”¹⁸⁵ The seller responsible for a website that does not make clear what the consumer is accepting may be committing a deceptive act or practice that violates the FTC Act.¹⁸⁶ Some sellers specifically provide that the seller is neither making an offer nor accepting an offer from the consumer.¹⁸⁷ These websites stipulate that no contract has been formed until the seller engages in subsequent conduct.¹⁸⁸ Best Buy’s notice states: “At any time after receipt of your order, we may accept, decline or place . . . limits on your order”¹⁸⁹ The notice seems to be assuming the consumer is the party making the offer.¹⁹⁰

Even assuming the online seller is the party making the offer, no law requires online sellers to provide an “I accept” button on their website to bind the consumer.¹⁹¹ Some sellers have used other terms, such as “submit order” and “place order.”¹⁹² The case law has not clarified whether these

185. 17 C.J.S. *Contracts* § 54 (2018) (citing *United States v. Braunstein*, 75 F. Supp. 137, 139 (S.D.N.Y. 1947)).

186. *FTC v. Direct Benefits Grp., LLC*, No. 6:11-cv-1186-Orl-28TBS, 2013 WL 3771322, at *15 (M.D. Fla. July 18, 2013).

187. *See Terms and Conditions*, BEST BUY, <http://www.bestbuy.com/site/help-topics/terms-and-conditions/pcmcat204400050067.c?id=pcmcat204400050067> (last updated May 1, 2019). “Our order confirmation to you does not signify our acceptance of your order, nor does it constitute confirmation of our offer to sell. At any time after receipt of your order, we may accept, decline, or place quantity or other limits on your order for any reason.” *Id.* The first sentence declares that the seller is neither making an offer nor accepting the seller’s offer. *Id.* The second sentence indicates it is the consumer who makes an offer by ordering goods, and the seller has the power to accept the consumer’s terms, modify them by limiting the order, or reject the offer altogether. *Id.* One website provided that after the consumer submitted an order, the seller would send an email confirmation within twenty-four hours. Budnitz, *supra* note 13, at 748. The site’s terms provided: “The receipt of an e-mail . . . confirmation does not constitute the acceptance of an order or a confirmation of an offer to sell.” *Id.* It is unclear who is making the offer and who is accepting. *Id.* at 748–49. Perhaps the seller is making an invitation to the consumer to make an offer and the seller accepts the offer by shipping the goods. *See id.* at 749. Ambiguous offer and acceptance situations are not confined to online transactions. *See* Kenneth K. Ching, *Beauty and Ugliness in Offer and Acceptance*, 60 WAYNE L. REV. 469, 479 (2015). “[I]n some exchanges it will be unclear who technically gave the offer and who gave the acceptance, and to force the facts into the slots of offer and acceptance may be artificial and even unjust.” *Id.*

188. Budnitz, *supra* note 13, at 748–49.

189. *Terms and Conditions*, *supra* note 187.

190. *See id.*

191. *See* Budnitz, *supra* note 13, at 751–52.

192. *Nicosia v. Amazon.com, Inc.*, 834 F.3d 220, 236–37 (2d Cir. 2016); Budnitz, *supra* note 13, at 744 n.19. Where a website provided a “Place your order” button instead of an “I agree” button and did not present additional terms directly adjacent to the “Place your order” button to indicate the user should continue clicking, user had not accepted additional terms. *Nicosia*, 834 F.3d at 236. The FAA requires an arbitration agreement to be

terms have the same legal effect as an “I accept” button.¹⁹³ In addition, the legal effect of an agreement providing the consumer and/or the seller the option of cancelling within a designated period of time is unclear.¹⁹⁴

Transactions involving virtual personal assistants such as Siri, Alexa, and Echo present several issues in contract formation.¹⁹⁵ There may be more than one agreement.¹⁹⁶ For example, a consumer can order coffee from Starbucks via a virtual personal assistant.¹⁹⁷ But first the consumer must establish an account—the first agreement.¹⁹⁸ Consumers supply Starbucks with their credit card number and other personal information when establishing that account.¹⁹⁹ Next, the consumer tells the virtual assistant to purchase coffee on a particular day.²⁰⁰ For example, the consumer can say, “Alexa, tell Starbucks to place an order.”²⁰¹ Arguably, placing an order is an offer to enter into a second agreement.²⁰² Consequently, no contract is formed unless Starbucks accepts the offer.²⁰³ Presumably, Starbucks accepts the offer by having the order ready when the customer arrives to pick it up.²⁰⁴

in writing but does not require such agreements to be signed. *Zacher v. Comcast Cable Comm’n LLC*, No. CV 7256, 2018 WL 3046955, at *3 (N.D. Ill. June 20, 2018); *see also* 9 U.S.C. § 3 (2012).

193. *Nicosia*, 834 F.3d at 236. “[C]licking ‘Place your order’ does not specifically manifest assent to the additional terms, for the purchaser is not specifically asked whether she agrees or to say ‘I agree.’” *Id.*

194. *See* Ching, *supra* note 187, at 479.

195. *See* Elvy, *supra* note 112, at 81–83

196. *See* Taylor Martin, *Make Alexa Order Your Iced Grande Caramel Macchiato*, CNET (Feb. 6, 2017, 12:35 PM), <http://www.cnet.com/how-to/amazon-echo-how-to-order-starbucks-with-alexa/>.

197. *Id.*

198. Sarah Perez, *Starbucks Unveils a Virtual Assistant That Takes Your Order Via Messaging or Voice*, TECHCRUNCH (Jan. 30, 2017) <http://www.techcrunch.com/2017/01/30/starbucks-unveils-a-virtual-assistant-that-takes-your-order-via-messaging-or-voice>. Customers also must link their Starbucks and Alexa accounts. *Id.* “Before, you could tell Alexa to start brewing your coffee. Now you can tell it to place your favorite Starbucks order.” Martin, *supra* note 196.

199. Martin, *supra* note 196. “If you have an Echo, you’ve already provided Amazon with your credit-card number, address, birthday and the names of all your children.” Matthew Hennessey, *Siri, Why Do I Feel Like I’m Being Watched?*, WALL ST. J., Aug. 11, 2018, at A13.

200. Martin, *supra* note 196.

201. *Id.*

202. *See* Ching, *supra* note 187, at 475–76. The effect of placing an order is not clear in the case law. *See Nicosia v. Amazon.com, Inc.*, 834 F.3d 220, 235–36 (2d Cir. 2016).

203. *See* Ching, *supra* note 187, at 476–77; Martin, *supra* note 196.

204. Martin, *supra* note 196. This is an example of acceptance by conduct. U.C.C. § 2-204(1) (AM. LAW INST. & UNIF. LAW COMM’N 2017). The Restatement of Contracts has a comparable provision, called acceptance by performance. RESTATEMENT (SECOND) OF CONTRACTS § 54 (AM. LAW INST. 1981).

But perhaps Starbucks is offering to sell coffee, and the consumer accepts the offer by placing an order by talking to Alexa.²⁰⁵ As Kenneth Ching says, in some transactions it is unclear who is making the offer and who is accepting it.²⁰⁶

Assuming Starbucks is the party making an offer to sell coffee, and the consumer accepts the offer by placing an order by talking to Alexa, what are the legal consequences if Starbucks seeks to impose additional terms to the transaction when the customer goes to Starbucks to pick up the order?²⁰⁷ UCC section 2-207 provides that in a transaction between a merchant and a non-merchant, such as a consumer, when one party accepts the other's offer, but that acceptance "states terms additional to . . . those offered or agreed upon . . . [t]he additional terms are to be construed as proposals for addition to the contract."²⁰⁸ Therefore, in the Starbucks scenario described above, the additional terms are merely proposals that are not binding on consumers unless accepted by them.²⁰⁹

A controversial series of cases may apply in the following scenario.²¹⁰ The consumer establishes an account with Laptops Unlimited, providing information such as a cell phone number and a credit card number.²¹¹ The consumer receives a text message from Laptops Unlimited, informing the consumer it is holding a sale on the Bell Laptop Model X55.²¹² The message contains a few other details such as the price, tax, and estimated delivery time.²¹³ The consumer tells Alexa to purchase that computer from Laptops Unlimited.²¹⁴ When the computer is delivered to the consumer, the box it comes in contains an agreement with additional terms, such as an

205. See Ching, *supra* note 187, at 476–77; Martin, *supra* note 197.

206. Ching, *supra* note 187, at 477, 480.

207. See *id.* at 476–78; Martin, *supra* note 196.

208. U.C.C. § 2-207 (1)–(2).

209. See *id.*; Ching, *supra* note 187, at 486; Martin, *supra* note 196.

210. See *Hill v. Gateway 2000, Inc.*, 105 F.3d 1147, 1148 (7th Cir. 1997); *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1450 (7th Cir. 1996). The scenario is similar to the service Best Buy offers. Bianca Jones, *Best Buy: Voice-Only Deals Now Available on Alexa*, MARKETSCREENER (July 9, 2018, 9:19 AM), <http://www.marketscreener.com/BEST-BUY-COMPANY-11778/news/Best-Buy-Voice-Only-Deals-now-available-on-Alexa-26896696/>.

Consumers establish a Best Buy account. *Id.* They then link to Alexa. *Id.* Among other features, consumers are eligible for *Voice-Only Deals* that are not available on Bestbuy.com or in stores. *Id.*

211. See *id.*

212. See Jones, *supra* note 210.

213. See *id.*

214. See *id.*

arbitration clause and a disclaimer of implied warranties.²¹⁵ The agreement provides that the consumer has fifteen days to return the computer.²¹⁶

Several cases involved the above set of facts, except buyers ordered the product online or over the phone.²¹⁷ Additional terms were delivered with the product and the consumer had a specified number of days to return the product.²¹⁸ The courts held that no contract is formed until the buyer accepts the goods by not returning them within that time.²¹⁹ In *Hill v. Gateway 2000*,²²⁰ the consumer ordered a computer by phone and the additional terms came in the carton with the computer.²²¹ That case followed *ProCD, Inc. v. Zeidenberg*, where the buyer being sued purchased the software in person but then posted the information online, thereby breaching the software use agreement.²²² The *ProCD* court noted that software can be ordered over the internet and arrives *by wire*.²²³ Courts deciding cases where the consumer orders a product by talking to a virtual assistant instead of talking to a person over a phone may find this line of cases applicable.²²⁴ Other courts and legal scholars contend *ProCD* and its progeny were wrongly decided because the courts incorrectly applied the UCC.²²⁵ The critics contend buyers are not bound by the additional terms unless they agree to the additional terms.²²⁶

215. See *Hill*, 105 F.3d at 1148; *ProCD, Inc.*, 86 F.3d at 1450, 1453.

216. See *Hill*, 105 F.3d at 1148.

217. See *id.*; *ProCD, Inc.*, 86 F.3d at 1450.

218. *Hill*, 105 F.3d at 1148.

219. *Id.* “A buyer may accept by performing the acts the vendor proposes to treat as acceptance.” *ProCD, Inc.*, 86 F.3d at 1452. Here, the buyer accepted by using the software “after having an opportunity to read the license at leisure.” *Id.*

220. 105 F.3d 1147 (7th Cir. 1997).

221. *Id.* at 1148.

222. 86 F.3d at 1450.

223. *Id.* at 1451.

224. See *Hill*, 105 F.3d at 1148–50; *ProCD, Inc.*, 86 F.3d at 1451–52.

225. *Klocek v. Gateway, Inc.*, 104 F. Supp. 2d 1332, 1339 (D. Kan. 2000); Roger C. Bern, *Terms Later Contracting: Bad Economics, Bad Morals, and a Bad Idea for Uniform Law*, *Judge Easterbrook Notwithstanding*, 12 J.L. & POL’Y 641, 642–43 (2004); Robert A. Hillman, *Rolling Contracts*, 71 *FORDHAM L. REV.* 743, 753 (2002); John E. Murray Jr., *The Dubious Status of the Rolling Contract Formation Theory*, 50 *DUQ. L. REV.* 35, 46 (2012). Bern contends that in the *ProCD* case Judge Easterbrook “defly discarded clear statutory language and foundational common law principles and created in their place, virtually out of whole cloth, a new doctrine of contract formation.” Bern, *supra*. Bern states that despite Easterbrook’s citing the Restatement (Second) of Contracts to support his position, that restatement offers no support. See *id.* at 654.

226. *Id.* at 654–55.

But even assuming the cases applied the UCC properly, they leave many crucial questions unanswered.²²⁷ For example, in *Hill*, the seller gave the consumer thirty days to read the contract terms that came in the box and return the computer.²²⁸ In another case involving the same seller, the consumer had only five days to return the computer.²²⁹ While it is reasonable to assume courts would require sellers to provide consumers a reasonable period of time in order to avoid a finding of unconscionability, the cases provide no guidance on how much time is reasonable.²³⁰

Another issue is who must pay the cost of returning the goods?²³¹ The *Hill* court found the question interesting but refused to provide any guidance.²³² Those costs could be considerable if the goods are fragile and must be carefully packed.²³³ Consumers may have to purchase a new carton and packing materials if the originals were damaged when the product was

227. See *Hill*, 105 F.3d at 1150; *ProCD, Inc.*, 86 F.3d at 1452–53; *Klocek*, 104 F. Supp. 2d at 1337–41.

228. *Hill*, 105 F.3d at 1148.

229. *Klocek*, 104 F. Supp. 2d at 1335.

230. *Id.* at 1341; *Hill*, 105 F.3d at 1150. The Reporters' Notes to the Draft Restatement of Consumer Contracts states that the consumer must be granted sufficient time to exercise the right to terminate. RESTATEMENT OF CONSUMER CONTRACTS § 2, at 27 (AM. LAW INST., Discussion Draft 2017). Cf. *Lima v. Gateway, Inc.*, 886 F. Supp. 2d 1170, 1182, 1186 (C.D. Cal. 2012) (determining that a fifteen-day window and fifteen percent restocking fee made the affirmative duty to reject so oppressive as to contribute to procedural unconscionability). UCC section 2-302 provides that a court may refuse to enforce an unconscionable contract or any clause it finds unconscionable. U.C.C. § 2-302 (AM. LAW INST. & UNIF. LAW COMM'N 2017). The unconscionability doctrine has not provided adequate relief for consumers. Stephen E. Friedman, *Giving Unconscionability More Muscle: Attorney's Fees as a Remedy for Contractual Overreaching*, 44 GA. L. REV. 317, 319 (2010). In addition, UCC Article 2 applies only to the sale of goods, not the sale of services. U.C.C. § 2-102. Some courts find software transactions involve a license, not a sale. Elvy, *supra* note 112 at 126–27; see also *SAS Inst., Inc. v. World Programming Ltd.*, No. 5:10-25, 2016 WL 3435196, at *10 (E.D.N.C. June 17, 2016). Consequently, Article 2 does not apply. U.C.C. § 2-102. UCC section 2-105(1) defines *goods* as “all things . . . which are movable at the time of identification to the contract for sale.” U.C.C. § 2-105(1). Courts have struggled over the question of whether software is included within the meaning of *goods*. *SAS Inst., Inc.*, 2016 WL 3435196, at *10.

231. See *Hill*, 105 F.3d at 1150.

232. *Id.* The court said it need not deal with that issue because the consumers knew the carton in which the computer was sent would contain important contract terms but didn't bother to find out what the terms were. *Id.* A Comment to the Restatement of Consumer Contracts states: “[T]he consumer's opportunity to terminate the transaction after receiving the terms must not place unreasonable cost, personal burden, or risk of loss on the consumer.” RESTATEMENT OF CONSUMER CONTRACTS § 2 (AM. LAW INST., Discussion Draft 2017). The reporters' notes state that the cost of terminating the transaction “must not be so large that it deters the exercise of the right.” *Id.*

233. See *Behind the Box: How to Safely Ship Fragile Items*, PACKLANE (Oct. 18, 2017), <http://www.packlane.com/blog/how-to-safely-ship-fragile-items>.

unpacked or if consumers threw them away, not realizing they would later decide to return the merchandise.²³⁴ If the item is expensive, consumers may feel they need to purchase shipping insurance.²³⁵

Yet another question is whether consumers may use the goods before returning them.²³⁶ In *Brower v. Gateway 2000, Inc.*,²³⁷ the court opined that consumers may use the product and not lose the right to return it as long as it was done within the time the seller gave the consumer to return the goods.²³⁸

The *ProCD* court talked about the contractual return period giving buyers time to review the terms of the agreement and decide whether to accept its provisions.²³⁹ But consumers also can take advantage of that time to decide whether to return the product because they discover they can get a better price elsewhere or they do not like the way the product performs, even if they have no objection to the terms of the contract.²⁴⁰ That is a logical conclusion since under the *ProCD* analysis, no contract is formed until the return period has passed.²⁴¹ This can be a significant benefit for consumers.²⁴² In the case of a product such as a computer, consumers may not be able to reasonably decide whether to return the product unless they use it or compare the price with those of other sellers.²⁴³

The *ProCD* court says the buyer must be given the opportunity to read the contract terms and decide whether to return the goods.²⁴⁴ In cases

234. See *id.*; *Hill*, 105 F.3d at 1148, 1150.

235. See *Hill*, 105 F.3d at 1149.

236. See *Brower v. Gateway 2000, Inc.*, 676 N.Y.S.2d 569, 573 (N.Y. App. Div. 1998).

237. 676 N.Y.S.2d 569 (N.Y. App. Div. 1998).

238. *Id.* at 573. In *ProCD, Inc.*, the court noted that the buyer “tried out the software, learned of the license, and did not reject the goods.” *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1453 (7th Cir. 1996).

239. *ProCD, Inc.*, 86 F.3d at 1453 (stating that the UCC permits the parties to structure their relations so the buyer has the opportunity to decide whether to accept the seller’s terms *after a detailed review*). In upholding the agreement, the court noted approvingly that the buyer had the “opportunity to read the license at leisure.” *Id.* at 1452.

240. See *Hill*, 105 F.3d at 1148; *Brower*, 676 N.Y.S.2d at 573. The consumers in *Hill* complained about the computer’s *components and performance*. *Hill*, 105 F.3d at 1148. The UCC grants buyers the right to reject or revoke acceptance. U.C.C. § 2-601 (AM. LAW INST. & UNIF. LAW COMM’N 2017). But both rights have substantial barriers the buyer must overcome. *Id.* § 2-602. The buyer can reject only if the goods or the tender of delivery fail in any respect to conform to the contract.” *Id.* § 2-601. Furthermore, rejection “must be within a reasonable time after their delivery or tender.” *Id.* § 2-602. In order to revoke acceptance, the goods must not conform to the contract and that nonconformity must be one that *substantially impairs* the value of the goods to the buyer. *Id.* § 2-608.

241. See *ProCD, Inc.*, 86 F.3d at 1452.

242. See *id.*

243. See *id.*

244. *Id.* at 1452–53.

like *Hill*, the additional terms are in the box delivered with the good.²⁴⁵ What if instead of a contract in the box, the box merely contained a notice instructing the consumer to read the contract on the seller's website?²⁴⁶ Would that provide the consumer with the opportunity to read the contract and decide whether to return the product, as the courts require?²⁴⁷ If a contract provides that the consumer must return the goods within thirty days, does that mean the seller must receive the goods within thirty days, or has the consumer complied with the requirement as long as the return package is postmarked by the thirtieth day?²⁴⁸

In *Nicosia v. Amazon.com, Inc.*,²⁴⁹ the court analyzed a website on Amazon that provided the consumer with the opportunity to click on a button labelled "Place your order."²⁵⁰ The court pointed out that "the purchaser is not specifically asked whether she agrees or to say 'I agree.'"²⁵¹ According to the court, "[n]othing about the 'Place your order' button alone suggests that additional terms apply."²⁵²

UCC section 2-207 provides that in transactions involving a merchant and a non-merchant, such as a consumer, "[t]he additional terms are to be construed as proposals for addition to the contract."²⁵³ If the additional terms are proposals, does Starbucks accept the consumer's proposals when the customer takes possession of the product?²⁵⁴ The issue in the case law is whether the agreements subsequent to the original is a counteroffer that has to be separately accepted by the buyer.²⁵⁵ The cases conflict.²⁵⁶

245. *Hill*, 105 F.3d at 1148.

246. *See id.* at 1148, 1150.

247. *See id.*

248. *See id.* at 1148, 1150.

249. 834 F.3d 220 (2d Cir. 2016).

250. *Id.* at 234.

251. *Id.* at 236.

252. *Id.* It is not apparent why the court mentions that consumers are not asked to say they agree in the context of a transaction on Amazon's website since the decision does not indicate consumers are given the opportunity to enter into the transaction speaking into their computer's microphone or any other type of device. *See id.* But the court's reasoning would seem to apply to consumers speaking into their virtual assistant and ordering goods. *Nicosia*, 834 F.3d at 236; Martin, *supra* note 196; Perez, *supra* note 198.

253. U.C.C. § 2-207(2) (AM. LAW INST. & UNIF. LAW COMM'N 2017). Merchant is defined in UCC section 2-104(1). *Id.* § 2-104(1). Section 2-207 contains a different rule for transactions that occur between merchants. *Id.* § 2-207(2). In sharp contrast to the provision that applies to merchant-non-merchant contracts, the presumption is that the additional terms "become part of the contract unless" specific circumstances are present. *Id.*

254. *See id.*

255. *See* Ching, *supra* note 187, at 478–79.

256. *Compare* Hill v. Gateway 2000, Inc., 105 F.3d 1147, 1150 (7th Cir. 1997) (finding that U.C.C. § 2-207 does not apply because there was only one contract, formed when

Being able to determine whether and when a contract is formed becomes crucial when a dispute arises.²⁵⁷ When a consumer uses a phone to order goods and talks to the store's employees, there is always the possibility of a misunderstanding.²⁵⁸ The risk of miscommunication is even greater when the consumer orders through a virtual assistant.²⁵⁹ This is illustrated by situations in which virtual assistants have received orders that consumers never authorized.²⁶⁰ For example, a consumer's parrot ordered gift boxes without the consumer's knowledge.²⁶¹ Unauthorized purchases have been made by children.²⁶² Orders have been placed based on words the virtual assistant heard when consumers' televisions broadcasted commercials advertising products.²⁶³ On the other hand, consumers trying to order products using Alexa were unable to do so when the service stopped working due to "technolog[ical] outages and service interruptions."²⁶⁴

In addition, researchers have been able to hack not only into smartphones, but also smart speakers.²⁶⁵ They were able to open consumers' websites.²⁶⁶ They claim hackers would be able to purchase goods.²⁶⁷

the customer had the opportunity to inspect the goods and the terms, and did not return the goods), *with Klocek v. Gateway, Inc.*, 104 F. Supp. 2d 1332, 1339 (D. Kan. 2000) (finding that even if there was only one contract, UCC section 2-207 applies and consumer, as party making the offer, was not bound by seller's terms); *see also* Hillman, *supra* note 225, at 753 (stating that Judge Easterbrook was *plainly wrong* in finding that UCC section 2-207 did not apply).

257. *See* Ching, *supra* note 187, at 477.

258. *See id.*

259. *See* Gia Liu, *Hey, I Didn't Order This Dollhouse! 6 Hilarious Alexa Mishaps*, DIGITAL TRENDS (Mar. 5, 2018 4:30 PM), <http://www.digitaltrends.com/home/funny-accidental-amazon-alexa-ordering-stories/>.

260. *See id.*

261. *Polly Want A-lexa? Clever Parrot Orders Amazon's Virtual Assistant to Turn Off the Lights — and the Robot Obeys*, DAILY MAIL (May 15, 2018, 7:26 AM), <http://www.dailymail.co.uk/news/article-5729837/Polly-want-lexa-clever-parrot-talks-virtual-assistant-orders-turn-lights.html>.

262. Liu, *supra* note 259.

263. *Id.*; *see also* Lisa Marie Segarra, *It's Not Just You: Amazon Admitted That Alexa Has Been Laughing at People*, TIME (Mar. 7, 2018), <http://www.time.com/5190044/amazon-alexa-echo-laughing> (reporting that users were hearing Alexa having random laughing fits without being prompted).

264. Sarah Gray, *Amazon Alexa Lost Its Voice, Forcing Users to Use Light Switches and Check Weather Themselves*, TIME (Mar. 2, 2018), <http://www.time.com/5183713/amazon-alexa-down-outage/>.

265. Craig S. Smith, *Alexa and Siri Can Hear This Hidden Command. You Can't.*, N.Y. TIMES (May 10, 2018), <http://www.nytimes.com/2018/05/10/technology/alexa-siri-hidden-command-audio-attacks.html>.

266. *Id.*

267. *See id.*

E. UETA

The UETA has been enacted in the District of Columbia and forty-seven states.²⁶⁸ Like E-Sign, UETA validates electronic records and signatures.²⁶⁹ UETA, however, also includes provisions that are absent from E-Sign.²⁷⁰ Most pertinent to the formation of contracts online is the section providing that if there is an error when a consumer buys a product on a website, the consumer can prevent being held liable.²⁷¹ An example of the type of error covered by this provision occurs when a consumer makes an error by typing a number one to indicate an order for one computer, but then accidentally also types a zero, resulting in an order for ten computers.²⁷²

If the seller provides the consumer with the opportunity to correct the error, however, the consumer must take advantage of that opportunity in order to escape liability.²⁷³ In the typical online consumer transaction, the seller provides that opportunity by taking the consumer to a confirmation screen before the sale is finalized.²⁷⁴ That screen describes the product the consumer ordered, as well as other essential information such as the price and quantity.²⁷⁵ The consumer who does not want to be bound by the transaction can refuse to confirm the order and thereby avoid liability.²⁷⁶ If the consumer does not refuse and continues the transaction, the consumer

268. Dan DeNiculo, *The Future of Electronic Wills*, A.B.A. (Oct. 15, 2018) http://www.americanbar.org/groups/law_aging/publications/bifocal/vol_38/issue-5--june-2017/the-future-of-electronic-wills/.

269. UNIF. ELEC. TRANSACTIONS ACT § 7 (UNIF. LAW COMM'N 1999).

270. *See id.*

271. *Id.* § 10.

In an automated transaction involving an individual, the individual may avoid the effect of an electronic record that resulted from an error made by the individual in dealing with an electronic agent of another person if the electronic agent did not provide an opportunity for the prevention or correction of the error and, at the time the individual learns of the error, the individual promptly notifies the other person of the error . . . that the individual [does] not intend to be bound, . . . takes reasonable steps . . . to return, [or] destroy [any] consideration received . . . and has not used or received any benefit or value from the consideration.

Id.

272. *See id.* The Official Comment to section 10 explains that the section covers two types of mistakes. UNIF. ELEC. TRANSACTIONS ACT § 10, cmt. 1. One occurs when the consumer makes a typing error, such as typing an order for 1,000 widgets when 100 is intended. *Id.* The other occurs when the buyer's *information processing system* changes the buyer's order of 100 widgets to an order for 1,000. *Id.* Another provision in UETA, but not in E-Sign, is a provision governing attribution. *Id.* § 9.

273. *Id.* § 10.

274. UNIF. ELEC. TRANSACTIONS ACT § 10. Comment 5 describes the confirmation screen scenario. *Id.* § 10, cmt. 5.

275. *Id.* § 10.

276. *Id.*

cannot rely on UETA to avoid liability.²⁷⁷ Because sellers provide consumers the confirmation screen, consumers will not be able to avoid liability for errors.²⁷⁸ With consumers increasingly engaging in transactions on their mobile devices, questions may arise as to the adequacy of the format used for the confirmation screen because of the small size of the screen on a mobile device.²⁷⁹

Transactions that consumers engage in through their virtual assistants pose new challenges.²⁸⁰ The UETA does not require the seller to provide a confirmation screen.²⁸¹ Rather, it provides that the seller must give the consumer an opportunity to prevent or correct an error.²⁸² The issue for sellers is how they can provide the consumer with the equivalent of a confirmation screen so consumers cannot later avoid liability on the contract by claiming there was an error and they did not have any such opportunity.²⁸³

F. *Case Law*

Case law has attempted to apply traditional contract law to the cyberspace environment.²⁸⁴ The cases, however, involve clickwrap and browsewrap agreements; they do not deal with issues that arise when parties form contracts by touching or tapping on smartphones or talking to virtual personal assistants.²⁸⁵

As described above, the online environment is very different in important respects than when the sellers and consumers deal with each other, typically face-to-face, in the physical world.²⁸⁶ Previously, in consumer transactions there was an agreement written on paper and the consumer usually had possession of the original or a copy.²⁸⁷ There might be disagreements about the meaning and legal effect of the terms, but ordinarily

277. *See id.*

278. *See* UNIF. ELEC. TRANSACTIONS ACT § 10, cmt. 5.

279. *See* FED. TRADE COMM'N, *supra* note 153, at i.

280. *See* Penny Crosman, *Is Amazon's Alexa Ready for Person-to-Person Payments?*, AM. BANKER (Mar. 19, 2018, 12:17 PM), <http://www.americanbanker.com/news/is-amazons-alexa-ready-for-p2p-payments>.

281. UNIF. ELEC. TRANSACTIONS ACT § 10.

282. *Id.*

283. *See* Cullinane v. Uber Techs, Inc., 893 F.3d 53, 64 (1st Cir. 2018); Crosman, *supra* note 280.

284. *Cullinane*, 893 F.3d at 64; *Nicosia v. Amazon.com, Inc.*, 834 F.3d 220, 231–32, 235 (2d Cir. 2016). Karl Llewellyn refers to this as putting “new wine into old bottles.” Llewellyn, *supra* note 13, at 64.

285. *See Cullinane*, 893 F.3d at 61 n.10; *Nicosia*, 834 F.3d at 235.

286. *See* Budnitz, *supra* note 13, at 745.

287. Restle, *supra* note 88.

there is no dispute about what the written agreement says.²⁸⁸ In cyberspace, the terms of the agreement may be difficult or impossible to ascertain.²⁸⁹ The seller may have replaced the agreement that was posted when the consumer entered into the transaction with one or even many modifications.²⁹⁰ The seller may not have saved a copy of the agreement it posted on its website at the time of the consumer's transaction, and therefore, cannot retrieve it.²⁹¹

Courts have struggled to apply traditional contract law to consumer disputes.²⁹² They have examined the design and format of websites, including the placement and color of hyperlinks to agreements.²⁹³ They have applied different rules depending on whether the method to obtain the consumer's consent was in a clickwrap or a browsewrap format.²⁹⁴ To make matters more complex, at least one court thought the site it reviewed was a hybrid—combining elements of both clickwrap and browsewrap.²⁹⁵

In websites that obtain the consumer's consent by means of a typical clickwrap agreement, the consumer agrees to the online terms by clicking with a mouse or touching a mobile device on a button that says "I agree."²⁹⁶ Often the "I agree" button is at the bottom of a scroll-down window that contains the standard terms.²⁹⁷ Courts have held that, in general, clickwrap agreements are valid and consumers are bound by their terms.²⁹⁸ They have not ruled that these agreements are automatically valid, however.²⁹⁹ Many courts reached that conclusion only after careful examination of the website's format and the manner in which consumer consent was obtained on the website.³⁰⁰ Clickwrap agreements may be invalid if not carefully

288. See *Contracts Basics*, FINDLAW, <http://smallbusiness.findlaw.com/business-contracts-forms/contracts-basics.html> (last visited May 1, 2019).

289. See Sterling Miller, *Ten Things: Website User Agreements*, TEN THINGS YOU NEED TO KNOW AS IN-HOUSE COUNS. (June 9, 2015), <http://www.sterlingmiller2014.wordpress.com/2015/06/07/ten-things-website-user-agreements/>.

290. See *id.*

291. See *id.*

292. *Cullinane v. Uber Techs, Inc.*, 893 F.3d 53, 61 n.10 (1st Cir. 2018).

293. *Id.* at 63; *Nicosia v. Amazon.com, Inc.*, 834 F.3d 220, 236 (2d Cir. 2016).

294. *Cullinane*, 893 F.3d at 61 n.10. One judge identified four different types of wrap agreements: Clickwrap, browsewrap, scrollwrap, and sign-in wrap. *Berkson v. Gogo LLC*, 97 F. Supp. 3d 359, 395–402 (E.D.N.Y. 2015).

295. *Nicosia*, 834 F.3d at 236.

296. *Berkson*, 97 F. Supp. 3d at 397.

297. *Id.*

298. *Id.*

299. See *id.*

300. *Caspi v. Microsoft Network, L.L.C.*, 732 A.2d 528, 532 (N.J. Super. Ct. App. Div. 1999). The court examined the size and placement of the challenged forum

presented, and specific terms of the agreements have been successfully challenged.³⁰¹

Moreover, some courts insist they are not applying new legal requirements when determining the validity of clickwrap agreements.³⁰² Rather, these courts interpret and apply the same common law rules that courts have applied for hundreds of years to oral and written agreements and signatures on paper.³⁰³

Some companies choose to obtain the consumer's consent by designing browsewrap agreements rather than clickwrap agreements.³⁰⁴ A website containing a browsewrap agreement does not include an "I agree" button.³⁰⁵ Indeed, consumers are never asked and have no opportunity to indicate their consent in any affirmative way.³⁰⁶ But, at least one page on the website contains a hyperlink to another page that includes the agreement.³⁰⁷ As a result, consumers have the opportunity to read the agreement if the link is clearly identified as a way to access the agreement.³⁰⁸ "The defining feature of browsewrap agreements is that the user can continue to use the website or its services without visiting the page hosting the browsewrap agreement or even knowing that such a webpage exists."³⁰⁹

In face-to-face transactions, consumers write their unique signatures on a piece of paper that includes contract terms.³¹⁰ In the absence of proof that the seller engaged in fraudulent conduct, courts assume the consumer's signature indicates the intention to adopt or accept a record.³¹¹ In clickwrap

selection clause and "the style [and] mode of presentation." *Id.* The court satisfied itself that there was no basis for concluding that the clause was presented in such a way as to "conceal or de-emphasize it[]." *Id.*; see also *Berkson*, 97 F. Supp. 3d at 397.

301. *Berkson*, 97 F. Supp. 3d at 397–98; see also *Sgouros v. TransUnion Corp.*, 2015 WL 507584, at *5–6 (N.D. Ill. 2015).

302. *Cullinane v. Uber Techs., Inc.*, 893 F.3d 53, 61 n.10 (1st Cir. 2018).

303. See *Register.com, Inc. v. Verio, Inc.*, 356 F.3d 393, 403 (2d Cir. 2004) (stating that although Internet Commerce "has exposed courts to . . . new situations, it has not fundamentally changed the principles of contract.").

304. Jay Spillane, *Passive Browsewrap Agreements Are Losing Enforceability*, PRIORI (Oct. 12, 2016), <http://www.priorilegal.com/blog/passive-browsewrap-agreements-are-losing-enforceability>.

305. RESTATEMENT OF CONSUMER CONTRACTS § 2, at 35 (AM. LAW INST., Discussion Draft 2017).

306. *Id.*

307. *Id.*

308. *Id.*

309. *Be In, Inc. v. Google Inc.*, No. 12-CV-03373-LHK, 2013 WL 5568706, at *6 (N.D. Cal. Oct. 9, 2013).

310. See *Signature Law: What Signing a Contract Means*, ROCKET LAW., <http://www.rocketlawyer.com/article/signature-law-cb.rl> (last visited May 1, 2019).

311. U.C.C. § 2-103(p) (AM. LAW INST. & UNIF. LAW COMM'N 2017) (defining *sign*).

agreements, courts—in effect—substitute clicking the “I agree” button for writing a signature.³¹² A browsewrap agreement removes both the signature and any signature substitute.³¹³

Courts have been less willing to validate browsewrap agreements than clickwrap contracts.³¹⁴ Some courts apply traditional principles on the formation of contracts.³¹⁵ One of these requires the “mutual manifestation of assent, whether by written or spoken word or by conduct.”³¹⁶ Courts applying that principle require evidence that the consumer had actual or constructive knowledge of the seller’s terms and conditions.³¹⁷ To satisfy the constructive notice requirement, the seller must put the consumer on inquiry notice.³¹⁸ Courts examine both the design and content of the website, and the webpage containing the agreement, to determine whether the requisite notice was given.³¹⁹

Courts have held that the inquiry notice requirement has not been satisfied when the link to the agreement “is buried at the bottom of the page or tucked away in obscure corners of the website where users are unlikely to see it.”³²⁰ Courts have invalidated agreements where links are not obvious or the agreement is not easily accessible because it requires several steps.³²¹ A court found that even a conspicuous link on every page of the website—including a link close to buttons the user has to click on to complete a

312. RESTATEMENT OF CONSUMER CONTRACTS § 2, at 33 (AM. LAW INST., Discussion Draft 2017).

313. *See id.* at 35.

314. *Website Agreements: Browse-wrap vs. Clickwrap Agreements*, DASH FARROW LLP: BLOG (July 19, 2012), <http://www.dashfarrow.com/blog/2012/July/website-agreements-browse-wrap-vs-clickwrap-agre/>.

315. Hilary Smith, Note, *The Federal Trade Commission and Online Consumer Contracts*, 2016 COLUM. BUS. L. REV. 512, 524.

316. *Nguyen v. Barnes & Noble Inc.*, 763 F.3d 1171, 1175 (9th Cir. 2014) (quoting *Specht v. Netscape Comm’ns Corp.*, 306 F.3d 17, 29 (2d Cir. 2002)).

317. *Id.* at 1176–77. Constructive knowledge is defined as “[k]nowledge that one using reasonable care or diligence should have, and . . . that is attributed by law to a given person.” *Constructive Knowledge*, BLACK’S LAW DICTIONARY (10th ed. 2014).

318. *Nguyen*, 763 F.3d at 1177.

319. *Id.*; *Nicosia v. Amazon.com, Inc.*, 834 F.3d 220, 233 (2d Cir. 2016); *Be In, Inc. v. Google Inc.*, No. 12-CV-03373-LHK, 2013 WL 5568706, at *6 (N.D. Cal. Oct. 9, 2013); *see also Zaltz v. JDATE*, 952 F. Supp. 2d 439, 451–52 (E.D.N.Y. 2013); *Fteja v. Facebook, Inc.*, 841 F. Supp. 2d 829, 835–37, 841 (S.D.N.Y. 2012).

320. *Nguyen*, 763 F.3d at 1175, 1177.

321. *Van Tassell v. United Mktg. Grp., LLC*, 795 F. Supp. 2d 770, 792 (N.D. Ill. 2011); *Hines v. Overstock.com, Inc.*, 668 F. Supp. 2d 362, 367 (E.D.N.Y. 2009). User could not see the link without scrolling to the bottom of the screen. *Id.* Textual notice was in small gray print against a gray background. *Pollstar v. Gigmania LTD.*, 170 F. Supp. 2d 974, 981 (E.D. Cal. 2000).

purchase—was insufficient.³²² Users are not bound by contract terms that are hidden or difficult to reach.³²³

Courts consider the sufficiency of a website’s inquiry notice according to a *reasonably prudent user* standard.³²⁴ It can be difficult to apply that standard, however, because—as courts have acknowledged—the level of online experience and sophistication varies greatly among different consumers.³²⁵ As a result, consumers’ familiarity with how websites notify and provide access to browsewrap contracts is not uniform.³²⁶ For example, the design and format of a website targeted at millennials likely would not meet the inquiry notice requirements for a website targeting the elderly.³²⁷ The Ninth Circuit Court of Appeals took a narrow approach to consideration of a user’s familiarity with websites.³²⁸ The court refused to consider the fact that the user, in the past, had experience with websites.³²⁹ It would consider only the website involved in the case before it.³³⁰

Adding to the confusion, it may not be clear to a court whether an agreement is a clickwrap, a browsewrap, or some other type of online agreement.³³¹ In *Nicosia*, the consumer argued that Amazon’s website contained a browsewrap agreement.³³² Amazon contended that this agreement was *something in between*.³³³ For purposes of the appeal of the district court’s grant of Amazon’s motion to dismiss, the court assumed the agreement was a hybrid between the two types of agreements.³³⁴ The court asked “whether a reasonably prudent offeree would know that the . . . [c]onditions of [u]se governed, such that her purchase manifested implied assent to the additional terms.”³³⁵ After a detailed examination and analysis

322. *Nguyen*, 763 F.3d at 1178–79.

323. *Specht v. Netscape Commc’ns Corp.*, 306 F.3d 17, 35 (2d Cir. 2002). Terms visible only by scrolling down to next screen. *Id.* at 20.

324. *Resorb Networks, Inc. v. YouNow.com*, 30 N.Y.S.3d 506, 511 (N.Y. Sup. Ct. 2016); *see also* Nancy S. Kim, *Online Contracting*, 72 BUS. LAW. 243, 248 (2017).

325. *See Nguyen*, 763 F.3d at 1179. The Ninth Circuit noted “the breadth of the range of technological savvy of online purchasers.” *Id.*

326. *Id.* “Negligence is defined as the doing of some act that a reasonably prudent person would not do or the failure to do some act that a reasonably prudent person would do under the same or similar circumstances.” *Benton v. Diamond Servs., Inc.*, No. 92-3544, 1994 WL 57352, at *2 (5th Cir. Feb. 11, 1994) (per curiam).

327. *See Resorb Networks, Inc.*, 30 N.Y.S.3d at 511.

328. *Nguyen*, 763 F.3d at 1179.

329. *Id.*

330. *Id.*

331. *See Nicosia v. Amazon.com, Inc.*, 834 F.3d 220, 235 (2d Cir. 2016).

332. *Id.*

333. *Id.*

334. *Id.* at 236. The court cautioned that it did “not mean to suggest that a *hybrid* agreement is a type of agreement that Washington law would recognize as such.” *Id.*

335. *Nicosia*, 834 F.3d at 236.

of the design and content of Amazon's website, the court held that "reasonable minds could disagree on the reasonableness of notice."³³⁶ Consequently, the court vacated the district court's motion to dismiss.³³⁷

These cases involving both clickwrap and browsewrap agreements are fact-specific.³³⁸ Since the format and design of every website which includes browsewrap agreements differs from one another, courts have been unable to provide clear guidance on how sellers can offer browsewrap agreements that courts will enforce.³³⁹ Consequently, it is difficult for both businesses and consumers to determine if a court would hold consumers bound by the agreement's terms in a disputed case based on prior published cases.³⁴⁰ It is highly unlikely that the website used by the seller in the disputed case is so similar to those in earlier cases that the parties can confidently predict how a court or arbitrator would rule in their case.³⁴¹

Arbitration is another reason for the lack of satisfactory case law development.³⁴² Disputes increasingly are decided in private arbitration forums.³⁴³ The arbitrator's decision is not public.³⁴⁴ As a result, there is less case law than if arbitration was not so widespread.³⁴⁵ The lack of case law hinders sound development of the law.³⁴⁶ This makes it even less likely the case law will provide guidance as more contracts are formed in cyberspace.³⁴⁷

If a court decides an online contract has been formed, consumers and sellers are contractually bound and incur significant responsibilities and liabilities.³⁴⁸ Consequently, it is important that online communications are

336. *Id.* at 238.

337. *Id.* at 240.

338. *See id.* at 231–33; *Nguyen v. Barnes & Noble Inc.*, 763 F.3d 1171, 1177 (9th Cir. 2014).

339. *See Nguyen*, 763 F.3d at 1177.

340. *See id.* at 1178.

341. *See id.* Moreover, arbitrators are not required to base their decisions on judicial opinions. Amy J. Schmitz, *Untangling the Privacy Paradox in Arbitration*, 54 U. KAN. L. REV. 1211, 1216 (2006).

342. Schmitz, *supra* note 341, at 1211.

343. *Id.* at 1211.

344. *Id.* "[Arbitrations] do not produce published opinions that courts infuse into public law." *Id.* "[A]rbitrations are, by their very nature, private and not public." Bert K. Robinson, *Arbitration: The Quest for Confidentiality*, 58 LA. B.J. 180, 181 (2010).

345. *See Schmitz, supra* note 341, at 1211.

346. *Id.* at 1212.

347. *See id.*

348. *See Challenges of E Commerce to Traditional Contracts*, LAWTEACHER (Feb. 2, 2018), <http://www.lawteacher.net/free-law-essays/contract-law/challenges-of-e-commerce-to-traditional-contracts-contract-law-essay.php>.

secure and the consumer's privacy is protected.³⁴⁹ That is important, not only to protect consumers, but also to benefit sellers.³⁵⁰ Consumers who trust sellers' measures to protect privacy and security are more likely to engage in e-commerce.³⁵¹ There is no federal law, however, ensuring the security of online communications or the privacy of online transactions.³⁵² Consequently, there is no law to ensure the security and privacy of consumers entering into contracts using cellphones and virtual personal assistants.³⁵³

Finally, there is no case law development dealing with issues that arise when consumers enter into contracts by touching or tapping on the small screen of a smartphone or talk to a virtual personal assistant.³⁵⁴ As the number of consumers contracting in these new ways increases, and new environments are introduced, the lack of applicable legal rules may make it more difficult for businesses to feel confident that the sites they design for online contracting will withstand legal challenges.³⁵⁵

VI. WHERE SHOULD WE GO FROM HERE?

Increasingly, consumers enter into contracts by touching or tapping on the small screens of cellphones and talking to virtual personal assistants.³⁵⁶ Legislation and case law have failed to adequately address contract formation questions that arise in the traditional online environment of websites and mouse clicks.³⁵⁷ Statutes and cases have not even begun to consider the unique issues raised by contracting using cellphones and virtual personal assistants.³⁵⁸ New methods of entering into consumer contracts will surely be developed.³⁵⁹

Policymakers should decide what action to take in response to this situation.³⁶⁰ They could decide to enact new statutes.³⁶¹ Alternatively, they

349. FED. TRADE COMM'N, *supra* note 20, at iii; Budnitz, *supra* note 13, at 772; Ken Blackwell, *Protecting Online Privacy is a Nonpartisan No-Brainer*, HILL (Oct. 1, 2018, 5:15 PM), <http://www.thehill.com/opinion/cybersecurity/409348-protecting-online-privacy-is-a-nonpartisan-no-brainer>.

350. *See* Angus, *supra* note 163.

351. *See id.*

352. *See* Blackwell, *supra* note 349.

353. *See* Stacy-Ann Elvy, *Contracting in the Age of the Internet of Things: Article 2 of the UCC and Beyond*, 44 HOFSTRA L. REV. 839, 842 (2016).

354. *Id.* at 77, 79.

355. *See* Blackwell, *supra* note 352.

356. *See* Elvy, *supra* note 353, at 863.

357. *Id.* at 842.

358. *See id.*

359. *See id.* at 840.

360. *See id.* at 842–43.

could continue the current approach, which is to do nothing and rely on courts to develop case law based on the transactions brought before them.³⁶² Whichever course they choose, non-governmental organizations could provide valuable assistance to legislators and courts by developing model laws, statements of principles, or standards.³⁶³ Each of these alternatives is explored below.³⁶⁴

A. *Legislation*

Legislation could be enacted on either the federal or state level.³⁶⁵ The advantage of the state-by-state approach is the opportunity it gives each state to determine what approach best suits the needs of their communities.³⁶⁶ States may adopt different approaches.³⁶⁷ Over time, a consensus hopefully will emerge as to which is the best approach, as it did with adoption of the UCC.³⁶⁸ The problem, however, is that this would result in a patchwork of statutes, at least in the short term.³⁶⁹ That would make it difficult both for businesses and consumers to know what law applies to their transactions.³⁷⁰ This is particularly acute for online transactions where it may not be apparent where the seller is located and what law applies.³⁷¹

The advantage of a federal law is the assurance of national uniformity.³⁷² Cyber-contracting is subject to significant and frequent changes as new technology is developed and applied to e-commerce.³⁷³ Consequently, Congress might prefer a statute that sets general standards.³⁷⁴ An agency such as the FTC could be given authority to issue more specific

361. See Elvy, *supra* note 353, at 843.

362. See Richard A. Mann & Barry S. Roberts, *CyberLaw: A Brave New World*, 106 DICKINSON L. REV. 305, 330–31 (2001).

363. See *id.* at 335–36, 338.

364. See discussion *infra* Part VI.A & B.

365. See *Legal Issues in Contracting on the Internet*, FINDLAW, <http://www.corporate.findlaw.com/business-operations/legal-issues-in-contracting-on-the-internet.html> (last visited May 1, 2019).

366. See *id.*

367. See *id.*

368. See U.C.C. § 2-102 (AM. LAW INST. & UNIF. LAW COMM'N 2017); Mann & Roberts, *supra* note 362, at 329.

369. See Mann & Roberts, *supra* note 362, at 338.

370. See *id.*

371. *Id.* at 344 (pointing out that in cyberspace “it is difficult to define . . . where a transaction is *located* or formed”); see also *South Dakota v. Wayfair, Inc.*, 138 S. Ct. 2080, 2101, 2104 (2018) (Roberts, J. dissenting) (describing how e-commerce enables a company to easily do business nationally without needing a physical presence in each state).

372. Mann & Roberts, *supra* note 362, at 338.

373. See *id.*

374. See *id.*

regulations as the agency gains experience and expertise.³⁷⁵ Furthermore, it is much easier to revise regulations than legislation when changed circumstances require adjustments.³⁷⁶

Another approach is to enact both federal and state legislation.³⁷⁷ This results in uniform rules nation-wide, pre-empting state law in certain ways.³⁷⁸ As with other federal consumer laws, states could be permitted limited authority to devise their own requirements.³⁷⁹

Policymakers would face important issues regardless of whether legislation is federal or state-by-state.³⁸⁰ For example, should the law rely principally on disclosure to consumers or impose substantive requirements on sellers?³⁸¹ Should the law establish general standards such as commercial reasonableness, reasonable consumer expectations, state of the art technology, etc.?³⁸² Or should it include specific prohibitions or requirements?³⁸³ Should the law primarily adopt common law and UCC legal concepts or develop a new conceptual framework that takes into account the very different context of small screens, touching, tapping, authentication, and passwords?³⁸⁴ Is a tap or a touch on a cellphone screen equivalent to a click with a mouse?³⁸⁵ Under what circumstances, if any, should browsewrap agreements, which require no affirmative consent, be permitted?³⁸⁶ Should rules on contracting through apps be treated differently than contracting through websites?³⁸⁷

375. See Mariam Baksh, *Internet Society: FTC Should Craft Rules, Spell Out Liability to Help Secure Internet of Things*, INSIDE CYBERSECURITY: DAILY NEWS (Aug. 28, 2018), <http://insidecybersecurity.com/daily-news/intranet-society-ftc-should-craft-rules-spell-out-liability-help-secure-internet-things>.

376. See *id.*

377. See Mann & Roberts, *supra* note 362, at 338.

378. *Id.*

379. *Legal Issues in Contracting on the Internet*, *supra* note 365.

380. See *id.*

381. See *id.*

382. See *id.*

383. See *id.*

384. See Elvy, *supra* note 353, at 846, 863.

385. Timothy Murray, *Contract Drafting Concerns: Beware Browsewrap*, LEXIS PRACTICE ADVISOR JOURNAL (June 7, 2017), <http://www.lexisnexis.com/lexis-practice-advisor/the-journal/b/ipn/archive/2017/06/07/contract-drafting-concerns-beware-browsewrap.aspx>.

386. See *id.*; *Browsewrap vs. Clickwrap*, TERMSFEED: BLOG (Aug. 21, 2018), <http://www.termsfeed.com/blog/browsewrap-clickwrap/>.

387. *Browsewrap vs. Clickwrap*, *supra* note 386. Federal regulators have issued guidelines addressed to the threats and risks consumer face when they use mobile financial services apps, distinguishing those from accessing services on browser access from a PC. See Penny Crosman, *Should All Banks Have Mobile Apps?*, AM. BANKER (June 16, 2016, 2:10 PM), <http://www.americanbanker.com/news/should-all-banks-have-mobile-apps>. Bank

A major obstacle to reaching a broad consensus on legislation is the likely strong disagreement between businesses and consumers over mandatory pre-dispute arbitration and class action waivers.³⁸⁸ If the seller can require the consumer to bring any and all claims in arbitration forums and only as individual actions, then the impact of any legislation will be questionable.³⁸⁹ While some arbitrators may follow the requirements of that statute, arbitrators are not required to follow the law.³⁹⁰ Arbitrators are not required to make written findings of fact or conclusions of law.³⁹¹ Decisions are not public.³⁹² Supreme Court opinions have established the general rule that under the FAA arbitration provisions in valid contracts are enforceable and generally preempt state law.³⁹³ The Consumer Financial Protection Bureau (“CFPB”) issued a rule prohibiting class action waivers in consumer arbitration agreements but Congress overruled it.³⁹⁴ Consequently, in light of the probability that most online consumer contracts will include arbitration clauses, the only way to ensure any cyber-contracting legislation is enforced is to pass legislation that would exempt consumer transactions

websites have features that are different from those of bank apps. Andy Peters, *Bank Websites Said to Suffer from Attention Shift to Mobile*, AM. BANKER (Feb. 10, 2015, 11:15 AM), <http://www.americanbanker.com/news/bank-websites-said-to-suffer-from-attention-shift-to-mobile>.

388. See Jennifer M. Keas & Jay N. Varon, *Shouldn't You Be Using Arbitration Agreements to Reduce the Costs of Litigation and the Risk of Class Action Claims?*, FOLEY & LARDNER LLP (May 10, 2017), <http://www.foley.com/shouldnt-you-be-using-arbitration-agreements-to-reduce-the-costs-of-litigation-and-the-risk-of-class-action-claims-05-10-2017/>.

389. See *id.*

390. Schmitz, *supra* note 341, at 1216; see also *Bowles Fin. Group, Inc. v. Stifel, Nicolaus & Co.*, 22 F.3d 1010, 1011 (10th Cir. 1994) (finding that “[a]rbitration provides neither the procedural protections nor the assurance of the proper application of substantive law . . .”); *Sprinzen v. Nomberg*, 389 N.E.2d 456, 458 (N.Y. 1979) (pointing out that “the arbitrator is not bound to abide by . . . those principles of substantive law . . . which govern the traditional litigation process”); *Lentine v. Fundaro*, 278 N.E.2d 633, 635 (N.Y. 1972) (stating that “[a]bsent provision to the contrary in the arbitration agreement, arbitrators are not bound by principles of substantive law . . .”).

391. See Daniel S. Kleinberger, *The Consensual Special Magistrate: Minnesota’s Appealable Alternative to Arbitration*, BENCH & B. MINN., Jan. 2016, at 24, 25 (stating that under Minnesota law no record, findings of fact, conclusions of law, or opinions supporting the arbitrator’s decision are required). Even if the arbitrator issues findings of fact or conclusions of law, they are not reviewable by a court. Stephen Wills Murphy, *Judicial Review of Arbitration Awards Under State Law*, 96 VA. L. REV. 887, 890 (2010).

392. Keas & Varon, *supra* note 388.

393. *AT&T Mobility LLC v. Concepcion*, 563 U.S. 333, 343 (2011).

394. Rebecca D. Floyd, *Populist Conundrum: Big Banks or Plaintiffs’ Bar? Banks Win as Congress Overrides the CFPB Rule Banning Class Action Waivers in Arbitration Agreements*, 22 N.C. BANKING INST. 165, 170–71, 182–83 (2018).

from the FAA.³⁹⁵ Legislation to invalidate class action waivers would also ensure that consumers could bring lawsuits to enforce cyber-contracting legislation.³⁹⁶ In light of Congress' overturning of the CFPB's limited rule restricting consumer arbitration and opposition from the business community, it is doubtful legislation to prohibit pre-dispute arbitration and class action waivers would be enacted in the near future.³⁹⁷

Even assuming consumers could benefit from legislation despite arbitration clauses and class action waivers, legislators face difficult choices in drafting such legislation.³⁹⁸ The statute could be based on rules and standards developed by the courts, or the legislature could attempt to write a law based on an entirely novel approach.³⁹⁹

Assuming legislatures decide to base a statute on law already developed by the courts, they would nevertheless face formidable obstacles.⁴⁰⁰ This is illustrated by the American Law Institute's ("ALI") project to write a Restatement of the Law of Consumer Contracts.⁴⁰¹ As of the time this Article was written, the proposed restatement had been through nine drafts since the project began in 2012.⁴⁰² A crucial decision was made at the outset: The restatement would set forth one set of provisions that cover both traditional contracts and online contracts.⁴⁰³ This was a reasonable approach for a project that purports to be a restatement of present

395. See CHRISTOPHER BORAN ET AL., THE USE AND ENFORCEABILITY OF CLASS ACTION WAIVERS IN ARBITRATION AGREEMENTS IN THE UNITED STATES, Westlaw W-006-8537.

396. See *id.*

397. See Christopher G. Ward, *Supreme Court Ends the Debate and Upholds Class Action Waivers*, FOLEY & LARDNER LLP (May 21, 2018), <http://www.laboremploymentperspectives.com/2018/05/21/supreme-court-ends-the-debate-and-upholds-class-action-waivers/>.

398. See *id.*; BORAN ET AL., *supra* note 395.

399. See Ward, *supra* note 397.

400. See *id.*; BORAN ET AL., *supra* note 395.

401. RESTATEMENT OF CONSUMER CONTRACTS § 2 (AM. LAW INST., Discussion Draft, 2017).

402. See *id.*; A GUIDE TO THE AMERICAN LAW INSTITUTE PUBLICATIONS 28 (2018 Recompiled ed. 2018); Letter from Advocates for Basic Legal Equal., Inc., et al., to Council Members of the Am. Law Inst. (Oct. 12, 2018) (on file with author); *Project Meeting: Restatement of the Law, Consumer Contracts*, A.L.I., <http://www.ali.org/meetings/show/restatement-law-consumer-contracts-oct-2017/> (last visited May 1, 2019). There has been one Discussion Draft, three Preliminary Drafts, and five Council Drafts. RESTATEMENT OF CONSUMER CONTRACTS xvii (AM. LAW INST., Discussion Draft 2017); A GUIDE TO THE AMERICAN LAW INSTITUTE PUBLICATIONS, *supra*; Letter from Advocates for Basic Legal Equal., Inc., et al., to Council Members of the Am. Law Inst., *supra*; *Project Meeting: Restatement of the Law, Consumer Contracts*, *supra*.

403. RESTATEMENT OF CONSUMER CONTRACTS § 2 (AM. LAW INST., Discussion Draft 2017).

law.⁴⁰⁴ The courts have not tried to develop separate rules or concepts for online contracting.⁴⁰⁵ Indeed, some courts explicitly declare they are applying common law contract rules.⁴⁰⁶

But there is a fundamental problem in trying to draft a restatement of the law of consumer contracts that includes online contracting.⁴⁰⁷ There are few cases in few jurisdictions that have dealt with issues of online contract formation; there is little uniformity of analysis and very few appellate-level cases.⁴⁰⁸ It is premature to issue a restatement of the law when there is no consensus among the courts on what the law is.⁴⁰⁹ Moreover, in the current draft, the Reporters discuss only online cases that involve clickwrap, browsewrap, or “Pay Now Terms Later” contracts.⁴¹⁰ They do not examine cases involving online contracts in which the consumer signifies agreement with a touch, a tap, or a voice because apparently none existed.⁴¹¹ For that reason as well, a restatement at this time is premature.⁴¹² Consequently, the

404. *Id.* at x.

405. *See id.* at 5.

406. *See Cullinane v. Uber Techs., Inc.*, 893 F.3d 53, 61 n.10 (1st Cir. 2018).

407. Nicholas Malfitano, *Criticism Follows Powerful Law Group to Next Project — A Troubling Take on Consumer Contracts*, FORBES (June 25, 2018, 5:15AM), <http://www.forbes.com/sites/legalnewsline/2018/06/25/criticism-follows-powerful-law-group-to-next-project-a-troubling-take-on-consumer-contracts/#6304ad9d2f60>.

408. RESTATEMENT OF CONSUMER CONTRACTS § 2 (AM. LAW INST., Discussion Draft 2017). The Reporters found only four appellate cases involving browsewrap contracts. *Id.* The Reporters discovered only eleven appellate decisions in which clickwrap contracts were used. *Id.* at 34. Serious questions have been raised about the reliability of the collection of cases the Reporters cite to justify the rules in the Restatement. Gregory Klass, *Empiricism and Privacy Policies in the Restatement of Consumer Contract Law*, 36 YALE J. ON REG. 45, 67 (2018). The Reporters for the Principles of the Law of Software Contracts explained why the ALI decided to issue *principles* instead of a restatement. PRINCIPLES OF THE LAW OF SOFTWARE CONTRACTS 2 (AM. LAW INST., Discussion Draft 2007). Their explanation applies equally well to why a statement of principles concerning formation of online contracts would be appropriate. *See id.* “In light of the many percolating legal issues that pertain to the formation and enforcement of software agreements, an attempt to *restate* this law would be premature. Reinforcing this view, software technology continues to develop, which influences methods of doing business and changes or creates new legal issues.” *Id.*

409. *See id.*

410. RESTATEMENT OF CONSUMER CONTRACTS § 2 (AM. LAW INST., Discussion Draft 2017).

411. *See id.* *Cullinane v. Uber Techs., Inc.* was published after the December 2017 Council Draft was issued. *Cullinane v. Uber Techs., Inc.*, 893 F.3d 53, 53 (1st Cir. 2018). The case involved consumers who downloaded an app on their iPhones and used the app to create accounts. *Id.* at 55. Applying the principles of Massachusetts law — as stated in a Massachusetts Court of Appeals case — the court held the arbitration clause was not enforceable because the consumers “were not reasonably notified of the terms of the Agreement.” *Id.* at 62. Therefore, “they did not provide their unambiguous assent to those terms.” *Id.* at 64.

412. PRINCIPLES OF THE LAW OF SOFTWARE CONTRACTS at 2.

restatement—if approved by the ALI—will be seriously deficient as a restatement if it purports to cover case law in which consumers agree to be bound in these new ways.⁴¹³

Even if there were more than a few appellate-level cases, it is questionable whether they could provide helpful guidance for legislators.⁴¹⁴ Courts decide issues concerning contract formation based on a detailed examination of the content and format of the specific screens presented to the consumer in the case before the court.⁴¹⁵ They apply general and vague standards such as the *reasonably prudent user*.⁴¹⁶ It is doubtful the conclusions reached in these cases could provide guidance to a business trying to ascertain whether a court would approve of the content and format of the unique website used by that company.⁴¹⁷

On the other hand, if legislatures enact laws that are too specific, they may unduly restrict format and design options, and stifle innovation and experimentation.⁴¹⁸ A creative business, for example, might want to test a variety of types of websites with focus groups in order to determine which best display the seller's product, which are most user-friendly and which are more likely to result in completed sales.⁴¹⁹ It may be difficult to draft legislation that imposes specific requirements for formation of a binding agreement that does not interfere with legitimate business objectives.⁴²⁰

Congress could enact legislation that establishes general standards, and delegate to the FTC authority to issue regulations.⁴²¹ As an interim measure, the FTC might want to issue guidance as it did regarding how sellers should make representations about products that are displayed on

413. Malfitano, *supra* note 407.

414. See RESTATEMENT OF CONSUMER CONTRACTS § 2 (AM. LAW INST., Discussion Draft 2017); *Cullinane*, 893 F.3d at 63–64.

415. *Cullinane*, 893 F.3d at 63–64.

416. *Resorb Networks, Inc. v. YouNow.com*, 30 N.Y.S.3d 506, 511 (N.Y. Sup. Ct. 2016); see also *Kim*, *supra* note 324, at 248.

417. See *Cullinane*, 893 F.3d at 62–64; *Nicosia v. Amazon.com, Inc.*, 834 F.3d 220, 226 (2d Cir. 2016); *Nguyen v. Barnes & Noble Inc.*, 763 F.3d 1171, 1177–80 (9th Cir. 2014); *Zaltz v. JDATE*, 952 F. Supp. 2d 439, 454 (E.D.N.Y. 2013); *Fteja v. Facebook Inc.*, 841 F. Supp. 2d 829, 840–41 (S.D.N.Y. 2012).

418. See PRINCIPLES OF THE LAW OF SOFTWARE CONTRACTS 2 (AM. LAW INST. Discussion Draft 2007); *Malan*, *supra* note 56.

419. See *Web Site Focus Groups 101*, BEACON: BLOG (Dec. 14, 2010), <http://www.beacontechnologies.com/blog/2010/12/web-site-focus-groups-101/>.

420. See Felix Hilgert, *EU Legislation Watch: New Rules for Consumer Contracts Under the Digital Content Directive*, OSBORNE CLARKE (Aug. 21, 2017), <http://www.osborneclarke.com/insights/eu-legislation-watch-new-rules-for-consumer-contracts-under-the-digital-content-directive/>.

421. See *Baksh*, *supra* note 375.

small smartphone screens.⁴²² That FTC guidance suggests certain features that the seller's website should contain.⁴²³

Most businesses likely would prefer to faithfully follow the FTC's guidance and avoid the Commission's scrutiny.⁴²⁴ Some businesses, however, might figure out how to design a website that lacks some of the features recommended by the FTC, but nevertheless, does not violate the legislation's required general standards.⁴²⁵ As the FTC becomes more familiar with the various ways in which businesses enter into online contracts, and it develops greater expertise, it may find it advisable to issue somewhat specific regulations.⁴²⁶ The FTC may find it appropriate to first regulate contract formation that takes place on desktops and laptops where the consumer has the advantage of a larger screen.⁴²⁷ At the same time, it may be appropriate to publish guidance on contract formation on smartphones that is adapted from its current guidance regarding product representations.⁴²⁸ Over time, it could refine this into a regulation, while issuing guidance on new forms of electronic commerce such as ordering a product by talking to a virtual assistant.⁴²⁹

Unfortunately, legislation probably can never be sufficient because it can neither anticipate future radical changes nor respond to them rapidly enough.⁴³⁰ Recent examples of such changes include the IoT, virtual personal assistants, drones, and self-driving vehicles.⁴³¹ Therefore, even if a

422. See FED. TRADE COMM'N, *supra* note 153, at 10.

423. See *id.* at 8–10. A bill introduced in Congress in 2017 includes requirements for government websites that suggest some of the provisions the FTC might consider. H.R. 3088, 115th Cong. § 2 (2017). The bill requires the Secretary of Labor to “establish and maintain standards and best practices for the provision of [employment] services through electronic means, including . . . internet websites.” *Id.* The bill includes specific standards for these websites: They must be friendly, up-to-date, and accessible by mobile devices. *Id.* The bill also requires the Secretary to issue “best practices for assuring a secure network and the protection of any personal information.” *Id.* Although the FTC is an independent agency, it may be influenced by the Trump administration's policy to limit agency guidance. See Cheryl Bolen, *Trump Administration Offers Relief from Agency Guidance*, BNA: NEWS (Mar. 2, 2018), <https://www.bna.com/trump-administration-offers-n57982089503/>; *What We Do*, FTC, <http://www.ftc.gov/about-ftc/what-we-do>.

424. 15 U.S.C. § 45 (2012); Jessica Rich, *How the FTC Works for Your Community – and Your Business*, FTC (July 1, 2015, 1:11 PM), <http://www.ftc.gov/news-events/blogs/business-blog/2015/07/how-ftc-works-your-community-your-business>.

425. See Malan, *supra* note 56.

426. See Baksh, *supra* note 375.

427. See FED. TRADE COMM'N, *supra* note 153, at 8–9.

428. See *id.* at 6, 8–9.

429. Martin, *supra* note 196; see also Smith, *supra* note 315, at 534.

430. Malan, *supra* note 56.

431. See Elvy, *supra* note 353, at 840; Elvy, *supra* note 112 at 82–83, 88; Malan, *supra* note 56.

suitable form of legislation could be developed and enacted, future development of the law would need to combine legislation with other initiatives, such as those considered below.⁴³²

B. *Case Law*

An alternative to enacting legislation would be to continue the current situation, which is to allow the courts to develop the law of online contracting case-by-case.⁴³³ Undoubtedly, for some period of time there would be a variety of approaches.⁴³⁴ Some courts may follow previous cases in their jurisdiction where the court confronted a comparable situation.⁴³⁵ Others may decide to use cases in other jurisdictions as a guide.⁴³⁶ It is likely that most courts would continue to purport to follow the contract law of their state, applying it to the new context of an online environment.⁴³⁷ Some courts, however, may determine that new environments call for new approaches.⁴³⁸ For example, a court may decide that ordering goods by talking to a virtual assistant is so different from traditional contracting that it calls for new concepts.⁴³⁹

Unfortunately, leaving the development of this body of law to the courts has several disadvantages for both businesses and consumers.⁴⁴⁰ For a number of years, there would continue to be a lack of uniformity.⁴⁴¹ Perhaps there would never be a consensus among all the courts across the country.⁴⁴² This would pose a great burden for online companies that do business in several states.⁴⁴³

Case law develops incrementally at a slow pace.⁴⁴⁴ Therefore, it is highly unlikely it will reflect the application of rapidly changing technology

432. See Malan, *supra* note 56.

433. Smith, *supra* note 315, at 524.

434. See *id.*

435. N. ILL. U: BASIC LEGAL RES., <http://www.libguides.niu.edu/c.php?g=425200&p=2904391> (last updated Jan. 3, 2019, 11:34 AM); see also *Nicosia v. Amazon.com, Inc.*, 834 F.3d 220, 231–32 (2d Cir. 2016).

436. N. ILL. U.: BASIC LEGAL RES., *supra* note 435.

437. See Smith, *supra* note 315, at 524.

438. See Elvy, *supra* note 112, at 79–80.

439. See *id.*

440. *Id.* at 82.

441. See *id.* at 80, 82.

442. See *id.* at 80.

443. See Elvy, *supra* note 112, at 79–80.

444. See Rodrigo, *Discuss the Role and Importance of Judicial Precedent in English Legal System. What Are the Advantages and Disadvantages of the Doctrine?*, WRITEPASS J. (Jan. 23, 2017), <http://www.writepass.com/journal/2017/01/discuss-the-role->

to the online formation of contracts.⁴⁴⁵ The situation today reflects this.⁴⁴⁶ Current case law addresses websites and mouse clicks; it does not include apps and consumers touching and tapping on small smartphone screens and talking to virtual personal assistants.⁴⁴⁷

New ways for consumers to pay for goods illustrate some of the changes now occurring and those in the near future.⁴⁴⁸ When problems arise, courts will have to determine how to apply legal rules to these novel transactions.⁴⁴⁹ IoT and artificial intelligence have resulted in the widespread use of virtual assistants.⁴⁵⁰ These devices are used to purchase goods as well as pay for them.⁴⁵¹ In the near future, virtual assistants likely will be used to perform many types of financial transactions.⁴⁵² Consumers' television remote controls may add some of the same e-commerce features as virtual assistants.⁴⁵³ Already, consumers can order movie tickets by talking to their television remote controls.⁴⁵⁴ Consumers can engage in financial transactions with their smartwatches.⁴⁵⁵ The Amazon Go stores employ an example of *invisible payments* in which no device is used by the consumer or

and-importance-of-the-doctrine-of-judicial-precedent-in-english-legal-system-what-are-the-advantages-and-disadvantages-of-the-doctrine/.

445. See *id.*

446. See Leah Hamilton, *3 Key Legal Cases on Clickwrap*, TERMSFEED (Dec. 12, 2018), <http://termsfeed.com/blog/3-key-legal-cases-clickwrap/>.

447. See *id.*

448. See Martin, *supra* note 196.

449. See Rodrigo, *supra* note 444.

450. See FED. TRADE COMM'N, *supra* note 20, at 1; Matthew Finnegan, *A.I. and Speech Advances Bring Virtual Assistants to Work*, COMPUTERWORLD (Mar. 20, 2018, 4:43 AM), <http://www.computerworld.com/article/3264433/digital-assistants/ai-and-speech-advances-bring-virtual-assistants-to-work.html>.

451. Crosman, *supra* note 280. Customers of U.S. Bank can use Alexa to pay their credit card bills. *Id.* In regard to using virtual assistants for financial transactions, one bank official said, "This technology is moving very fast." *Id.* Customers of Capital One Bank can pay credit card bills using Amazon Echo's Alexa. *Limitless Potential*, BANKER: MIDDLE EAST, Apr. 30, 2018, at 73.

452. Crosman, *supra* note 387.

453. See *Comcast and Fandango Launch Voice-Activated Movie Ticketing Experience on the Television*, COMCAST (May 30, 2018), <http://corporate.comcast.com/press/releases/comcast-and-fandango-launch-voice-activated-movie-ticketing-experience-on-the-television>.

454. *Id.*

455. Mark Real, *Michael Kors Unveils Runway Smartwatches with Wear OS*, ANDROID HEADLINES (Aug. 13, 2018, 12:33 PM), <http://www.androidheadlines.com/2018/08/michael-kors-unveils-runway-smartwatches-with-wear-os.html>. Smartwatches can also aid the elderly by monitoring their hearts and detecting when they fall. Peter Loftus & Tripp Mickle, *Smartwatch Adds Heart Monitoring and Fall Detection*, WALL ST. J., Sept. 13, 2018, at B2.

the merchant.⁴⁵⁶ New technologies such as enhanced reality and virtual reality may present e-commerce opportunities as well.⁴⁵⁷

The legal rules courts try to apply to online contracting were developed when parties agreed with a handshake or a signature on paper.⁴⁵⁸ New types of hardware and new software programs require consumers to enter into contracts in radically different ways.⁴⁵⁹ Courts have not considered whether those changes require a different analysis and different legal rules.⁴⁶⁰ They cannot even agree on who is the offeror and who is the offeree.⁴⁶¹ But an ever-increasing number of people who have grown up living in constant daily contact with various online environments will become judges.⁴⁶² They may have an entirely different conceptual approach to the formation of online contracts.⁴⁶³

456. Elan Fin. Servs., *Mobile Apps, Wearables, & Invisible Payments: The Journey Toward Frictionless Payments*, CREDITUNIONS.COM (Nov. 5, 2018), <http://www.creditunions.com/articles/mobile-apps-wearables--invisible-payments-the-journey-toward-frictionless-payments/>. In addition to Amazon Go, Standard Market in San Francisco and stores in China are eliminating cashiers using a variety of apps, cameras, sensors, scanners, and artificial intelligence. Nellie Bowles, *Stealing from a Cashierless Store (Without You, or the Cameras, Knowing It)*, N.Y. TIMES (Sept. 13, 2018), <http://www.nytimes.com/2018/09/13/technology/standard-market-retail-automation-behavioral-data.html>.

457. See Joanna Stern, *A Peek into Augmented Reality's Future*, WALL ST. J., Aug. 9, 2018, at B4. The implementation of 5G service will provide greater opportunities for new and faster services. Stu Woo, *5G Technology (A Special Report) — Why Being First in 5G Matters: The U.S., China, South Korea and Japan All See a Big Payoff from Winning the Battle for the Wireless Future*, WALL ST. J., Sept. 13, 2018, at R1.

458. See Restle, *supra* note 88; *Electronic Signatures and Online Contracts*, NOLO, <http://www.nolo.com/legal-encyclopedia/electronic-signatures-online-contracts-29495.html> (last visited May 1, 2019).

459. See R3 & NORTON ROSE FULBRIGHT, CAN SMART CONTRACTS BE LEGALLY BINDING CONTRACTS? 7–8 (2016), <https://www.ilsa.org/ILW/2018/CLE/Panel%20%2311%20-%20norton-rose-fulbright--r3-smart-contracts-white-paper-key-findings-nov-2...pdf>.

460. See *Cullinane v. Uber Techs., Inc.*, 893 F.3d 53, 61 n.10 (1st Cir. 2018).

461. See *All About Business Law*, PBS: STANDARD DEVIATION, http://www.pbs.org/standarddeviantstv/transcript_business.html (last visited May 1, 2019).

462. See Laura Pappano, *The iGen Shift*, N.Y. TIMES, Aug. 5, 2018, at F6 (describing how colleges have learned to adapt to a generation of students who are *digital natives*). Mobile devices are not really technology to them. *Id.* Banks are developing electronic services tailored to meet the preferences of millennials for apps and websites. Brian Patrick Eha, *Big Banks Are Winning the Battle for Millennials*, AM. BANKER (May 5, 2016, 4:39 PM), <http://www.americanbanker.com/news/big-banks-are-winning-the-battle-for-millennials>.

463. See Pappano, *supra* note 462.

One way courts may be able to develop sensible rules is by testing possible analogies.⁴⁶⁴ For example, is a consumer entering into a contract using a desktop or laptop and clicking on a button labeled “I agree” with a mouse analogous to touching or tapping on a much smaller button on the much smaller screen of a smartphone?⁴⁶⁵ Social scientists with expertise in perception and cognition may be able to provide information to inform a court’s answer to that question.⁴⁶⁶ If it is not analogous, how are tapping and touching different, and do those differences require a different legal rule?⁴⁶⁷

Consumers have very different levels of skill when using computers, as some courts have recognized.⁴⁶⁸ Courts should consider whether legal standards should vary depending on the type of consumer the product is aimed at.⁴⁶⁹ For example, products specifically targeting the elderly may call for stricter rules or standards.⁴⁷⁰ While this is the sort of distinction that would be suitable for an agency such as the FTC, courts also have experience making these determinations.⁴⁷¹

In addition, courts need to keep struggling with basic questions related to online contract formation.⁴⁷² One example is: Who is “the master of the offer?”⁴⁷³ And who is the offeror?⁴⁷⁴ Maybe the courts can resolve

464. See Richard A. Posner, *Reasoning by Analogy*, 91 CORNELL L. REV. 761, 764–65 (2006).

465. See Juliet M. Moringiello & William L. Reynolds, *From Lord Coke to Internet Privacy: The Past, Present, and Future of the Law of Electronic Contracting*, 72 MD. L. REV. 452, 480 (2013); RESTATEMENT OF CONTRACTS § 2 (AM. LAW INST., Discussion Draft 2017).

466. See Shmuel I. Becher, *Behavioral Science and Consumer Standard Form Contracts*, 68 LA. L. REV. 117, 119 (2007).

467. See *id.*; *Designing for Touch: The Science of Tap vs. Click*, ORTHOGONAL, <http://www.orthogonal.io/user-experience-design/designing-touch-science-tap-click/> (last visited May 1, 2019).

468. *Nguyen v. Barnes and Noble Inc.*, 763 F.3d 1171, 1179 (9th Cir. 2014).

469. See Joshua C. P. Reams, Comment, *Twenty-First Century Advertising and the Plight of the Elderly Consumer*, 52 WILLAMETTE L. REV. 325, 349 (2016).

470. See *id.*

471. *Nguyen*, 763 F.3d at 1179. For example, courts deciding cases under the Fair Debt Collection Practices Act have developed the *least sophisticated consumer standard*. *Ellis v. Solomon & Solomon, P.C.*, 591 F.3d 130, 135 (2d Cir. 2010); see also 15 U.S.C. § 1692 (2012); *Russell v. Equifax A.R.S.*, 74 F.3d 30, 34 (2d Cir. 1996). For an example of an agency establishing rules tailored to a specific transactional environment, see the FTC’s door-to-door sales rule. 16 C.F.R. § 429.1 (2018).

472. See Smith, *supra* note 315, at 524.

473. Stephen Y. Chow, *Contracting in Cyberspace: The Triumph of Forms?*, BOS. B.J., May–June 1997, at 16, 26.

474. See *id.*

their disagreement on that issue, or perhaps it all depends on the circumstances.⁴⁷⁵

Another issue arises in transactions, like those of the Starbucks and Best Buy customer, where there is an underlying account agreement as well as each individual sales transaction.⁴⁷⁶ Is every sale a separate contract, or does every sale constitute additional terms to the original contract establishing the underlying account agreement?⁴⁷⁷

A major impediment to timely and fruitful development of case law on these questions is the ubiquity of mandatory pre-dispute arbitration clauses in consumer contracts.⁴⁷⁸ Arbitration agreements result in far fewer opportunities for courts to grapple with these issues.⁴⁷⁹ This is a serious problem, given the wide variety of hardware and software, resulting in many different online contracting environments.⁴⁸⁰ For the optimal development of the law, courts need to be exposed to as many different online environments as possible.⁴⁸¹ Case law development is incremental, with each case serving as potential precedent or guidance for future cases.⁴⁸² Arbitration removes many cases from that source of precedent.⁴⁸³ Sound case law development will be difficult to achieve if the majority of consumer transactions never reach the courts.⁴⁸⁴

475. See *id.* at 26–27.

476. RESTATEMENT OF CONSUMER CONTRACTS § 2, at 35 (AM. LAW INST., Discussion Draft 2017); Kristin B. Cornelius, *Standard Form Contracts and a Smart Contract Feature*, INTERNET POL'Y REV. May 2018, <http://www.policyreview.info/node/790/pdf>.

477. See RESTATEMENT OF CONSUMER CONTRACTS § 2, at 35 (AM. LAW INST., Discussion Draft 2017).

478. Mindy R. Hollander, Note, *Overcoming the Achilles' Heel of Consumer Protection: Limiting Mandatory Arbitration Clauses in Consumer Contracts*, 46 HOFSTRA L. REV. 363, 363 (2017).

479. See *id.*; Jessica Silver-Greenberg & Robert Gebeloff, *Arbitration Everywhere, Stacking the Deck of Justice*, N.Y. TIMES, Nov. 1, 2015, at A1.

480. See Cornelius, *supra* note 476.

481. See Register.com, Inc., 356 F.3d at 403.

482. *Precedent and the Doctrine of Stare Decisis* (Let the Decision Stand), IND. JUD. BRANCH, <http://www.in.gov/judiciary/2675.htm> (last visited May 1, 2019).

483. Jean R. Sternlight, *Creeping Mandatory Arbitration: Is It Just?*, 57 STAN. L. REV. 1631, 1661–62 (2005) (opining that arbitration “eliminates the development of public precedent . . . we hope that our public litigation system will ensure predictable, fair, and consistent interpretation of the society’s laws”); see also LLEWELLYN, *supra* note 13, at 63–64 (describing how courts respond to new business practices by following precedent or depart[ing] from earlier molds).

484. See Hollander, *supra* note 478, at 363; Silver-Greenberg & Gebeloff, *supra* note 479.

C. *Independent Development of Principles, Standards, Model Acts, and Best Practices*

Independent organizations could provide a useful role by drafting principles, standards, model statutes, and best practices that could serve as guides for legislatures and courts developing the law of consumer cyber-contracting.⁴⁸⁵ For example, the ALI has issued model acts and principles for software contracts.⁴⁸⁶ Industry associations have published best practices policies.⁴⁸⁷ Consumer organizations have recommended model acts.⁴⁸⁸

Assuming organizations will develop guides that specifically address cyber-contracting, the challenge for legislatures and courts will be to determine which guides to follow.⁴⁸⁹ Those suggested by the industry likely will not be consistent with or supported by consumer groups, and vice versa.⁴⁹⁰ In addition, because the marketplace changes so significantly and rapidly, guides may quickly become obsolete.⁴⁹¹ Furthermore, policymakers will have to decide among a variety of approaches, including required disclosures, substantive rules, dispute and error resolution mechanisms, and burdens and presumptions.⁴⁹² Despite the difficulties, independent organizations should be encouraged to consider making this contribution to the future evolution of the law of online contracting.⁴⁹³

485. See PRINCIPLES OF THE LAW OF SOFTWARE CONTRACTS, at 2.

486. See *id.* The principles are “intended to guide the drafting of software contracts and assist in judicial resolution of disputes involving software [contracts].” *Principles of the Law, Software Contracts*, A.L.I., <http://www.ali.org/publications/show/software-contracts/> (last visited May 1, 2019). The Uniform Commercial Code is an example of a model act that has been adopted by every state and the District of Columbia, but with many jurisdictions making limited modifications. Mooney, Jr., *supra* note 140, at 1346–47.

487. SPARK INST., INC., *INDUSTRY BEST PRACTICE DATA SECURITY REPORTING* 2 (2017), <http://www.sparkinstitute.org/pdf/SPARK%20Data%20Security%20Industry%20Best%20Practice%20Standards%209-2017.pdf>.

488. See *Model State Laws*, NAT’L CONSUMER L. CTR., <http://www.nclc.org/legislation-regulation/model-state-laws.html> (last visited May 1, 2019). The National Consumer Law Center, along with other consumer organizations, has drafted many model acts. *Id.*; *Uniform Laws*, CORNELL L. SCH.: LEGAL INFO. INST., <http://www.law.cornell.edu/uniform> (last visited May 1, 2019).

489. See *Uniform Laws*, *supra* note 488.

490. Compare SPARK INST., INC., *supra* note 487, at 1, with *Model State Laws*, *supra* note 488.

491. See Maria Matarelli, *How Can Businesses Adapt to a Rapidly Changing World?*, FORBES (Jan 5, 2018, 6:01 PM), <http://www.forbes.com/sites/quora/2018/01/05/how-can-businesses-adapt-to-a-rapidly-changing-world/#3aecac955930>.

492. See *Uniform Laws*, *supra* note 488.

493. See Christopher Tay, *Contracts, Technology, and Electronic Commerce: The Evolution Continues*, 9 J.L. & INFO. SCI. 177, 177–78 (1998).

In order to gain consumer trust and comfort, entering into contracts online needs to be done in an environment that is secure.⁴⁹⁴ Independent organizations have developed standards for certifying a company's data security and privacy protection.⁴⁹⁵ Policymakers should encourage the development of programs for monitoring and evaluating consumer websites for their security, privacy protection, clarity, transparency, and ease in the contract formation process.⁴⁹⁶

VII. CONCLUSION

Legal rules related to the formation of contracts are crucial to every transaction.⁴⁹⁷ They are necessary when disputes arise about when parties entered into a contract, and even whether they entered into a contract at all.⁴⁹⁸ Considering how they went about agreeing is a vital component in evaluating whether there is a valid contract and what the terms of that contract are.⁴⁹⁹

The legal rules that apply to each of these issues have been thrown into doubt when companies and consumers form contracts online.⁵⁰⁰ Courts and legislatures have failed to respond in a timely and adequate manner.⁵⁰¹ Meanwhile, new online e-commerce environments are constantly introduced into the marketplace, causing the law to fall further behind.⁵⁰²

In order to flourish, e-commerce needs legal rules for online contract formation that provide clarity and certainty for businesses while permitting

494. See Sue Pelletier, *3 Ways to Make Your Contracts More Cyber-Secure*, MEETINGSNET (Jan. 23, 2018), <http://www.meetingsnet.com/negotiating-contracts/3-ways-make-your-contracts-more-cyber-secure>.

495. See *Resilinc Awarded Two of the World's Most Stringent Data Security and Privacy Certifications*, CISION PRWEB (Aug. 28, 2018), http://www.prweb.com/releases/resilinc_awarded_two_of_the_worlds_most_stringent_data_security_and_privacy_certifications/prweb15717147.htm. Cision PRWeb reported that the company complied with requirements for "the ISO/IEC 27001 standard for information security; the US-EU Privacy Shield Framework; and the EU's Global Data Protection Regulation." *Id.*

496. See *Task Force on Cybersecurity*, NAT'L CONFERENCE OF STATE LEGIS. (Jan. 23, 2019), <http://www.ncsl.org/ncsl-in-dc/task-forces/task-force-on-cybersecurity.aspx>.

497. See Dodd & Hernandez, *supra* note 91, at 3; Nimmer, *supra* note 115, at 260.

498. Nimmer, *supra* note 115, at 260.

499. See *id.*; Dodd & Hernandez, *supra* note 91, at 3-4.

500. See Budnitz, *supra* note 13, at 742; *Challenges of E Commerce to Traditional Contracts*, *supra* note 348.

501. See *A Primer on the Basic Law of E-Commerce*, LAW OFFICES STIMMEL, STIMMEL & SMITH, <http://www.stimmel-law.com/en/articles/primer-basic-law-e-commerce> (last visited May 1, 2019).

502. See Malan, *supra* note 56.

them to innovate and experiment.⁵⁰³ Consumers need laws that ensure they know what they are agreeing to and to do so in a setting that is secure.⁵⁰⁴

503. See *Challenges of E Commerce to Traditional Contracts*, *supra* note 348.

504. See Armel Nkuzimana, *E-Commerce and Consumer Protection*, *SERV. MAG.* (Jan. 29, 2017), <http://www.theservicemag.com/e-commerce-and-consumer-protection/>.