



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**COMBATting EROSION OF VOTER CONFIDENCE
WITH INNOVATION OF ELECTION
ADMINISTRATION**

by

Chad A. Houck

September 2021

Co-Advisors:

Cristiana Matei

Christopher Bellavita (contractor)

Approved for public release. Distribution is unlimited.

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC, 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE September 2021		3. REPORT TYPE AND DATES COVERED Master's thesis
4. TITLE AND SUBTITLE COMBATTING EROSION OF VOTER CONFIDENCE WITH INNOVATION OF ELECTION ADMINISTRATION			5. FUNDING NUMBERS	
6. AUTHOR(S) Chad A. Houck				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.			12b. DISTRIBUTION CODE A	
13. ABSTRACT (maximum 200 words) This thesis explores how the training of poll workers in general, and their technology training specifically, could be improved to enhance the voter experience and increase voter confidence in the election process. To this end, interviews were conducted with poll-worker trainers from counties small and large, as well as a focus group convened to gain perspective on the training experience from first-time poll workers who served during the November 2020 presidential election. The interviews and focus groups showed that while significant effort goes into training poll workers, the average training amounts to less than four hours, and training for technology presents an increasing challenge to those delivering training and those using the technology or introducing it to the voter. Due to a high sense of civic duty and responsibility, poll workers showed significant interest and used extra time and training materials when made available. Therefore, this thesis recommends creating additional training materials, along with a program for recognizing those who take advantage of them. This additional training will raise poll-worker competency with procedures and technology, ultimately improving voter experiences at the polls and combating the erosion of voter confidence.				
14. SUBJECT TERMS elections, election integrity, voter confidence, election training, technology, policy, poll worker			15. NUMBER OF PAGES 127	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release. Distribution is unlimited.

**COMBATTING EROSION OF VOTER CONFIDENCE WITH INNOVATION
OF ELECTION ADMINISTRATION**

Chad A. Houck
Chief Deputy Secretary of State, Idaho Secretary of State
BSBA, University of Montana, 1996

Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL
September 2021**

Approved by: Cristiana Matei
Co-Advisor

Christopher Bellavita
Co-Advisor

Erik J. Dahl
Associate Professor, Department of National Security Affairs

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

This thesis explores how the training of poll workers in general, and their technology training specifically, could be improved to enhance the voter experience and increase voter confidence in the election process. To this end, interviews were conducted with poll-worker trainers from counties small and large, as well as a focus group convened to gain perspective on the training experience from first-time poll workers who served during the November 2020 presidential election. The interviews and focus groups showed that while significant effort goes into training poll workers, the average training amounts to less than four hours, and training for technology presents an increasing challenge to those delivering training and those using the technology or introducing it to the voter. Due to a high sense of civic duty and responsibility, poll workers showed significant interest and used extra time and training materials when made available. Therefore, this thesis recommends creating additional training materials, along with a program for recognizing those who take advantage of them. This additional training will raise poll-worker competency with procedures and technology, ultimately improving voter experiences at the polls and combating the erosion of voter confidence.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	ADDRESSING VOTER CONFIDENCE	2
B.	RESEARCH QUESTION	3
C.	LITERATURE REVIEW	3
	1. Chronological and Progressing Datasets	4
	2. Drivers of and Impacts on Voter Confidence.....	6
	3. Election Administration and Technology	14
D.	RESEARCH DESIGN.....	15
E.	THESIS OVERVIEW	18
II.	WHY VOTER CONFIDENCE MATTERS.....	19
A.	SUSTAINING DEMOCRACY TO RETAIN THE REPUBLIC	20
B.	EVENTS ILLUSTRATING LACK OF CONFIDENCE.....	21
	1. Not My President: Trump v. Clinton, 2016.....	22
	2. The Rise of Militancy against a Backdrop of COVID and George Floyd's Death, 2020	24
	3. Capitol Incursion, January 6, 2021	27
C.	EXTERNAL FACTORS CONTRIBUTING TO EROSION OF CONFIDENCE.....	29
	1. Increased Visibility and Scrutiny of Technology in Elections	30
	2. Misinformation, Disinformation, and the Emergence of Fake News	32
	3. Social Media as a Gatekeeper	34
	4. Collective Summary of Social Media as a Gatekeeper	38
D.	CHAPTER SUMMARY.....	38
III.	DRIVERS OF VOTER CONFIDENCE.....	41
A.	PROXIMITY AND UNDERSTANDING.....	41
B.	ELECTION ADMINISTRATION	43
C.	POLL-WORKER POLICY AND PROCESS TRAINING	44
D.	POLL WORKERS AND TECHNOLOGY IN ELECTION ADMINISTRATION	45
	1. Timing of Technology Rollouts.....	46
	2. Poll-Worker Technology Training	47
E.	CHAPTER SUMMARY.....	48

IV.	RESEARCH	49
A.	POLL-WORKER FOCUS GROUP	49
B.	FOCUS GROUP ANALYSIS	58
C.	ELECTION COORDINATOR INTERVIEWS	59
	1. Large Jurisdiction Analysis	62
	2. Small Jurisdiction Analysis.....	65
	3. Comparative Analysis: Large versus Small County.....	66
V.	CASE STUDIES.....	69
A.	FAILURE OF THE 2020 IOWA CAUCUS APP.....	70
	1. Time.....	71
	2. Experience	72
	3. Funding	73
	4. Contingency Planning.....	73
	5. A Set-Up for Failure	74
B.	SUCCESS OF THE 2016 IOWA CAUCUS APP.....	76
	1. Experience as a Predictor of Success	76
	2. Time.....	77
	3. Finances	78
	4. Contingency Planning.....	78
C.	CASE STUDY COMPARATIVE ANALYSIS	78
	1. Experience	79
	2. Time.....	79
	3. Funding	79
	4. Contingency Plans.....	79
D.	CASE STUDY TRANSLATION: BRINGING THE LESSONS LEARNED TO THIS THESIS	81
VI.	FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS	83
A.	FINDINGS AND ASSOCIATED CONCLUSIONS.....	83
B.	RECOMMENDATIONS FOR COMBATTING THE EROSION OF VOTER CONFIDENCE.....	88
C.	FUTURE RESEARCH.....	93
	LIST OF REFERENCES.....	95
	INITIAL DISTRIBUTION LIST	103

LIST OF FIGURES

Figure 1.	Voter Confidence by Party, 2004–2020.....	6
Figure 2.	A Visual Representation of the Literature	9
Figure 3.	Pathway to Voter Confidence	13
Figure 4.	Timeline of Russian Links to the 2016 U.S. Election.....	23
Figure 5.	Mainstream News versus Fake News on Facebook.....	33
Figure 6.	Number of Fake Accounts Removed by Facebook, 2017–2021	36
Figure 7.	Narrowing in on Drivers of Voter Confidence	41
Figure 8.	The Causal Impact of Poll-Worker Training	44
Figure 9.	Causal Map of 2020 App Failure.....	75
Figure 10.	Impacts of Poll-Worker Actions on In-Person Voter Experience	85
Figure 11.	Footprints of Training Impacts on Voter Confidence.....	93

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Large Jurisdiction Demographics as of November 2020.....	60
Table 2.	Small Jurisdiction Demographics as of November 2020.....	63
Table 3.	Comparative Analysis.....	68
Table 4.	Comparative Analysis, Iowa Caucus Apps.....	81

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

BLM	Black Lives Matter
DNC	Democratic National Committee
EPB	electronic pollbook
ES&S	Elections Software & Solutions, Inc.
IRB	Institutional Review Board
NPS	Naval Postgraduate School
PPE	personal protective equipment
VAP	voting age population

THIS PAGE INTENTIONALLY LEFT BLANK

EXECUTIVE SUMMARY

The United States of America has enjoyed a largely peaceful history of transitions of power since the first presidential election in 1789.¹ This 230-year history is owed, in part, to the electorate's acceptance of the election outcomes that have transpired. Voter confidence—the measure of the collective trust of the voters in both the system of elections and the outcomes it produces—has been more heavily studied since the legal challenges that overshadowed the outcome of the 2000 presidential election. According to a 2016 Gallup poll, when a sample of Americans were asked whether they had confidence in the honesty of elections in the United States, fewer than a third replied yes.² In the years that followed, leading up to the 2020 election, that number slipped even further, matching the all-time low on record since 2000.³

The path to addressing voter confidence requires an understanding of the components that either contribute to or erode its existence. To that end, a review of the literature in this space was conducted to identify these contributing factors, both external and internal. External factors include the social media landscape, as well as both international and domestic influences that are constantly evolving. Internal factors focus more on policies and procedures, as well as people who either implement or train others to execute these procedures. Among these individuals, poll workers represent the single greatest factor, as they significantly outnumber professional or full-time election staff in

¹ D. Jason Berggren, “Presidential Election of 1789,” George Washington’s Mount Vernon, accessed January 9, 2021, <http://www.mountvernon.org/library/digitalhistory/digital-encyclopedia/article/presidential-election-of-1789/>.

² Justin McCarthy and John Clifton, “Update: Americans’ Confidence in Voting, Election,” Gallup, November 1, 2016, <https://news.gallup.com/poll/196976/update-americans-confidence-voting-election.aspx>.

³ Justin McCarthy, “Confidence in Accuracy of U.S. Election Matches Record Low,” Gallup, October 8, 2020, <https://news.gallup.com/poll/321665/confidence-accuracy-election-matches-record-low.aspx>.

most jurisdictions where in-person election-day voting takes place at polling locations.⁴ Of interest to this thesis is whether improvements in the training of these poll workers, including training to use technology on election day, could improve poll-worker competency and aid in combatting the erosion of voter confidence.

Among the research on poll workers, scholars have debated which factors matter most—the procedures used, the personnel applying those procedures, or the voter experience that results from them.⁵ Perhaps the most compelling argument is one that likens the role of a poll worker to that of a customer service agent in a consumer setting.⁶ By connecting voter confidence to poll-worker competency, Claassen et al. establish a foundation from which this project builds.⁷ This thesis agrees that a chain of variables—from the correct understanding of procedures to well-trained personnel—contributes to positive voter experience and that focusing on that chain as a whole is more effective than fixating on a single link in the chain. Simply having the right people without proper training or the right procedures without poll-worker understanding will not get the job done. This thesis extends on that basis by examining where that process can be improved, specifically around poll-worker training.

The literature on technology implementation in elections, another internal driver, provides additional insight through the lenses of both successful and failed

⁴ Poll workers are temporary, part-time employees, trained before their service in a group setting and only for a limited number of hours. In-person, election-day voting is the focus of this thesis, as it is a common procedure in states that do not use ballot-by-mail or absentee-type procedures. The author believes that this focus provides the greatest opportunity for improving voter confidence because of the accessibility of the internal variables involved, most of which are controlled or at least managed by the election administrator.

⁵ Toby S. James, *Comparative Electoral Management: Performance, Networks and Instruments* (London: Routledge, 2020), <https://www.routledge.com/Comparative-Electoral-Management-Performance-Networks-and-Instruments/James/p/book/9781138682412>; Lonna Rae Atkeson and Kyle L. Saunders, “The Effect of Election Administration on Voter Confidence: A Local Matter?,” *PS: Political Science & Politics* 40, no. 4 (October 2007): 655–60, <https://doi.org/10.1017/S1049096507071041>; Bridgett A. King and Alicia Barnes, “Descriptive Representation in Election Administration: Poll Workers and Voter Confidence,” *Election Law Journal: Rules, Politics, and Policy* 18, no. 1 (March 2019): 16–30, <https://doi.org/10.1089/elj.2018.0485>.

⁶ Ryan L. Claassen et al., “‘At Your Service’: Voter Evaluations of Poll Worker Performance,” *American Politics Research* 36, no. 4 (July 2008): 612–34, <https://doi.org/10.1177/1532673X08319006>.

⁷ Claassen et al.

implementations. Within this space, this thesis leverages two such cases from Iowa in 2016 and 2020 to provide a comparative analysis of the constraints of time, funding, expertise, and contingency planning.⁸ From this analysis, a set of recommended practices is provided for technology implementation, specifically relating to poll-worker training on the use of technology or in preparation to educate the public on its use.

To supplement the gaps found in the literature surrounding potential improvements to poll-worker preparation, this author conducted original research through interviews with county-level poll-worker trainers. These trainers answered questions about the challenges and limitations they faced, resistance they had to overcome, and successes they achieved, as well as how those successes could be replicated by others in the space. In addition, a focus group was convened, comprising first-time poll workers from the November 2020 presidential election. The emphasis on “first-time” was meant to zero in on the initial training experience, as a typical first-time worker is undifferentiated in the polling location from a veteran poll worker. These focus group participants were asked to share their successes, failures, misunderstandings, concerns, and overall experience from a training perspective and on the day of election. The feedback provided during the interviews and focus group led to the following generalized findings and conclusions.

1. A voter’s experience at the polls has a direct corollary relationship to a voter’s confidence in the integrity of the election system; therefore, it is in the best interest of the elections community to ensure that those poll experiences be as positive as possible.
2. Poll workers are largely temporary, part-time staff who directly affect a voter’s overall experience, either positively or negatively, after an average of less than four hours of training time; therefore, the manner and method used in training poll workers are crucial in increasing their preparedness.

⁸ Kim Smiley, “Case Study: Iowa Caucus Results Delay,” *ThinkReliability* (blog), March 2, 2020, <https://blog.thinkreliability.com/case-study-iowa-caucus-results-delay>; Sara Morrison, “Iowa’s 2016 Caucus App Worked and Everyone Forgot about It,” *Vox*, February 7, 2020, <https://www.vox.com/recode/2020/2/7/21125078/iowa-caucus-2016-mobile-app-2020>.

3. Voters who have a greater understanding of the processes of an election have less reason to interact at length with poll workers; therefore, voter education is a critical component in combatting the erosion of voter confidence.
4. Material for a voter-education campaign would closely resemble a campaign to increase poll-worker understanding and preparedness. As such, it would be possible to create common media or educational material.
5. Technology is becoming more prominent in polling locations; therefore, poll workers must have opportunities to work with the technology well before election day.
6. To voters, first-time poll workers are indistinguishable from their more-experienced colleagues in an election environment. This lack of visual differentiation places less-experienced poll workers at risk of failing to meet voter expectations.
7. Because poll workers sense a high degree of civic duty and desire to do the job well, they are more likely to take advantage of additional non-mandatory training, especially on technology that will be utilized in a jurisdiction.

These conclusions led to the following recommendations:

1. Engage in additional research in use of online learning modules and certification exams for poll workers.
2. Standardize broadly applicable procedures of election administration.
3. Recruit a new generation of poll workers with technology familiarity.
4. Create a voter-education plan that can be utilized for poll-worker training.
5. Appropriate funding for the purpose of poll-worker training.

6. Utilize recommended practices for implementing technology in polling locations, including the time to develop, time to troubleshoot, and time to train.
7. Familiarize the public with the technology before its use on election day.
8. Test poll workers for both comprehension and retention of knowledge.
9. Design additional resources for up-skilling and acknowledging poll workers.
10. Employ gamification in the poll-worker training process using merit badge IDs and explain the training provided and badge meanings/topics to the public.

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

First and foremost, as I approach the end of my crazy-long COVID-restriction-filled journey that I had the pleasure of traversing with my cohort at NPS (or ironically, *not* at NPS), my greatest appreciation goes to those closest to home and to the Lord who blessed me with them. To my wife, Amy, and our children, Emily and Dillon, I so greatly appreciate all the uninterrupted hours you gave me at your expense to make this project happen. While this degree will be an accomplishment, you represent my greatest earthly treasures and my proudest accomplishments.

To my thesis advisors, Dr. Cristiana Matei and Dr. Christopher Bellavita, your encouragement in the home stretch gave me the extra wind in my sails to complete the journey. Thank you for pushing me. To my editor Noel Yucuis, I'm sorry—and you are a saint or a genius or quite possibly both. To Greta Marlatt, thank you for your assistance in sourcing and citing all this information.

I am indebted to Idaho Secretary of State Lawrence Denney and his wife, Donna; thank you for your unending support in this endeavor, your mentorship, and your guidance in all things. God bless you.

I offer special gratitude to my mother, Linda Houck, for the time she invested in me from my youth, always believing in my ability to accomplish anything, and for reading my writing with such enthusiasm. She taught me to shoot for the stars—to allow nothing to stop the pursuit of a goal.

Paul and Sheryll, thank you for the countless meals and associated refreshments that you provided so I could stay focused on writing and research when I needed to, and so I could likewise avoid focusing on the same when it was time to set it aside.

To our incredible team at the Office of the Idaho Secretary of State, thank you for covering for me when I was unavailable due to class or writing time and for giving me a sounding board against which to bounce the ideas of this project.

For encouraging me to apply to the Naval Postgraduate School and for supporting my application with his endorsement, I wish to express my deepest gratitude to retired USAF General Brad Richy. It has been an honor, sir, to follow the path you have blazed.

It is with sincere respect for and admiration of the work of Idaho's 44 county clerks and their election staff that this project is offered. To all of you, thank you for your assistance, your ears, and your insight in providing the groundwork upon which this thesis is built. Your focus and commitment to running the elections of the state of Idaho with integrity are recognizably keeping us at the forefront of the nation's conversation on the subject, and I appreciate you all for what you do for so many with so little recognition.

Finally, to my cohort and colleagues, thank you simply for putting up with me and for daring with me, as our class motto says, to "be brave enough"

I. INTRODUCTION

Since the first U.S. presidential ballot was cast on Monday, December 15, 1788—the only such election to date that has spanned two years—the process of elections in the United States has been marked by an evolution of both policy and technology.¹ One thing that has remained constant over the 230 years of America’s practice of democracy, however, is that those in power have consistently relinquished the powers inherent to the office of president to the newly chosen leader, selected by and for the people, without incident. This uniquely democratic surrender to the will of the people is known as the peaceful transition of power and stands in stark contrast to the violent coups—military or civilian—and turmoil that often go hand in hand with the removal of heads of state by their adversaries in other parts of the world. Such a peaceful transition is only possible, however, if there is sufficient collective trust in the process for both the inbound and outbound parties to accept the results. This collective sentiment of the voters concerning the acceptability of an election’s outcome, and their trust in the system used to declare that outcome, is often referred to as voter confidence, and both statistics and current events show that it is in decline.

The term “voter confidence” gained broad use in American political discourse and began to be more closely evaluated following the highly contested legal challenges that decided the result of the 2000 presidential election. According to data collected by Gallup polls since that time, American confidence that votes will be counted as cast in a national election dropped significantly in 2008, possibly because that presidential election posted the highest percentage of voter turnout since 1908—leading to questions about the integrity of the voter rolls. The measure of voter confidence recovered only marginally in the years since, and pre-election data in October of 2020 showed that respondents’ pessimism had

¹ D. Jason Berggren, “Presidential Election of 1789,” George Washington’s Mount Vernon, accessed January 9, 2021, <http://www.mountvernon.org/library/digitalhistory/digital-encyclopedia/article/presidential-election-of-1789/>.

returned to 2008 levels ahead of the 2020 presidential election.² According to a 2016 Gallup poll, when a sample of Americans were asked whether they had confidence in the honesty of elections in the United States, fewer than a third replied yes—ranking the United States 90th among the 112 countries Gallup surveyed that year.³ The point at which low voter confidence triggers a failure of U.S. democratic processes is unknown; ostensibly, the nation has yet to reach that point given the republic has persisted now for over 230 years. However, as the events of January 6, 2021, have shown, the nation may be teetering perilously close to the edge. As such, if the nation is to uphold and sustain its fragile existence, factors driving voter confidence must be clearly identified and models for improving voter confidence derived.

A. ADDRESSING VOTER CONFIDENCE

In examining the factors that affect voter confidence, election administration seems an appropriate first place to look.⁴ Indeed, Dr. Lonna Rae Atkeson—director of the Center for the Study of Voting, Elections, and Democracy at the University of New Mexico—and Dr. Kyle L. Saunders—professor of political science at Colorado State University—posit that increasing voter confidence in any democratic election system will “strengthen the political system” because citizens believe that the office was legitimately obtained.⁵ For

² “5 Reasons Why the 2008 Election Is Historic,” *U.S. News & World Report*, November 5, 2008, <https://www.usnews.com/opinion/articles/2008/11/05/5-reasons-why-the-2008-election-is-historic>; Pew Research Center, “Voting Concerns and Confidence,” in *Liberal Dems Top Conservative Reps in Donations, Activism* (Washington, DC: Pew Research Center, 2008), 11–12, <https://www.pewresearch.org/politics/2008/10/23/section-3-voting-concerns-and-confidence/>; Justin McCarthy and John Clifton, “Update: Americans’ Confidence in Voting, Election,” Gallup, November 1, 2016, <https://news.gallup.com/poll/196976/update-americans-confidence-voting-election.aspx>; Justin McCarthy, “Confidence in Accuracy of U.S. Election Matches Record Low,” Gallup, October 8, 2020, <https://news.gallup.com/poll/321665/confidence-accuracy-election-matches-record-low.aspx>.

³ McCarthy and Clifton, “Americans’ Confidence.”

⁴ Election administration is the collection of processes and procedures whereby elections are run, the framework or system in which an election is conducted.

⁵ Lonna Rae Atkeson and Kyle L. Saunders, “The Effect of Election Administration on Voter Confidence: A Local Matter?,” *PS: Political Science & Politics* 40, no. 4 (October 2007): 658, <https://doi.org/10.1017/S1049096507071041>. Given that elections and election administration are certainly not an exclusively American phenomenon, Atkeson and Saunders suggest there is value in reviewing the practices of countries whose election confidence scores are higher than those of the United States, especially practices that directly contact or affect the individual voter. These practices include voter registration, voter check-in, and interactions with poll workers, among others.

citizens to have confidence in an election system or process, and thus believe that an elected office was legitimately obtained, they must have a basic understanding of the system's tools, safeguards, and policies to produce the election result. Therefore, election administration technologies used in the presence of electors or directly by electors may increase or decrease voter confidence. Because voters often see poll workers, not professional election administrators, use this type of technology or guide voters in its use, it is imperative to consider how these workers are trained for this task and how these tools are deployed.⁶

The January 6, 2021, takeover of the U.S. Capitol Building exemplified that Americans live in a deeply polarized nation, perhaps almost as divided as in Civil War times. To continue the tradition of the peaceful transition of power and thus sustain our constitutional republic, this divided electorate must hold that the results of an election are accurate and valid. Such an objective is difficult to achieve if poll workers who do not understand the technology being used to conduct the election, or the process of the election itself, project a lack of confidence or capability to the voter and, thus, erode voter confidence.

B. RESEARCH QUESTION

How can the training of poll workers in general, and specifically their training in the use of technology, be improved to enhance the voter experience and increase voter confidence in the election process?

C. LITERATURE REVIEW

Starting after the recounts triggered by the U.S. presidential election of 2000, the term voter confidence found its way both into political discourse and academic research. While a significant body of literature discusses voter confidence in the integrity of U.S.

⁶ Poll workers are temporary, part-time employees, trained before their service in a group setting and only for a limited number of hours. Over 60 percent of U.S. poll workers are over the age of 61, with 27 percent over 70, according to Pew Research Center. Michael Barthel and Galen Stocking, "Older People Account for Large Shares of Poll Workers and Voters in U.S. General Elections," Pew Research Center, April 6, 2020, <https://www.pewresearch.org/fact-tank/2020/04/06/older-people-account-for-large-shares-of-poll-workers-and-voters-in-u-s-general-elections/>.

elections, it generally falls into one of two larger groups. The first group comprises studies and reports that use polling to measure voter confidence after the fact and track its movement along a timeline concurrent with an overlay of the events that may have caused its ascents and declines. Dominated by reports from research foundations and polling organizations such as Pew and Gallup, the purpose of this group of literature is to provide a regularly and continually updated dataset along an ever-growing timeline, allowing researchers to reflect on and apply historical context to events, view the results of actions taken, or see the hindsight impact of situations that occurred. The second group consists of literature authored by academics who strive to uncover what constitutes voter confidence, get to the root of its creation or erosion, and ultimately recommend how to sustain and possibly improve it. It is to this second group that this author hopes to contribute this thesis, though not without an understanding of the importance of the first group, for as Winston Churchill said in his 1948 address to the House of Commons, “Those who fail to learn from history are condemned to repeat it.”⁷

1. Chronological and Progressing Datasets

Gallup and Pew both started recording voter sentiment on the validity of elections during the 2004 presidential election, which represents the starting point for graphs shown ever since.⁸ While these surveys may have made minor changes, they generally asked how confident voters were that their ballots would be counted as cast. Since the first study of elector confidence, high and low points have correlated with specific events on the larger U.S. election timeline. As mentioned, the literature shows collectively that a baseline was established in 2004 from which the voters’ level of confidence would ascend or decline. For example, in 2016, Gallup’s Justin McCarthy and Jon Clifton observed, “Americans’ current level of confidence in the accuracy of the vote is also similar to the 59% recorded in 2008 but remains lower than what they expressed from 2004 to 2007, when more than

⁷ “Folger Library—Churchill’s Shakespeare,” International Churchill Society, October 21, 2018, <https://winstonchurchill.org/resources/in-the-media/churchill-in-the-news/folger-library-churchills-shakespeare/>.

⁸ Pew Research Center, “Voting Concerns and Confidence”; McCarthy, “Confidence in Accuracy of U.S. Election.”

seven in 10 were ‘very’ or ‘somewhat confident.’”⁹ Similarly, a 2008 Pew Research Center report remarks that “voters’ confidence that their own ballots will be counted accurately has declined somewhat since 2004,” thus reinforcing this 2004 benchmark.¹⁰

A study by Michael Alvarez and Morgan Llewellyn from the California Institute of Technology and Thad Hall from the University of Utah utilized voter turnout statistics to illustrate a 2004–2007 climb disrupted by a 2008 presidential race that saw the highest percentage of turnout in a U.S. election since 1908—not to mention the most diverse electorate in U.S. history.¹¹ In a Pew Research Center report of this same era, the record 2008 turnout serves as another agreed-upon point on the timeline, one that coincides with an apex of the increasing trend in voter confidence. Drew Desilver refers to “the record year of 2008” in his 2021 article on turnout as well.¹² Notably, these timelines once again correlate a high turnout with a drop in voter confidence, affirmed by McCarthy, who states that voter confidence in 2020 matched “the low Gallup recorded in 2008.”¹³

Likewise, the literature on election measurement data agrees that while party-based metrics tend to move in step with the party’s success or failure in obtaining the highest office in the land, there was a general upward trend and recovery in voter confidence from 2008 to 2016, and even on toward 2018’s mid-term elections. For instance, McCarthy’s line graph for Gallup shows how confidence varied based on party affiliation and the lines flipped with each party’s entrance to office (see Figure 1).¹⁴

⁹ McCarthy and Clifton, “Americans’ Confidence.”

¹⁰ Pew Research Center, “Voting Concerns and Confidence.”

¹¹ R. Michael Alvarez, Thad E. Hall, and Morgan H. Llewellyn, “Are Americans Confident Their Ballots Are Counted?,” *Journal of Politics* 70, no. 3 (July 2008): 754–66; Mark Hugo Lopez and Paul Taylor, *Dissecting the 2008 Electorate: Most Diverse in U.S. History* (Washington, DC: Pew Research Center, 2009), <https://www.pewresearch.org/hispanic/2009/04/30/dissecting-the-2008-electorate-most-diverse-in-us-history/>.

¹² Drew Desilver, “Turnout Soared in 2020 as Nearly Two-Thirds of Eligible U.S. Voters Cast Ballots for President,” Pew Research Center, January 28, 2021, <https://www.pewresearch.org/fact-tank/2021/01/28/turnout-soared-in-2020-as-nearly-two-thirds-of-eligible-u-s-voters-cast-ballots-for-president/>.

¹³ McCarthy, “Confidence in Accuracy of U.S. Election.”

¹⁴ McCarthy, “Confidence in Accuracy of U.S. Election.” The author notes that the dates of the parties’ inflections coincide with President Obama’s arrival in 2008 and departure in 2016. The next intersections are in 2017—potentially coinciding with the release of information that the Russian government engaged in interference in the 2016 election—and in 2018—when campaigning for 2020 began.

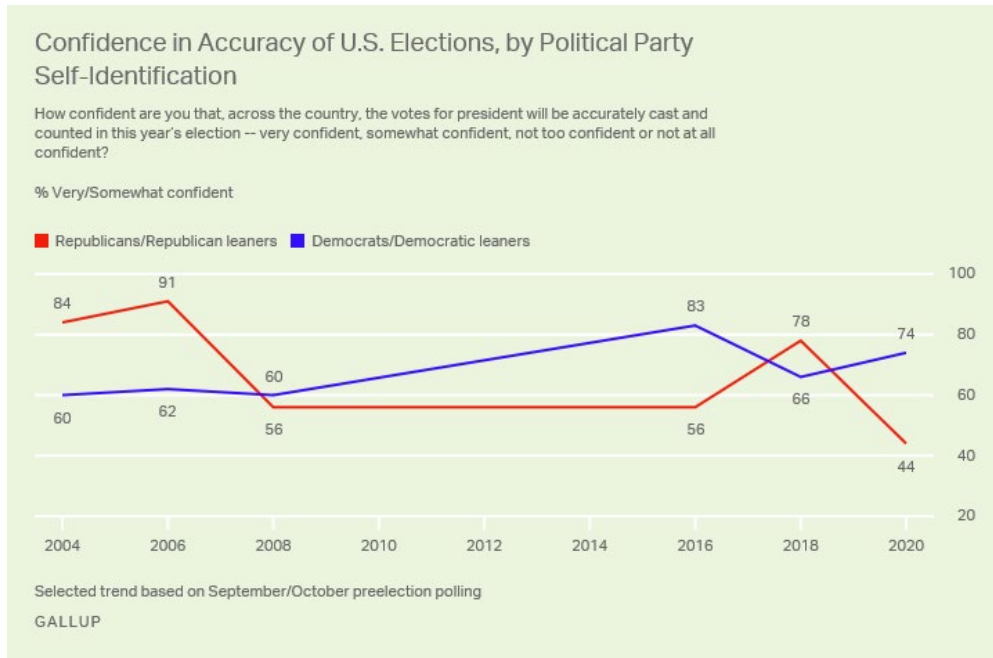


Figure 1. Voter Confidence by Party, 2004–2020¹⁵

In summary, this first group of literature collectively includes the growing chronological dataset within which election participation and confidence, starting with the election of 2004, have been and continue to be numerically quantified. If these numerical assessments are the “what” or the “how many” of voter confidence, the next group of literature is the “why,” as it pertains to factors perceived to drive or erode voter confidence.

2. Drivers of and Impacts on Voter Confidence

The literature surrounding drivers of and impacts on voter confidence seems to fall into two overlapping subcategories. The first, from government and private-sector researchers, details the impacts either successful or failed technology implementations have had on voter confidence, along with the impact that social media, a unique form of technology, has had on voter confidence.

¹⁵ Source: McCarthy, “Confidence in Accuracy of U.S. Election.”

a. Technology

Among literature pertaining to the influences of technology and social media, of interest to this thesis are studies since 2016 that focus on technology implementation or consider the impact of social media on voter preferences and political ideology. This timeline-driven interest is based on a desire to consider material that coincides chronologically with the increased use of social media and technology as a means of international interference in the U.S. election process, as uncovered by the intelligence community after the 2016 presidential election and declassified in a 2017 report.¹⁶ For example, the Senate Select Committee on Intelligence said of Russian involvement in the 2016 election that “this campaign sought to polarize Americans on the basis of societal, ideological, and racial differences, provoked real-world events, and was part of a foreign government’s covert support of Russia’s favored candidate in the U.S. presidential election.”¹⁷ Further investigation revealed that social media was a key tool in swaying voters during election cycles, as evidenced by CNN’s Donnie O’Sullivan, who reported on Facebook’s testimony to the Senate Intelligence Committee: “More than 120 million Americans saw content from the Russian troll group, known as the Internet Research Agency [on Facebook].”¹⁸ This collective body of work clearly agrees on the capacity for social media and technology to drive voter confidence as an outside force.

The influence of technology goes further, however, than just being a medium for political ads, international propaganda, and candidate communication. The literature has

¹⁶ Office of Director of National Intelligence, *Assessing Russian Activities and Intentions in Recent US Elections*, ICA 2017-01D (Washington, DC: Office of Director of National Intelligence, 2017), https://www.dni.gov/files/documents/ICA_2017_01.pdf. Notably, within this set is collective literature pertaining to the cybersecurity risks of using technology in the election process and election technology as a component of U.S. critical infrastructure. Most prominent in this space is work by both the Cybersecurity Infrastructure Security Agency and the intelligence community at large; however, given its sensitive and potentially classified nature, material of this sort is discussed in this thesis only at the declassified level.

¹⁷ Senate Select Committee on Intelligence, *Russian Active Measures Campaigns and Interference on the 2016 U.S. Election [Redacted]*, vol. 2 (Washington, DC: Senate, 2019), 3, https://www.intelligence.senate.gov/sites/default/files/documents/Report_Volume2.pdf.

¹⁸ Donie O’Sullivan, “Russian Trolls Created Facebook Events Seen by More than 300,000 Users,” CNN, January 26, 2018, <https://money.cnn.com/2018/01/26/media/russia-trolls-facebook-events/index.html>. “Troll” is an internet term for a nefarious individual using a fake account to post inflammatory or digressive messages.

shown technology as an internal driver within the election process. Case study analysis can provide valuable insight into the failure points of technologies used by election administrations. For example, in an article analyzing the technology used in the 2020 Iowa caucus, Kim Smiley observes that “only 439 of 1,700 precinct leaders transmitted results successfully using the new app.”¹⁹ Similarly, Pulitzer Prize–winning journalist Matthew Rosenberg states in his review of the same event that “there was simply not enough time to build the app, test it widely to work out major bugs and then train its users.”²⁰

Technology has become a key component of elections in many jurisdictions, but ultimately, technology is employed by the people who physically administer the election. Referred to as election administration, the processes and procedures, people involved, and resulting experience of the voters collectively constitute the second subcategory of the drivers and impacts area of the literature, as shown in Figure 2.

¹⁹ Kim Smiley, “Case Study: Iowa Caucus Results Delay,” *ThinkReliability* (blog), March 2, 2020, <https://blog.thinkreliability.com/case-study-iowa-caucus-results-delay>.

²⁰ Matthew Rosenberg et al., “Faulty Iowa App Was Part of Push to Restore Democrats’ Digital Edge,” *New York Times*, February 4, 2020, <https://www.nytimes.com/2020/02/04/us/politics/iowa-caucus-shadow-app.html>.



Figure 2. A Visual Representation of the Literature

b. Election Administration: Procedures, Personnel, and Voter Experience

In examining the literature on election administration and its connection to voter confidence, this author found consistent agreement among the researchers. While the individual arguments follow, each researcher concurs that how an election is conducted fundamentally affects voter confidence. The researchers diverge, however, on the most critical element in driving voter confidence: 1) the procedures used, 2) the people involved, or 3) the resulting experience the voter derived from the process.

Within the first group, Toby James—a professor of politics and public policy at the University of East Anglia in Norwich, England—believes strongly about the connection of electoral management to voter confidence in election outcomes. He maintains, “Defects in electoral management and their widespread reporting can quickly ebb away at public confidence in democratic institutions.”²¹ His framework evaluates electoral management quality by comparing the election implementation—how the election is procedurally run—

²¹ Toby S. James, *Comparative Electoral Management: Performance, Networks and Instruments* (London: Routledge, 2020), 13, <https://www.routledge.com/Comparative-Electoral-Management-Performance-Networks-and-Instruments/James/p/book/9781138682412>.

and stakeholder satisfaction as a measured component between locations.²² In her 2018 Naval Postgraduate School thesis, Kellie Wier similarly proposes procedural enhancements as a means for “increasing election integrity,” which ostensibly drives voter confidence.²³ These two researchers represent the so-called procedure line of thought.

Providing a slightly different approach, political science researchers Atkeson and Saunders as well as Alvarez, Hall, and Llewellyn argue that a voter’s experience with the election, not the procedures, is the most valuable driver of perceived election integrity, citing things such as the time in line and competency of the workers with whom voters interact as more important influences.²⁴ A 2018 review of the literature on voter confidence by the Massachusetts Institute of Technology’s Elections Lab echoes this finding in stating “little evidence [suggests] that election administration has a direct effect on voter confidence,” but rather how voters navigate the voting process drives their confidence in it.²⁵ In a book published by Cambridge University, Robert M. Stein and Greg Vonnahme zero in on the polling location and its effect on the voter experience. They cite such metrics as location, timing, size of the facility, and staffing as factors in voter experience and ultimately voter confidence.²⁶ Finally, research by Bridgette King and Alicia Barnes for the *Election Law Journal* indicates that positive interactions with a poll worker increases voter confidence in the election process, especially if the poll worker is racially or

²² James, 7, 62.

²³ Kellie Weir, “Safeguarding Democracy: Increasing Election Integrity through Enhanced Voter Verification” (master’s thesis, Naval Postgraduate School, 2018), 103, <http://hdl.handle.net/10945/58274>.

²⁴ Atkeson and Saunders, “The Effect of Election Administration on Voter Confidence”; Alvarez, Hall, and Llewellyn, “Are Americans Confident Their Ballots Are Counted?”

²⁵ MIT Election Lab, “MEDSL Explains: Voter Confidence,” *Medium* (blog), April 17, 2018, <https://medium.com/mit-election-lab/medsl-explains-voter-confidence-35279061bfd7>.

²⁶ Presidential electors in the 1788–89 election had been selected by the states from December 15, 1788, to Jan 10, 1789. By 1792, the process was slated to begin in November. Robert M. Stein and Greg Vonnahme, “Polling Place Practices and the Voting Experience,” in *The Measure of American Elections*, ed. Barry C. Burden and Charles Stewart III (Cambridge: Cambridge University Press, 2014), 166–87, <https://doi.org/10.1017/CBO9781107589117>.

ethnically congruent to the voter, adding a new socio-economic facet to the experience equation.²⁷ This line of thinking is termed the “experience approach.”

The interaction component of King and Barnes’s idea leads to the third body of thought, which may well be a subset of the second. The last group of literature argues that because people working in the polling location lead the procedures—in other words, administrators are the driving force in administering the election—voter confidence is most directly connected to human resources—the people involved. In his 2020 dissertation for Rice University, Matt Lamb contends, “The effectiveness of the efforts of elections administrators to improve the experiences of voters is a worthy endeavor for scholars of American politics.”²⁸ He further correlates the voters’ experience at a polling location to their confidence in the body conducting the election: “The experience that citizens have at those polling places sends a direct signal to the voters regarding the importance the state places on their voice.”²⁹ The argument that anchors this camp, however, seems best articulated by Ryan Claassen et al. In their article, these researchers suggest that through poll workers—acting as agents of the state—voters actually engage with the state on election day as they cast a ballot.³⁰ Like King and Barnes, Claassen’s team studied voters’ interactions with poll workers, but unlike King and Barnes, who looked at social and racial congruency, Claassen et al. examined the voters’ perception of the poll workers’ competency.³¹ Drawing parallels to the similar role played by a customer service agent in a retail setting, Claassen et al. maintain that “the voter–poll worker relationship is in many respects comparable to the person-to-person interaction of a commercial service encounter” in which knowledge and courtesy “can affect the satisfaction the consumer

²⁷ Bridgett A. King and Alicia Barnes, “Descriptive Representation in Election Administration: Poll Workers and Voter Confidence,” *Election Law Journal: Rules, Politics, and Policy* 18, no. 1 (March 2019): 16–30, <https://doi.org/10.1089/elj.2018.0485>.

²⁸ Matt Lamb, “Disparities in Democracy: The Causes and Consequences of Polling Place Practices and Conditions” (PhD diss., Rice University, 2020), 61, <https://scholarship.rice.edu/handle/1911/109205>.

²⁹ Lamb, 61.

³⁰ Ryan L. Claassen et al., “‘At Your Service’: Voter Evaluations of Poll Worker Performance,” *American Politics Research* 36, no. 4 (July 2008): 612–34, <https://doi.org/10.1177/1532673X08319006>.

³¹ King and Barnes, “Descriptive Representation in Election Administration”; Claassen et al., “‘At Your Service.’”

expresses with the service encounter and the subsequent behavior of the consumer toward the business.”³² By replacing the business in the interaction with the government, and the customer service agent with the poll worker, Claassen’s team correlates both the voter’s sentiment toward the state or government at large and the voter’s perception of the level of care the government will have in accurately counting one’s cast ballot to one’s experience at the polls.³³ This explanation may be the most concise line drawn to date connecting election administration to those responsible for it, through those tasked with execution of elections, to the voter, and ultimately to that voter’s confidence in the election as a whole (see Figure 3). This group of literature constitutes the “people camp”—the third and final subgroup.

³² Claassen et al., ““At Your Service,”” 617.

³³ Lamb, “Disparities in Democracy.”

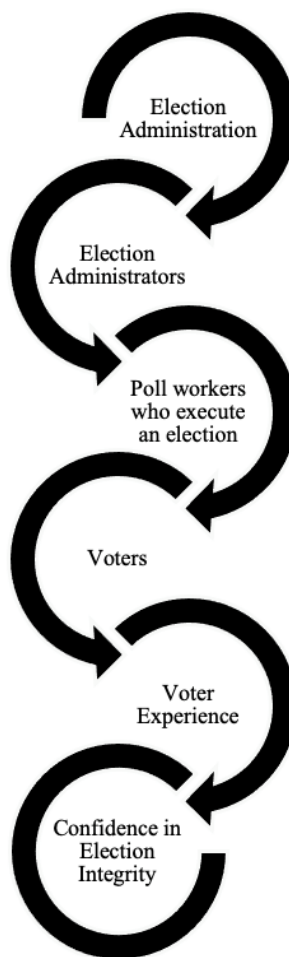


Figure 3. Pathway to Voter Confidence³⁴

While researchers in all three subgroups—procedures, experience, and people—have done extensive work to secure their positions, what seems to be missing from the dialogue is the possibility these perspectives may be unopposed and a bridge connecting their work simply needs to be constructed. While each camp maintains that procedures, experiences, or people drive confidence, none has explored whether enhanced voter education on the procedures and technology used in election administration could improve voter experience.

³⁴ Adapted from Claassen et al., ““At Your Service.””

Especially in an election landscape—where voters are unfamiliar with the new technologies being deployed—voter education is likely ad hoc and delivered by poll workers in response to voters’ questions. At this intersection of two originally separate groups, a new though seemingly unintended class of literature may be forming—the nexus of election administration and technology.

3. Election Administration and Technology

The works of Weir, Atkeson and Saunders, Lamb, King and Barnes, and others demonstrate that election administration can influence voter confidence significantly. Increasingly, however, an unfamiliarity with the technology used in these administrative processes affects the voter’s ability to cast his or her ballot or confidence that the ballot has been accurately counted. For instance, Atkeson and Saunders have deemed the equipment issues prevalent in the 2000 election “a fiasco,” stating their impacts on voter confidence “have brought election administration questions to the forefront of policy making.”³⁵ These researchers had the prescience to anticipate that election administration, in addition to the equipment, would be brought into the spotlight. The accuracy of this prediction is made manifest in Kim Smiley’s 2020 writings on the failed Iowa caucus reporting app: “The chaos of the process, rather than results, took center stage in the media coverage.”³⁶ While both writings focus on a piece of technology, they ultimately connect the voter’s experience to the administration of the election, demonstrating the nexus between the two fields, as shown earlier in Figure 2.

In the absence of a discussion on voter confidence that traverses voter education and better poll-worker preparation, and recognizing that technology and administration are overlapping fields of study, a fourth argument has emerged as the hypothesis of this thesis. Enhanced poll-worker preparedness leads to increased poll-worker competency, which in turn improves both a voter’s interaction with a poll worker and a voter’s comprehension of the processes and technological tools used to administer an election, ultimately improving that voter’s experience and stemming the documented decline in voter confidence.

³⁵ Atkeson and Saunders, “The Effect of Election Administration on Voter Confidence” 655.

³⁶ Smiley, “Iowa Caucus Results Delay.”

In summary, within the collection of academic and practitioner writings covering the impact of election administration, as well as the writings that intersect the technology subsector, this thesis ultimately makes its recommendations. Further, in returning to the people camp as a starting point, this thesis examines the role of the poll worker in the larger field of election administration, extending the work of Claassen's team by considering the mechanisms and limitations that affect poll-worker preparation to serve the voter. The research focuses on expanding the understanding of poll-worker training, with an eye toward balancing the risks of technology implementations with the benefits those technologies bring to election administration. As such, the following research design was proposed and approved by the NPS Institutional Review Board (IRB) for this work under protocol #NPS.2021.0039-IR-EP7-A, as a means of developing policy and practice recommendations to combat the erosion of voter confidence.

D. RESEARCH DESIGN

To address the research question posed by this thesis—How can the training of poll workers in general, and specifically their training in the use of technology, be improved to enhance the voter experience and increase voter confidence in the election process?—I focused on gaining insight into the successes and failures experienced by election administrators and poll workers in two key areas. First, I examined poll workers' competency and preparedness in general, and how they attained the competency level they both believed they had and could demonstrate. This step provided insight into how well poll workers understand the process of elections as a whole and whether they are prepared to answer voters' questions about that process, ranging from registration requirements to how votes are counted. It was from this area of research that training recommendations were developed. The second area related to the technology either seen or used by voters in U.S. elections, the processes and timelines for deploying the new technology, and the training provided for poll workers beforehand. From this area, recommendations relating to practices and implementation timelines were constructed. The investigation into these two areas was done with an eye to practice, process, or policy recommendations that might improve voter experience and drive an increase in domestic voter confidence. To that end, this research included the following steps.

The research began with the design of a focus group of 8–10 first-time poll workers from a variety of Idaho’s 44 counties who served in the November 2020 general election. The aim of the focus group was to better understand poll workers’ perspectives on training quality, possible improvements to their preparedness, and issues they were unequipped or unprepared to solve. By selecting only first-time poll workers, I could examine more accurately the successes or failures of the current training program, especially regarding procedural understanding and preparation in using election technology with limited exposure to it.

One might argue that numerous training opportunities over multiple election cycles are required to gain proficiency in these areas. While that argument appears sound, it is largely negated when a first-time poll worker is indistinguishable from a veteran poll worker to voters on election day. The objective, therefore, was to identify gaps in the training that limit general understanding and proficiency—on the first pass. The subjects for the focus group were recruited according to the process approved by the IRB, using an approved email solicitation script and informed consent form. The focus group convened over Zoom and was recorded for subsequent reference, and the conversation was prompted with the following approved questions:

1. Discuss a scenario where you felt unprepared to answer a question from a voter, or where you believe that your answer reduced that voter’s confidence in the process?
2. What would have better prepared you to answer that question?
3. What elements of the election process do YOU as a trained poll worker, feel uncertain about?
4. What were some of the most common misperceptions you encountered?
5. What suggestions would you have to improve poll-worker training, especially for first-time poll workers?
6. What do you want to know before returning to this position again?

Next, I conducted interviews with two experienced election training coordinators from two differently sized Idaho jurisdictions to determine the challenges they faced in preparing hundreds of part-time or temporary employees in a compressed time. By selecting subjects from both the largest and smallest ends of the jurisdictional curve, I could draw out issues, such as scaling limitations or budget restrictions, that were unique to the two differently sized jurisdictions. Similar to the focus group, the interviewees were recruited using an IRB-approved script, albeit by phone instead of email. Interested parties were likewise provided an informed consent form that they returned to confirm their participation, and the interviews were then conducted via Zoom and recorded. While these interviews did not provide the exhaustive scale needed for conclusive evidence of all challenges facing local jurisdictions, they provided several adequate insights from which to shape future recommendations. The topics submitted to the IRB and used during the interviews as a means of spurring the conversation included the following:

1. Problems they have seen with technology rollouts, specifically regarding poll workers using technology
2. Tools or policies to assist them in training at scale
3. Successes, failures, and barriers to doing their job well
4. Recommendations for changes to the process or utilization of technology

A summary of the interviews' findings follow responses to the focus group questions in Chapter IV. A comparative analysis concludes the chapter.

Finally, in extending and building on the literature, this thesis presents two case studies addressing technology implementations in the election ecosystem—specifically, the failure of the 2020 Iowa caucus app and the success of the 2016 Iowa bi-partisan caucus app. The cases selected were examined with an eye to their rollout procedures and pre-release training, with the intent of establishing a set of recommended practices. Examples of variables compared included the time from adoption to full implementation of the technology; experience of the vendor developing the platform; whether rollouts were phased, included a pilot, or resembled a waterfall deployment; the funding available for the project, what contingency plans existed, and the success or failure of the implementation.

Similarities and differences within the variables were then evaluated to illustrate potential impingements to rollout success.

E. THESIS OVERVIEW

This thesis is organized into six chapters. Chapter II addresses voter confidence as a construct, examining why it matters and establishing the broader set of events impacting the election environment over the last two U.S. presidential election cycles.³⁷ Chapter III lays groundwork for practices that drive voter confidence with a focus on election administration and technology implementation. Chapter IV relays the results of the research conducted for this thesis including focus group data and senior administrator interviews. The case studies pertinent to technology implementation practices appear in Chapter V. Finally, Chapter VI builds on the research with a summary list of key findings and the associated conclusions drawn from this project. The chapter also provides a list of recommendations resulting from the conclusions and a subsequent list of questions developed for future research.

³⁷ This thesis focuses on the last two presidential cycles because the revelation of Russian interference followed the 2016 election. Thus, while voter confidence has been tracked as a metric since 2004 by polling organizations such as Pew and Gallup, the most dramatic changes in the space occurred with the arrival of cybersecurity concerns in late 2016, along with Department of Homeland Security Secretary Jeh Johnson's declaration of elections as U.S. critical infrastructure on January 6, 2017.

II. WHY VOTER CONFIDENCE MATTERS

This chapter establishes the value of examining voter confidence, as well as the historical context of elections in the United States as they pertain to sustaining democracy. It also examines events that affected the election environment during the writing of this thesis as a means of establishing the environment of the 2020 elections and the external factors that have contributed to challenges since 2016. An understanding of why voter confidence matters and how the United States has gotten where it is today is a necessary foundation for Chapter IV, where the discussion turns to drivers of voter confidence.

Voter confidence as a subject of study is a relatively new phenomenon. While U.S. presidential elections date back to 1788—a track record of more than 230 years—voter confidence as a term finds its origins in a much more recent committee report from the National Commission on Federal Election Reform in August 2001. The commission observed how the faith of Americans in the legitimacy of U.S. electoral processes had been shaken by the prolonged Florida litigation following the 2000 presidential election, not to mention the irregularities, procedural failures, and policy loopholes that the court cases exposed.³⁸ Notably, this report was the first of its kind to equate a voter’s faith, or trust, in the processes used to determine an electoral outcome with one’s confidence in the validity of that outcome. In the years that followed, news outlets and researchers alike would make voter confidence part of political lexicon, and organizations like Gallup would begin tracking voter confidence as a statistic in ongoing polling. As such, most if not all data on U.S. voter confidence go back only a mere 20 years.³⁹

³⁸ National Commission on Federal Election Reform, *To Assure Pride and Confidence in the Electoral Process* (Charlottesville: Miller Center of Public Affairs, University of Virginia, 2001), http://web1.millercenter.org/commissions/comm_2001.pdf.

³⁹ McCarthy, “Confidence in Accuracy of U.S. Election.”

A. SUSTAINING DEMOCRACY TO RETAIN THE REPUBLIC

Public confidence in the integrity of the electoral process has independent significance, because it encourages citizen participation in the democratic process.

—U.S. Supreme Court, *Crawford vs. Marion County*, 2008⁴⁰

Ultimately, one main reason for a discussion on voter confidence is its connection to sustaining the process of American democracy and the republic itself. In their book *Problems of Democratic Transition and Consolidation*, Juan Linz and Alfred Stepan define the processes necessary to consolidate a transitioning democracy. They hold that in the absence of these processes, a democracy falls or fails to sustain itself. Moreover, Linz and Stepan assert democratic consolidation is impossible until all political parties realize that “even in the face of severe political and economic crises,” they and the people recognize such conflicts will be settled according to established norms and not through secession or attempts to overthrow the existing regime.⁴¹ This norm, at least in the United States, has to date included a peaceful transition of power following presidential elections.

If sustaining the democratic process relies even partially on maintaining a smooth transition of power following an election, the trust that the electorate has in that election process becomes a concern. This is a core tenet of voter confidence and the reason for the ongoing focus since its arrival in academic research after the 2000 presidential election. In her 2014 book, Pippa Norris argues that the public’s belief in the integrity of an election bears heavily on the people’s perception of political legitimacy—yet another argument that connects trust or confidence with acceptance of the outcome.⁴²

While the people’s confidence in the system is critical to their willingness to accept the results it provides, the system itself is not the only factor at play. The backdrop against which poll workers must execute an election and, thus, shape a voter’s election experience

⁴⁰ *Crawford v. Marion County Election Bd.*, 553 U.S. 181 (2008) (Stevens, J. opinion), <https://supreme.justia.com/cases/federal/us/553/181/>.

⁴¹ Juan J. Linz and Alfred Stepan, *Problems of Democratic Transition and Consolidation* (Baltimore: Johns Hopkins University Press, 1996), 5.

⁴² Pippa Norris, *Why Electoral Integrity Matters* (Cambridge: Cambridge University Press, 2014).

is continually painted by local, regional, and national events surrounding any given election cycle. As social media turns regional anti-government events into national movements, the challenges facing U.S. elections become more complex, and the public's trust in the government and its processes continue to decay. To better explain the backdrop analogy, this thesis analyzes examples of events that illustrate U.S. voters' general distrust in the current system, along with a series of external factors that foster this environment and affect the election and the poll workers who administer it.

B. EVENTS ILLUSTRATING LACK OF CONFIDENCE

Whether related to issues of foreign interference, security vulnerability, interference in the nomination process by the political elites, or just general frustration with an election outcome, the majority of Americans do not have confidence in their elections. The recent Iowa Caucuses are an example of the types of events that can shake Americans' faith in the election process and the legitimacy of the winners of elections. Institutions and fair processes are important in holding society together, and particularly so in this era of intense partisanship in the U.S.

—R. J. Reinhart, Gallup⁴³

Events in and of themselves are only that—events. In isolation, people can move beyond them, but when a sequence of events builds to a critical mass of emotion, it can reach a tipping point: “the critical point in a situation, process, or system beyond which a significant and often unstoppable effect or change takes place.”⁴⁴ Where the tipping point in voter confidence lies has yet to be found, if we have not reached it already. Nevertheless, the following series of events paved a path to the 2020 U.S. presidential election, illustrating the most numerically significant decline in American voter confidence this century.⁴⁵

⁴³ R. J. Reinhart, “Faith in Elections in Relatively Short Supply in U.S.,” Gallup, February 13, 2020, <https://news.gallup.com/poll/285608/faith-elections-relatively-short-supply.aspx>.

⁴⁴ *Merriam-Webster*, s.v. “tipping point,” accessed July 21, 2021, <https://www.merriam-webster.com/dictionary/tipping+point>.

⁴⁵ McCarthy, “Confidence in Accuracy of U.S. Election.”

1. Not My President: Trump v. Clinton, 2016

The 2016 general presidential election was a landmark among modern elections, as it ushered in a new level of uncertainty for the first time in modern era, fueled by the candidates themselves. During the third 2016 presidential debate in Las Vegas, Nevada, Fox News moderator Chris Wallace asked Donald Trump a question related to the validity of the election process. He asked whether Mr. Trump would “absolutely accept the result of the election.”⁴⁶ Not only did Mr. Trump refuse to respond in the affirmative, saying he “would have to look at it at the time,” but he also suggested that millions of illicit voters were on voter rolls nationally, that the media was corrupt and feeding misinformation to the American public, and that the opposing candidate was not legitimately qualified for office.⁴⁷ This seemingly unprecedented tactic attacked the credibility of the opposing candidate as well as cast doubt on the legitimacy of the electoral system itself.⁴⁸

Earlier during the same debate, the topic of Russian interference was also raised. According to a timeline released by the Council of Foreign Relations recapping the events surrounding this election (see Figure 4), various reports and documents from the Democratic National Committee (DNC) had surfaced in July in what became known as the Wikileaks scandal.⁴⁹ The FBI had notified the DNC of a Russian hack on its systems the month before. By early October, the U.S. intelligence community had released a report confirming Russian interference in the U.S. election, and the FBI had begun an investigation into possible collusion between the Trump campaign and Russia. When Wallace asked Mr. Trump to address these concerns and the validity of the government reports, the latter simply said, “Our country has no idea [whether it was the Russians].”⁵⁰ Again, this open rejection of the intelligence community and a report it published with

⁴⁶ “Full Transcript: Third 2016 Presidential Debate,” Politico, October 20, 2016, <https://www.politico.com/story/2016/10/full-transcript-third-2016-presidential-debate-230063>.

⁴⁷ Politico.

⁴⁸ Jonathan Masters, “Russia, Trump, and the 2016 U.S. Election,” Council on Foreign Relations, February 16, 2018, <https://www.cfr.org/backgrounder/russia-trump-and-2016-us-election>.

⁴⁹ Masters.

⁵⁰ Politico, “Full Transcript.”

nearly unanimous agreement cast a disparaging light on the information surrounding the election and, thus, the election's validity.



Figure 4. Timeline of Russian Links to the 2016 U.S. Election⁵¹

⁵¹ Source: Masters, "Russia, Trump, and the 2016 U.S. Election."

With the eventual victory and swearing in of Donald J. Trump as the 45th president of the United States, the tide and sentiment of the nation reversed.⁵² Those who accepted Trump's narrative that Hillary Clinton and the Democratic Party had tried to steal the presidency or manufacture a victory through election manipulation felt a sense of relief. Their candidate had won the electoral votes needed to secure a victory. Those on the other side awoke on November 9 to the worst-case scenario—a Trump victory. Alongside the Twitter hashtag #PresidentTrump, the phrases #NotMyPresident and #HesNotMyPresident skyrocketed to the top of Twitter's trending list.⁵³ By the Thursday following the election, most major news channels reported that protests and demonstrations had broken out across the United States in metropolitan areas like New York, Denver, Minneapolis, Los Angeles, and San Francisco—where disappointed Clinton supporters chanted and carried signs bearing the phrase “Not MY president.” A protest in Portland grew to over 4,000 participants and was declared a riot after protestors chanting “we reject the president-elect,” broke windows, and started a dumpster fire, leading police to make mass arrests.⁵⁴ This progression of events, leading eventually to aggressive civil disobedience, destruction, and an outright rejection of the results of the election by a small group of those participating, foreshadowed the polarized election landscape just four years later.

2. The Rise of Militancy against a Backdrop of COVID and George Floyd's Death, 2020

Fast-forwarding roughly three and a half years from the events of the 2016 presidential election, some of the same familiar themes emerged. The presidential primaries in May 2020, which would eventually pit President Trump against Democratic candidate Joe Biden in the November 2020 general election, were held under the initial

⁵² White House Historical Association, “Donald J. Trump,” White House, accessed May 13, 2021, <https://www.whitehouse.gov/about-the-white-house/presidents/donald-j-trump/>.

⁵³ Steph Solis, “As Trump Wins White House Bid, #NotMyPresident Trends on Twitter,” *USA Today*, November 9, 2016, <https://www.usatoday.com/story/news/politics/onpolitics/2016/11/09/donald-trump-twitter-not-my-president-trend/93532790/>.

⁵⁴ Mark Berman, Renae Merle, and Matea Gold, “‘Not My President’: Thousands Protest Trump in Rallies across the US,” *Sydney Morning Herald*, November 11, 2016, <https://www.smh.com.au/world/north-america/not-my-president-thousands-protest-trump-in-rallies-across-the-us-20161111-gsnfpd.html>.

phases of what would eventually be declared a national pandemic.⁵⁵ The first domestic case of the novel coronavirus disease 2019 (COVID-19) was declared in Snohomish County, Washington, on January 21, 2020.⁵⁶ This first ripple of the disease would turn into a tsunami of disruption for the election community. As counties and eventually whole states established quarantine orders, candidates and pundits cast doubt on the process adaptations taking place as a result of the pandemic. Of greatest note was the rapid move nationally to varied forms of vote-by-mail or absentee voting processes. Some states under emergency orders, such as Idaho under Governor Brad Little's leadership, conducted their state legislative primaries in May solely with absentee ballots.⁵⁷ As a result, candidates, including the president, started voicing concern over procedural issues with such a massive shift in voting protocols. The president took to Twitter with a tweet in May—"There is no way (ZERO!) that Mail-in-ballots will be anything but substantially fraudulent"—a move that prompted Twitter to fact-check the president for the first time and include a link to additional content refuting his claim below the tweet.⁵⁸ The combination of COVID uncertainty and the president's ongoing battles with the mainstream media, social media, and state governments would set the stage for a highly polarized and divided general election.

On May 25, 2020, a new national issue would appear almost overnight as the result of a police arrest in Minneapolis, one that would ultimately affect the upcoming elections. George Floyd, a black man, was publicly killed while in police custody. This event and the

⁵⁵ While this author could have elaborated on the veracity of comments made in the presidential debates, the controversy surrounding voting by mail, and the increased use of absentee processes, among other elements of the election, arguably, these details are unnecessary in contextualizing voter confidence as a factor of poll worker engagement and, thus, out of scope.

⁵⁶ Casey McNerthney, "Coronavirus in Washington State: A Timeline of the Outbreak through March 2020," KIRO 7 News Seattle, April 3, 2020, <https://www.kiro7.com/news/local/coronavirus-washington-state-timeline-outbreak/IM65JK66N5BYTIAPZ3FUZSKMUE/>.

⁵⁷ "Idaho's Primary Election to Remain on May 19, Will Be Conducted by Mail," Idaho Office of the Governor, March 30, 2020, <https://gov.idaho.gov/pressrelease/idahos-primary-election-to-remain-on-may-19-will-be-conducted-by-mail/>.

⁵⁸ Dan Mangan and Kevin Breuninger, "Twitter Fact-Checks Trump, Slaps Warning Labels on His Tweets about Mail-in Ballots," CNBC, May 26, 2020, <https://www.cnbc.com/2020/05/26/twitter-fact-checks-trump-slaps-warning-labels-on-his-tweets-about-mail-in-ballots.html>; "Trump Makes Unsubstantiated Claim That Mail-in Ballots Will Lead to Voter Fraud," Twitter, May 26, 2020, <https://twitter.com/i/events/1265330601034256384>.

social media response to it sparked a massive gain in both visibility and influence of a movement known as Black Lives Matter (BLM).⁵⁹ Protests under the banner of BLM, as well as a cry to “defund the police,” began appearing in cities across the country, from Portland to Scottsdale and Los Angeles to Washington, DC. Seattle BLM protestors even took over and occupied a section of the city, declaring it the Capitol Hill Autonomous Zone, or “CHAZ,” following the June 8 departure of police in the same area.⁶⁰ These events were so critical because they brought with them almost immediate opposing movements under the banners “all lives matter” and “back the blue.” As protestors and counter-protestors clashed across the nation—often arriving at events armed to different degrees—tensions rose, and polarization increased. Antifa, an anti-fascist movement, appeared at many BLM protests. The Not F**ing Around Coalition, an armed, all-black militia whose purpose was to “defend black Americans” with recruits in almost every state, marched on Stone Mountain, Georgia, and Louisville, Kentucky.⁶¹ Most important to this thesis, however, is how the timing of the movement/counter-movement narratives paralleled the election campaign timeline. Far-right, predominantly white militant movements like the Proud Boys and Boogaloo Boys began appearing to counter BLM and Antifa protestors.⁶² Meanwhile, President Trump amplified his narrative that a fraudulent election was inevitable, and Biden countered as well. The timing allowed these three separate events to merge into a singular political hotbed of far right versus far left, and in the resulting chaos—mask versus anti-mask, black lives versus all lives, defund the blue versus defend the blue, and voter fraud versus voter confidence—right and wrong appeared subjective and disinformation flourished. Amid all these hyper-politicized battles, the United States would experience the most atypical election in recent history, and the one

⁵⁹ Aaron Morrison, “Black Lives Matter Faces Test of Its Influence in Election,” AP News, October 31, 2020, <https://apnews.com/article/election-2020-race-and-ethnicity-virus-outbreak-los-angeles-elections-f027a8c51f71cb0e884ab667f45dfdfa>.

⁶⁰ Ashitha Nagesh, “This Police-Free Protest Zone Was Dismantled—but Was It the End?,” BBC News, July 11, 2020, <https://www.bbc.com/news/world-us-canada-53218448>.

⁶¹ MSNBC, “Inside an All-Black Militia Group,” March 22, 2021, YouTube, video, 5:20, https://www.youtube.com/watch?v=0n-DT_0_2no.

⁶² Katherine Underwood, “‘Dozens Support Police at ‘Back the Blue’ Demonstration in Mansfield,” NBC Boston, September 27, 2020, <https://www.nbcboston.com/news/local/all-lives-matter-dozens-support-police-at-back-the-blue-demonstration-in-mansfield/2202473/>.

with possibly the lowest measure of voter confidence since the statistical tracking of such metrics.⁶³

3. Capitol Incursion, January 6, 2021

In the wake of the lawsuits contesting the outcome of the election of Joe Biden as the 46th president of the United States, the militant group narrative continued to expand as Trump once again took to Twitter, announcing the election had been stolen from him by the Democratic Party. “We should look at the votes,” claimed one Trump tweet, while another declared that “if there’s a problem in the system about authentication [of voter’s registrations at check-in], that would seriously affect the ENTIRE ELECTION” (original emphasis).⁶⁴ This ongoing accusation of rampant voter fraud, combined with the increasing tensions within the country from frequent armed protests and counter protests, led to a gathering of Trump supporters in Washington, DC, for the Save America March on January 6, 2020.

Opening for the president, Trump’s senior campaign advisor, Katrina Pearson, again alluded to the inaccuracy of the election results with comments to the crowd such as “you put him in the White House not once but twice” and “nobody really believes this crap, but hey—there is something going on at the Capitol today.”⁶⁵ Before President Trump even stepped on stage, she made direct allegations of outright election fraud and a lack of election integrity: “We want election integrity . . . because we all know . . . that this election was severely compromised . . . and they’re about to see us coming.”⁶⁶ These words

⁶³ McCarthy, “Confidence in Accuracy of U.S. Election.”

⁶⁴ Notably, as of this writing, all citations of former President Trump’s tweets must be made using news sources, as the original account, @realdonaldtrump, has been suspended and the former president permanently banned from Twitter for inflammatory posts that might incite violence. “Permanent Suspension of @realDonaldTrump,” *Twitter* (blog), January 8, 2021, https://blog.twitter.com/en_us/topics/company/2020/suspension.html; Associated Press, “Trump on Twitter Says ‘We Should Look at the Votes’ in Effort to Contest Election Results,” ABC7 Washington, DC, November 8, 2020, <http://wjla.com/news/local/president-trump-vows-to-keep-fighting-amid-election-results>.

⁶⁵ Bloomberg Quicktake: Now, “LIVE: Trump Delivers Remarks at the ‘Save America Rally’ in Washington, D.C.,” January 6, 2021, YouTube, video, 19:20, <https://www.youtube.com/watch?v=ht20eDYmLXU>. Pearson’s comment of “something going on” referred to the opening and counting of the state electoral votes in Congress.

⁶⁶ Bloomberg, 25:40.

preceded the arrival of Amy Kramer, who likewise announced that “sleepy Joe Biden did not win this election” before declaring her home state of Georgia corrupt, presumably referring to the ongoing dispute of Georgia’s election outcome.⁶⁷

When President Trump took the stage, he bashed big tech within the first minute, called the media “the biggest problem we have,” used the term “fake news” three times, and bracketed his opening remarks with the allegation that “this year they rigged an election. They rigged it like they’ve never rigged it before.”⁶⁸ In the minutes that followed, Trump laid out his argument for why he had won his second election, how the numbers simply could not have added up the way they had, and how the election was fraudulent, corrupt, and “stolen.”⁶⁹ At one point, he remarked that even third-world countries run elections more honestly than the United States.⁷⁰ In what amounted to a 50-minute speech, the president presented his evidence of the fraud he and his legal team had alleged in Michigan, Pennsylvania, Georgia, Arizona, and across the swing states—ineligible felons, non-residents, and deceased voters—making it “the most corrupt election in U.S. history, maybe in the world.”⁷¹ While President Trump never specifically called on his supporters to attack the Capitol or break past police barricades, he did call the election an “egregious assault on our democracy” and told them the “fight is just getting started. . . . We must stop the steal, and make sure this never happens again.”⁷²

Approximately an hour after Trump completed his speech at the Ellipse near the White House, his supporters gathered en masse at various entrances to the U.S. Capitol Building, and at approximately 2:11 p.m. local time, according to various news reports, they breeched the police lines and overtook the east and west stairs on the outside of the

⁶⁷ Bloomberg, 30:20.

⁶⁸ Bloomberg, 2:37:09–2:38:40.

⁶⁹ Bloomberg.

⁷⁰ Bloomberg, 2:41:00.

⁷¹ Bloomberg, 3:40:00.

⁷² Aaron Blake, “What Trump Said before His Supporters Stormed the Capitol, Annotated,” *Washington Post*, January 11, 2021, <https://www.washingtonpost.com/politics/interactive/2021/annotated-trump-speech-jan-6-capitol/>.

building. Within another 20 minutes, they were inside the building, and at approximately 2:44 p.m., there were reports of shots fired in the Capitol.⁷³

The unfolding of the events of January 6—which some legislators believe deserve an investigation by a commission conducted in a manner similar to that following the events of 9/11—stands as a stark example of the importance of voter confidence in the election process.⁷⁴ As demonstrated in the 2020 election and evidenced by turmoil that has followed other elections around the world, when a significant enough percentage of the population believes its votes do not matter and when that group’s beliefs are bolstered by those perceived to be credible sources, a seed of revolution can germinate. In these environments and as these groups further come together under a common banner, the process of a peaceful transition of power can and will be disrupted, often with fatal implications to individuals if not to the government of that nation as a whole. If a lack of confidence in the integrity of the election is a component of this shift, then that lack of confidence, illustrated by the events mentioned above, must be addressed with urgency.

C. EXTERNAL FACTORS CONTRIBUTING TO EROSION OF CONFIDENCE

Having established an argument for why voter confidence matters, especially in the context of the U.S. election ecosystem, the next element for consideration is a review of the external forces that have eroded U.S. voter confidence. For the sake of brevity, this discussion focuses on the increased visibility and scrutiny of technology being deployed in elections, the rapid emergence of misinformation and disinformation campaigns over a short time, and the significant influence social media has gained in the election space as a

⁷³ George Petras et al., “Timeline: How the Storming of the U.S. Capitol Unfolded on Jan. 6,” *USA Today*, January 6, 2021, <https://www.usatoday.com/in-depth/news/2021/01/06/dc-protests-capitol-riot-trump-supporters-electoral-college-stolen-election/6568305002/>.

⁷⁴ National Commission to Investigate the January 6 Attack on the United States Capitol Complex Act H. Res. 3233, 117th Cong. (2021), <https://www.congress.gov/bill/117th-congress/house-bill/3233>. The bill passed the House, 222 to 190, in June 2021 but subsequently died in the senate, 54 to 35, needing 60 votes to proceed.

gatekeeper of information distribution.⁷⁵ Each of these factors is examined through case examples, with an emphasis on the resulting change in voter sentiment whenever possible, as well as any specific policy changes that can be mapped to that factor.

1. Increased Visibility and Scrutiny of Technology in Elections

Following the 2000 election issue in Florida, which was responsible for the ubiquitous “hanging chad” moniker, the U.S. Congress passed the Help America Vote Act of 2002. With this act came significant funding for states and counties, and with the funding came an influx of new computerized systems to aid in the various processes associated with elections. From registering voters to creating ballots, to checking in voters at the polls, to marking ballots, computers and software rapidly integrated into the election infrastructure of almost every jurisdiction in America to some degree.⁷⁶ As such, according to Georgetown University law professor and technology expert Matt Blaze in his 2019 testimony to Congress, “The integrity and security of our elections are thus inexorably tied to the integrity and security of the computers and software that we rely on for these many functions.”⁷⁷

While many today would agree that elections and the hardware and software that run them are inextricably tied, that was not always the case. A case in point was the unexpected creation of the Voting Village at a conference known as Def Con in 2017. An international hackers conference, Def Con provides interested parties with the opportunity

⁷⁵ Additional considerations could include, for example, the statistics pertaining to voter engagement in the United States compared to similar democracies internationally. Voter engagement is usually expressed as a percentage of the total voting age population (VAP) and not merely a percentage of those registered to vote. From this author’s experience, however, U.S. voter participation—or “voter turnout”—is typically reported as a percentage of registered voters, as it reflects a higher proportion than that of VAP. Thus, while Americans may perceive that increased numbers reflect higher engagement overall, according to Pew Research Center, U.S. engagement in 2016 ranked 30th out of 35 democratic countries, with only 55.7 percent of VAP participating. Drew Desilver, “In Past Elections, U.S. Trained Most Developed Countries in Voter Turnout,” Pew Research Center, November 3, 2020, <https://www.pewresearch.org/fact-tank/2020/11/03/in-past-elections-u-s-trained-most-developed-countries-in-voter-turnout/>.

⁷⁶ Matt Blaze, “Testimony before the U.S. House of Representatives, Committee on Homeland Security Subcommittee on Cybersecurity, Infrastructure Protection, and Innovation, Hearing on Defending against Election Interference,” U.S. Congress, November 19, 2019, <https://www.congress.gov/116/meeting/house/110238/witnesses/HHRG-116-HM08-Wstate-BlazeM-20191119.pdf>.

⁷⁷ Blaze, 3.

to try their skills at compromising specific pieces of equipment. While the conference has existed since 1993, it was not until 2017 that the first election machines arrived on the scene. That year, over the course of the conference, all 25 machines were compromised in some manner.⁷⁸ The reports that would follow, both to the U.S. Congress and through the media, generated sufficient interest for Voter Village to become a standing part of Def Con in 2018 and 2019. In addition to the election equipment being put to the test, other public-facing aspects of the ecosystem were challenged, and in 2018, according to a *USA Today* article, an 11-year-old hacked a replica of a Florida election results page in under 10 minutes.⁷⁹ While debates ensued about whether the hacks on the equipment and website replicas were representative of real-world conditions, Def Con's extensive press coverage since 2017 has accelerated the question of election system integrity in the minds of American voters. It has also served to put the very real concern of system integrity and cybersecurity of elections systems squarely in the scope of U.S. policymakers, as evidenced by Voting Village organizer Matt Blaze's multiple visits to Capitol Hill to testify before Congress on the matter.⁸⁰ The growing attendance at Voter Village by not only hackers but also election officials, election product providers, and even agencies of the U.S. government, such as the Defense Advanced Research Projects Agency, the Cybersecurity Infrastructure Security Agency, and the Election Assistance Commission, also hints at this increased engagement.⁸¹ All in all, the increased scrutiny of election procedures, compounded by inaccurate re-creations of the procedures used in executing an election, have become major factors for consideration in combatting the erosion of voter confidence.

⁷⁸ Matt Blaze et al., *Def Con 25 Voting Machine Hacking Village: Report on Cyber Vulnerabilities in U.S. Election Equipment, Databases, and Infrastructure* (Def Con, 2017), <https://www.defcon.org/images/defcon-25/DEF%20CON%2025%20voting%20village%20report.pdf>.

⁷⁹ Brett Molina and Elizabeth Weise, "11-Year-Old Hacks Replica of Florida State Website, Changes Election Results," *USA Today*, August 13, 2018, <https://www.usatoday.com/story/tech/nation-now/2018/08/13/11-year-old-hacks-replica-florida-election-site-changes-results/975121002/>.

⁸⁰ Blaze, "Testimony before the U.S. House of Representatives."

⁸¹ Blaze.

2. Misinformation, Disinformation, and the Emergence of Fake News

In her 2017 article on fake news, Claire Wardle clarifies the difference between the terms “misinformation” and “disinformation.” Misinformation, says Wardle, is the “inadvertent sharing of false information” while disinformation is the “deliberate creation and sharing of information known to be false.”⁸² These two terms are not necessarily new in the intelligence and military spaces, where they are used interchangeably with propaganda and information warfare, respectively.⁸³ However, their use in U.S. and international public discourse, as terms defining online communication, was not ubiquitous until 2016.⁸⁴ Spurred in part by the Russian Internet Research Agency’s interference in the 2016 U.S. presidential election via Facebook, international events like Brexit, and the subsequent revelation of Cambridge Analytica’s role in targeting users in online campaigns, social media platforms became a societal object of angst for spreading these newly defined forms of content.⁸⁵ In the aftermath of the 2016 presidential election, Craig Silverman compared public exposure to misinformation and disinformation campaigns on Facebook to that of news from 19 major media outlets, showing that “top fake election news stories” outperformed the real news.⁸⁶ The graph associated with the article, which was shared broadly across social media, truncated the types of campaigns into “fake news” (see Figure 5).

⁸² Claire Wardle, “Fake News. It’s Complicated.” First Draft, February 16, 2017, <https://firstdraftnews.org/443/articles/fake-news-complicated/>.

⁸³ Senate Select Committee on Intelligence, Russian Active Measures Campaigns and Interference.

⁸⁴ Anya Stiglitz, “Mis- and Disinformation Online: A Taxonomy of Solutions” (PhD thesis, Universidad de Navarra, 2020), 351.

⁸⁵ Stiglitz, “Mis- and Disinformation Online”; Alexandra Ma and Ben Gilbert, “Facebook Understood How Dangerous the Trump-Linked Data Firm Cambridge Analytica Could Be Much Earlier than It Previously Said. Here’s Everything That’s Happened up until Now,” Business Insider, August 23, 2019, <https://www.businessinsider.com/cambridge-analytica-a-guide-to-the-trump-linked-data-firm-that-harvested-50-million-facebook-profiles-2018-3>.

⁸⁶ Craig Silverman, “This Analysis Shows How Viral Fake Election News Stories Outperformed Real News on Facebook,” BuzzFeed News, November 16, 2016, <https://www.buzzfeednews.com/article/craigsilverman/viral-fake-election-news-outperformed-real-news-on-facebook>.

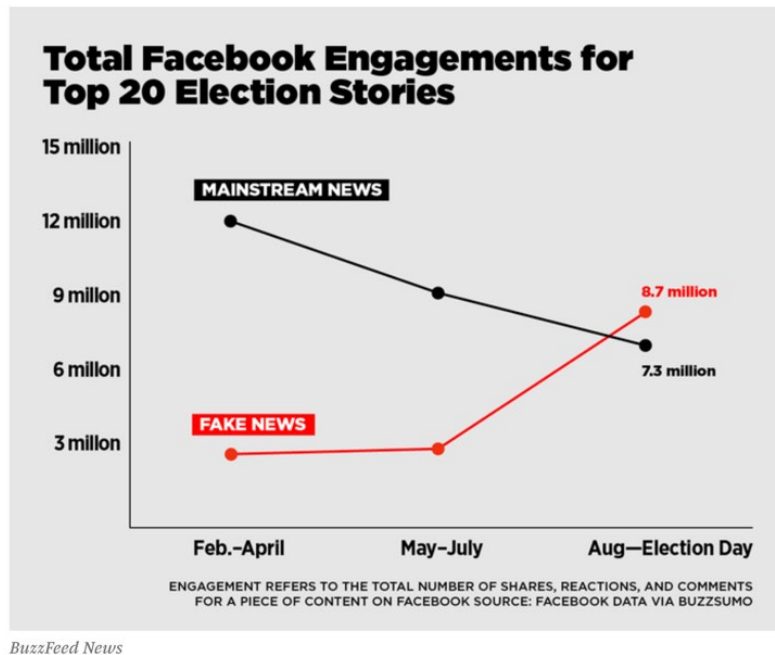


Figure 5. Mainstream News versus Fake News on Facebook⁸⁷

Now used in two ways—first, as a critique of the mainstream media’s purported failure to produce non-biased journalism and, second, as a more generic term for problematic content regardless of the content producer—fake news has become an undefined component of the public lexicon.⁸⁸ While its definition may be imprecise, the preferred platform for its dissemination—social media—has clearly shown a real influence on the population. For example, in staging events on Facebook, Russian trolls placed two opposing ideological groups on opposite sides of a street in Houston, as revealed in Senate hearings on Russian interference.⁸⁹ Policymakers and government officials must now recognize the role that misinformation and disinformation play not only in communication but also in creating intentional conflict between opposing sides of any polarizing issue.

⁸⁷ Source: Silverman, “Fake Election News Stories Outperformed Real News on Facebook.”

⁸⁸ Robyn Caplan, Lauren Hanson, and Joan Donovan, *Dead Reckoning: Navigating Content Moderation after “Fake News”* (New York: Data & Society Research Institute, 2018), <https://datasociety.net/library/dead-reckoning/>.

⁸⁹ O’Sullivan, “Russian Trolls Created Facebook Events.”

With this reality in mind, officials must decide how to respond, given the instigator of a volatile event may not even be present. The weaponization of social media platforms by those who would manipulate messaging, driven in many ways by the targeting opportunities online, has forced the private sector into the role of gatekeeper in the information ecosystem of networked media.⁹⁰ In sum, discerning the validity of media content and exposing false content in the current information landscape pose significant challenges to voter confidence.

3. Social Media as a Gatekeeper

While the content distributed is a point of concern, so too are the actions of those who control the platforms and either allow or restrict the spread of that content. According to researchers Joan Donovan and Danah Boyd in their article for the *American Behavioral Scientist*, “The transformation of gatekeepers has led an evolution in disinformation and misinformation, where the creation and distribution of false and hateful content, as well as the mistrust of social institutions, have become significant public issues.”⁹¹ This mistrust of social institutions—as with voting—and the distribution of false media content are most germane to this thesis. Social media platforms have made significant steps in fulfilling their gatekeeper role, and while debate over whether they have the right to regulate content makes for stimulating intellectual fodder, such discussions are adequately addressed elsewhere and are outside the scope of this thesis. What follows are three examples of moves made by social media as gatekeepers because of the U.S. election ecosystem at large. With these moves, social media platforms have begun to filter the social narrative within which voter confidence—and ultimately perceptions of election integrity—rises and falls, making these examples relevant to this project.

⁹⁰ Anthony Nadler, Matthew Crain, and Joan Donovan, *Weaponizing the Digital Influence Machine: The Political Perils of Online Ad Tech* (New York: Data & Society Research Institute, 2018), <https://data.society.net/library/weaponizing-the-digital-influence-machine/>.

⁹¹ Joan Donovan and Danah Boyd, “Stop the Presses? Moving from Strategic Silence to Strategic Amplification in a Networked Media Ecosystem,” *American Behavioral Scientist* 65, no. 2 (February 2021): 333, <https://doi.org/10.1177/0002764219878229>.

a. Removal of Fake Accounts by Facebook

After news of Russian interference in the 2016 presidential elections through campaigns on Facebook, the social media platform began removing fake accounts that trolls had used to post misinformation and spread propaganda.⁹² In the fourth quarter of 2017, as a part of its Community Standards Enforcement Program, Facebook shut down 694 million such accounts, with a total of 1.3 billion in a six-month period.⁹³ While not specifically correlated to the elections, Facebook’s account and content removals and the public’s acknowledgment thereof reflect a recognition by Facebook of its role as content moderator, curator, and gatekeeper. It also shows Facebook’s willingness and capacity to act on third-party accounts and content by removing them. With each quarterly *Community Standards Enforcement Report*, Facebook affirms its commitment to moderating content of egregious parties. As of 2021, the first quarter of 2020 saw the most removals of fake accounts—a staggering 2.19 billion—as shown in Figure 6.⁹⁴ As evidenced by its actions, Facebook has acknowledged its role in the larger ecosystem of election administration and is responding by mitigating fraudulent content on its platform.

⁹² O’Sullivan, “Russian Trolls Created Facebook Events.”

⁹³ Niall McCarthy, “Facebook Deleted More than 2 Billion Fake Accounts in the First Quarter of the Year [Infographic],” *Forbes*, May 24, 2019, <https://www.forbes.com/sites/niallmccarthy/2019/05/24/facebook-deleted-more-than-2-billion-fake-accounts-in-the-first-quarter-of-the-year-infographic/?sh=658919c167e3>.

⁹⁴ “Community Standards Enforcement Report,” Facebook, accessed July 23, 2021, <https://transparency.fb.com/data/community-standards-enforcement/>.

ACCOUNTS ACTIONED

How many fake accounts did we take action on?

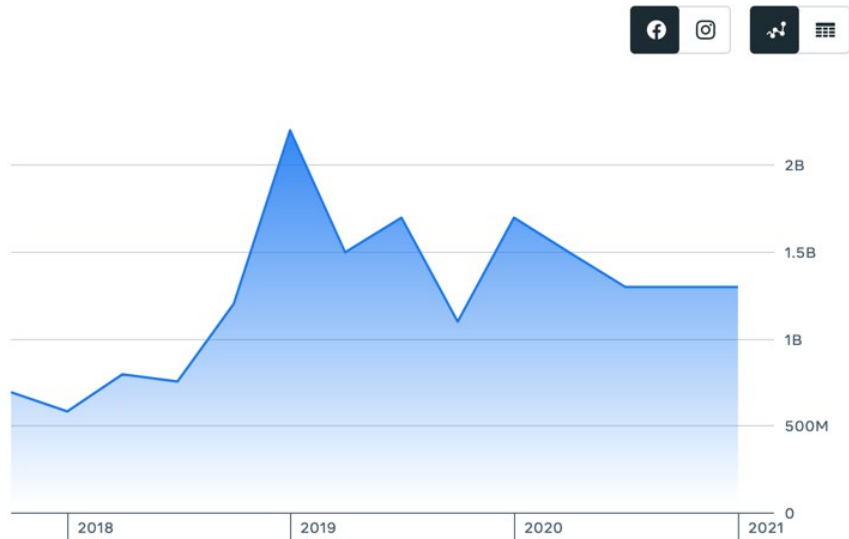


Figure 6. Number of Fake Accounts Removed by Facebook, 2017–2021⁹⁵

b. Limitations or Removal of Election-Related Advertising

While the three most common social media platforms in politics—Facebook, Twitter, and YouTube, which is owned by Google—all have varying policies on what a political candidate can and cannot do on their platforms, the common ground is that they now have policies.⁹⁶ Before 2016, political commentary, specifically political advertisements, was neither monitored nor restricted. In the years since, each of the platforms has gone a separate way. Twitter “globally prohibits the promotion of political content” *period*, as political messaging should be “earned, not bought.”⁹⁷ Facebook, in contrast, requires that those advertising “social issues, elections, or politics” complete a registration process, post from an authenticated account, and include a disclosure in the

⁹⁵ Source: Facebook, “Community Standards Enforcement Report.”

⁹⁶ Lata Nott, “Political Advertising on Social Media Platforms,” American Bar Association, June 25, 2020, https://www.americanbar.org/groups/crsj/publications/human_rights_magazine_home/voting-in-2020/political-advertising-on-social-media-platforms/.

⁹⁷ “Political Content,” Twitter, accessed July 23, 2021, <https://business.twitter.com/en/help/ads-policies/ads-content-policies/political-content.html>.

advertisement.⁹⁸ Finally, YouTube and parent company Google require that users posting the ads be verified and political ads show a continuous disclaimer of who is paying for them.⁹⁹

Where the last two differ, according to Lata Nott of the American Bar Association, is in how each handles truth, or rather misinformation, in the ads. Facebook’s head of global elections policy, Katie Harbath—after the 2020 Biden campaign’s request to remove an ad for casting the candidate in a poor light—is quoted as saying that “in the absence of regulation, Facebook and other companies are left to design their own policies. We have based ours on the principle that people should be able to hear from those who wish to lead them, warts and all, and that what they say should be scrutinized and debated in public.”¹⁰⁰ By contrast, Google’s policies forbid advertisers, political or otherwise, from “mak [ing] a false claim.”¹⁰¹ Ironically, according to Nott, the anti-Biden ad was still found on YouTube, defended by a Google spokesperson as having made false implications but not objectively false statements about the candidate.¹⁰² In sum, while progress has been made by the major platforms in how they address transparency in election-related advertising, the field is yet young and undeveloped.

c. Twitter’s Ban of Trump’s Authenticated Account

On January 8, 2021, Twitter announced on its blog that it had permanently banned @realDonaldTrump, the authenticated and official account of the president of the United States.¹⁰³ Citing “the risk of further incitement of violence,” the post focuses on two tweets made by the president following the events at the U.S. Capitol on January 6 and references

⁹⁸ “Advertising Policies,” Facebook, accessed July 23, 2021, https://www.facebook.com/policies/ads/restricted_content/disclaimers.

⁹⁹ “Advertising Policies Help: Political Content,” Google, accessed July 23, 2021, <https://support.google.com/adspolicy/answer/6014595?hl=en#zippy=%2Celection-ads-in-the-united-states%2Cadvertiser-verification-requirements-for-election-ads-in-the-united-states%2Ctroubleshooter>.

¹⁰⁰ Nott, “Political Advertising on Social Media Platforms.”

¹⁰¹ Nott.

¹⁰² Nott.

¹⁰³ “Permanent Suspension of @realDonaldTrump.”

the platform’s “glorification of violence” policy as justification for the decision.¹⁰⁴ Most importantly, Twitter’s action marked the first significant, permanent ban of an elected official’s account by a social media platform and may well be the historical pivot point in this new arena of content moderation.

4. Collective Summary of Social Media as a Gatekeeper

Individually, each of these moves shows an active attempt by social media platforms to mitigate the impact of misinformation, disinformation, and fake news content on the U.S. electorate. Collectively, however, they also show a progression from post-event mitigation to a preemptive protection stance. Again, whether this migration is appropriate within the context of the First Amendment of the U.S. Constitution is not a topic of debate for this thesis. Nevertheless, these types of decisions by social media platforms influence the information available for consumption by voters and form an external factor in the fight to combat the erosion of voter confidence.

D. CHAPTER SUMMARY

This chapter has examined voter confidence as a means of sustaining the democratic process and retaining the republic. Low voter confidence was examined through the lens of events that affected the presidential primaries and general election of 2020, as well as those that transpired thereafter. In this growing arena of distrust, social media ascended to its role as the gatekeeper of information for society at large and gained incredible influence—the ability to transform a regional event into the birth of a national movement through spotlighted exposure and algorithmic suggestions of content to its users. Finally, the rise of militancy and social unrest made up a third external factor in the election

¹⁰⁴ “Permanent Suspension of @realDonaldTrump.”

landscape. The next chapter examines the internal factors that research has shown drive voter confidence.¹⁰⁵

¹⁰⁵ The phrase “at the polls on election day” is significant in that it denotes this author’s narrow application of process in this thesis. Across the country, many states offer various methods of voting, including mail-in ballots, absentee voting, and early voting, in addition to election-day casting of ballots at a polling location. Because this thesis focuses on the impact a poll worker may have on a voter’s election experience, and the ways in which poll-worker training may affect the same, it is necessary to narrow the scope to this method of casting a ballot, either on election day or in an early voting scenario like election-day voting. Similar considerations could be made about the value of increased training for other temporary workers in other procedures, such as processing inbound absentee or mail-in ballots, but those instances would lack the contact interactions with voters discussed here. Nonetheless, Chapter VI considers these areas for additional research.

THIS PAGE INTENTIONALLY LEFT BLANK

III. DRIVERS OF VOTER CONFIDENCE

Having established the societal and historical background against which voter confidence in elections either erodes or regenerates, this thesis turns to the drivers of voter confidence. As visualized by the funnel graphic in Figure 7, this chapter begins by examining the experiences of the voting populace as a whole, then narrows to the poll workers with whom the voting populace interacts, and finally arrives at the training poll workers receive to create the overall voter experience.

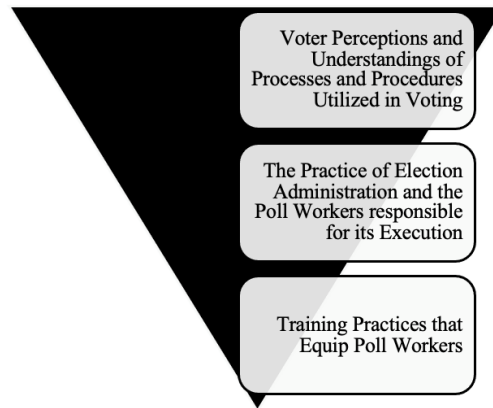


Figure 7. Narrowing in on Drivers of Voter Confidence

A. PROXIMITY AND UNDERSTANDING

Starting with a look at the largest population, the first consideration is how political perceptions and party affiliation affect a voter's perceived confidence in the process. In their working paper, Eric Chang and Nicholas Kerr discuss the connection between a voter's perception of corruption in government and one's overall political perceptions. The researchers consider the insider-outsider positioning based on the respondent's political alignment with the incumbent party. Those who are politically aligned with the incumbent perceive a higher degree of confidence and attribute lower levels of corruption to the

government than those who are not aligned with the incumbent.¹⁰⁶ While this alignment-driven confidence may seem obvious, it affords an important perspective: those who see themselves as part of the in-group, with nearer proximity to an anchoring person or system, have higher confidence in the system and rank its adequacy higher than do those who see themselves as outsiders. Similarly, research conducted by Gallup discovered that voters were more likely to express confidence in the integrity of an election when asked a question that placed the focus closest to them.¹⁰⁷ For example, individuals who were asked how confident they were in the integrity of the election in their precinct indicated greater confidence than when they were asked to gauge their confidence in the same election in their state. This local confidence is attributed to a greater perceived understanding or acceptance of those things in which people have a personal, connected experience.¹⁰⁸ In other words, the more an individual feels a participant in any given population, the more the individual believes one understands the details under which a population operates and interacts.

To this end, a voter's understanding (perceived or actual) of the processes and policies utilized to operate the election should be seen as a driver of voter confidence. Further reinforcing this concept, Emily Bacchus, in her research survey of American voters, remarks, "When asked to evaluate political practices as corrupt or not, people who are more confident in the fairness of their electoral process are generally less concerned about corruption, compared with people who are less confident in elections."¹⁰⁹ Thus, voter confidence in the process matters when it comes to the perceived integrity of elections as a whole.

¹⁰⁶ Eric C. C. Chang and Nicholas N. Kerr, "Do Voters Have Different Attitudes toward Corruption?" (working paper, Afrobarometer, 2009), 27.

¹⁰⁷ McCarthy, "Confidence in Accuracy of U.S. Election."

¹⁰⁸ Atkeson and Saunders, "The Effect of Election Administration on Voter Confidence."

¹⁰⁹ Emily Beaulieu Bacchus and Carew Boulding, "Corruption Perceptions: Confidence in Elections and Evaluations of Clientelism," *Governance* (2021), <https://doi.org/10.1111/gove.12598>.

B. ELECTION ADMINISTRATION

Building on the work of Gallup and Bacchus, which connected one's understanding of the process to confidence, Thad Hall, writes that election administration is "a complex, multistage process involving registration, structuring the voting process (which may include both in-person and remote voting), and then tabulating and auditing the results."¹¹⁰ Hall goes on to say that failing to execute the procedures within these stages equates to "maladministration" and results in claims of electoral fraud.¹¹¹ Such claims are a clear indicator of a lack of voter confidence in the integrity of an election. Hall further emphasizes that in understanding the potential failure points, an administrator can mitigate the possible loss of public confidence that occurs when election administration is not successfully implemented.¹¹²

In their work, Atkeson and Saunders, who analyzed the "electoral fiasco" of the 2000 presidential election, emphasize the failure of election equipment and inconsistent application of the policies and processes applied in the administration.¹¹³ They argue, as does Hall, that an inconsistent voter experience due to poor administration resulted in the loss of voter confidence. They also make the connection between full-time government officials, who are responsible for an election at the state and county levels, and the poll workers, who are responsible for the policies, procedures, and equipment used in election:

Election administrators must work to produce a positive voter experience with as much central guidance as possible. Poll workers must be well trained so that they appear competent, non-partisan, and helpful to the voter. These direct contacts influence voter confidence and poll-worker training is a direct function of the time, energy, and effort put forth by the local administration officials. Effort in this regard will no doubt reduce conflict between voters and poll workers and increase voter confidence.¹¹⁴

¹¹⁰ Thad E. Hall, "Election Administration," in *The Oxford Handbook of Electoral Systems*, ed. Erik S. Herron, Robert J. Pekkanen, and Matthew S. Shugart (Oxford: Oxford University Press, 2018), 1, <https://doi.org/10.1093/oxfordhb/9780190258658.013.9>.

¹¹¹ Hall.

¹¹² Hall.

¹¹³ Atkeson and Saunders, "The Effect of Election Administration on Voter Confidence."

¹¹⁴ Atkeson and Saunders.

Understanding this connection and the transference of influence that results from it leads to the final step in the narrowing process (see Figure 8). It asks, if poll workers are ultimately one of the key influencing factors in voter confidence of election integrity, what is being done to prepare them for this responsibility?

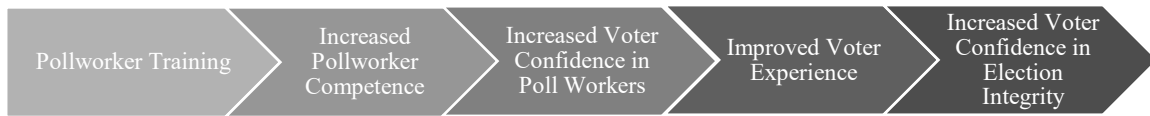


Figure 8. The Causal Impact of Poll-Worker Training¹¹⁵

C. POLL-WORKER POLICY AND PROCESS TRAINING

Given that a poll worker on election day is both the gatekeeper to the ballot for a voter and the last person a voter interacts with after marking one's ballot, a parallel exists between the services poll workers provide for a voter and the services salespeople provide in the retail service industry.¹¹⁶ This is the premise of the work by Claassen et al. in connecting poll-worker performance to voter experience. Claassen et al. observe, "The literature on commercial human interaction . . . finds that the quality of training of employees is important to how consumers assess the services they receive."¹¹⁷ By conducting surveys of Ohio poll workers, Claassen's team found a correlation between poll workers who had a positive view of the training they had received, positive assessments of those poll workers by voters, and overall higher ratings of the experience from voters with whom the workers had interacted. They surmise that "the brief relationships forged on election day between poll workers and citizens meaningfully affect voters' confidence."¹¹⁸ Hall, Monson, and Patterson's research corroborates these findings—that the more adequately trained poll workers are, the more likely they are to express both confidence

¹¹⁵ Adapted from Barry C. Burden and Jeffrey Milyo, "The Quantities and Qualities of Poll Workers," *Election Law Journal: Rules, Politics, and Policy* 14, no. 1 (2015): 38–46, <https://doi.org/10.1089/elj.2014.0277>.

¹¹⁶ Claassen et al., "At Your Service."

¹¹⁷ Claassen et al., 630.

¹¹⁸ Claassen et al., 615.

and high job satisfaction.¹¹⁹ As voters perceive this confidence, the likelihood of evaluating the poll workers favorably increases.¹²⁰ Finally, they go so far as to say that the public's perception of poll workers is a reasonably accurate predictor of a positive experience with the voting process.¹²¹

Claassen et al. expand on this premise by highlighting the extent to which the public trusts the technology used in the voting process, a nuance explored in the following section.¹²² This trust is derived in part from the poll workers' understanding of the technology and their ability to guide a voter through its use. Another study, published in the *Election Law Journal*, concludes that "the correlation of voter evaluations of poll workers and the quality of the voting experience suggests that effective poll-worker training may be an important determinant of voter satisfaction and confidence."¹²³ Such a causal relationship would connect training to competence, competence to increased voter confidence in the poll worker's capability, and capability to an improved voter experience.¹²⁴ The procedural training that poll workers receive, however, is not the sole contributing factor in voter confidence. The technology employed and how it is implemented are likewise important factors in election administration.

D. POLL WORKERS AND TECHNOLOGY IN ELECTION ADMINISTRATION

While poll workers can consciously choose their attitude, their approach to a voter, their level of knowledge, and even the tone of their voice while speaking, they have no choice in the technologies that are deployed in their polling location. That choice, and the way the technology rollout is executed, is the responsibility of the election administrator

¹¹⁹ Thad E. Hall, J. Quin Monson, and Kelly D. Patterson, "The Human Dimension of Elections: How Poll Workers Shape Public Confidence in Elections," *Political Research Quarterly* 62, no. 3 (2009): 507–22, <https://doi.org/10.1177/1065912908324870>.

¹²⁰ Hall, Monson, and Patterson.

¹²¹ Hall, Monson, and Patterson.

¹²² Claassen et al., "'At Your Service.'"

¹²³ Burden and Milyo, "The Quantities and Qualities of Poll Workers," 38–46.

¹²⁴ Burden and Milyo.

or official. Regardless, because the decisions made by these individuals indirectly affect the poll worker's chance of creating a positive voter experience while using the technology, the timing of the implementation of new technologies in voting environments and the training of poll workers in their operation deserve additional consideration.

1. Timing of Technology Rollouts

Depending on the rules of the jurisdiction at the state or even county level in the United States, a poll worker who is familiar with a specific process or piece of equipment in one county may travel a short distance to a nearby county only to find a completely different piece of equipment being used. This lack of uniformity stems from the federalized manner in which U.S. elections are administered. With this variable in play, even an experienced poll worker may find a technology planned for use in a precinct with which they are not familiar. As evidenced by the failed implementation of the Shadow Caucus reporting app used by Iowa in the 2020 Democratic primary, where fewer than 25 percent of the necessary caucus chairs had time to successfully download and install the app before its use, the timing of the rollout is a critical factor.¹²⁵

This timing, according to Chuck Swoboda of Marquette University, was one of three key failures in the Iowa project. Swoboda remarks, "The Iowa Democratic Party attempted to use a new and untested app-based reporting system, named IowaRecorder, that due to usage and interface failures forced precinct chairs to submit their results by phone or regular mail—causing major delays over the course of several chaotic, contentious days."¹²⁶ The main stress factor, Swoboda states, was the "rushed process" to roll out the app, which left most of the 1,700 intended users without it downloaded on caucus night.¹²⁷ This failure to consider timing led to the second significant failure of the

¹²⁵ Smiley, "Iowa Caucus Results Delay."

¹²⁶ Chuck Swoboda, "People, Not Technology, Failed in the 2020 Iowa Caucuses," *Forbes*, March 22, 2020, <https://www.forbes.com/sites/chuckswoboda/2020/03/22/people-not-technology-failed-in-the-2020-iowa-caucuses/#5d5c46bb31d0>. The 2020 Iowa caucus app is examined in further detail as a case study in Chapter V in contrast with a similar app that Iowa successfully utilized in 2016. Because of the further examination undertaken in Chapter V, specific details have been omitted here.

¹²⁷ Swoboda.

project: “inadequate training and coordination.”¹²⁸ Despite the rushed process and inadequate training with a poorly constructed backup plan, Swoboda makes the case for continued use of technology in elections: “My point in all this is that the three major problems in Iowa were real. But they weren’t caused by technology. They were caused by people.”¹²⁹ In short, a failed implementation plan that left no time for proper training illustrates how not to roll out a new technology.

2. Poll-Worker Technology Training

When asked what single factor has challenged them most in elections, poll workers and poll-worker trainers alike resoundingly cite training on technology.¹³⁰ According to Burden and Milyo, while local election officials rate training as a top priority, “training practices do not appear to translate into uniform administration.”¹³¹ Nowhere does failure to create this uniformity in administration appear a bigger problem than with technology, as unlike election law or policy, the technology used in an election could easily vary from one election to the next, leaving little time for adequate training. Successful implementations, such as Iowa’s 2016 Republican and Democratic primaries or the rollout of electronic pollbooks in one large Idaho county, require significant time to allow those who use the technology to experiment, interact, and gain familiarity with it.¹³² In the end, this investment in training time provides users with the ability not only to navigate new technologies but also to explain their use to others, a process that Burden and Milyo claim has a direct connection to voter confidence.¹³³

In summary, given the direct connection between the use of technology in the polling location and voter confidence, proper training opportunities for poll workers who

¹²⁸ Swoboda.

¹²⁹ Swoboda.

¹³⁰ This information was obtained from interviews and focus group research for this thesis.

¹³¹ Burden and Milyo, “The Quantities and Qualities of Poll Workers.”

¹³² Sara Morrison, “Iowa’s 2016 Caucus App Worked and Everyone Forgot about It,” Vox, February 7, 2020, <https://www.vox.com/recode/2020/2/7/21125078/iowa-caucus-2016-mobile-app-2020>; Poll worker trainer from large county, interview with the author, June 4, 2021. See Chapter IV.

¹³³ Burden and Milyo, “The Quantities and Qualities of Poll Workers.”

guide the use of the technology is critical. So, too, is determining what manner of training is best received by poll workers for this purpose and what practices have proven valuable and effective for poll-worker training coordinators.

E. CHAPTER SUMMARY

This chapter considered internal factors in the voting process that ultimately serve to drive or erode voter confidence. While party affiliation and proximity to the process are among these factors, they merely illustrate that the closer a voter is to the process and the greater the voter's understanding of it, the greater the likelihood of having confidence in the process. The chapter also examined election administration, connecting those who execute election processes on election day with voter confidence in that election—based on interactions with these often-part-time temporary workers. Finally, by comparing the role of a poll worker to the role of a customer service agent in a commercial setting, poll-worker training was brought into the spotlight, as was the technology used in the election space. These two elements—poll-worker training and competency in the use of technology—may each present an opportunity for improving the voter's experience and ultimately confidence in elections.

To further understand and define this opportunity, Chapter IV analyzes data collected from interviews of poll-worker trainers and a focus group of first-time poll workers. It discusses the parameters of the unique research conducted, examines responses of each group, and provides a comparative analysis of the interviews.

IV. RESEARCH

This chapter provides an overview and analysis of the unique research conducted for this project to lend insight beyond what can be gained from the literature. Specifically, it details the results of a focus group of first-time poll workers from the November 2020 presidential election, as well as interviews with two poll-worker trainers from a large and small county in Idaho. Convened to examine roadblocks in providing and receiving poll-worker training, the focus group and interviews were conducted using NPS IRB-approved procedures for recruiting, disclosing risk, and providing written informed consent to participants. The discussions have been paraphrased generally, with specific quotes anonymized for participant confidentiality, according to IRB guidelines. The focus group section of this chapter concludes with an analysis and summary of the understanding gained from the group discussion. The interviews that follow each include an analysis, as well as a comparative analysis in both written and graphical form.

A. POLL-WORKER FOCUS GROUP

To understand the first-time poll worker's perspective on the quality and quantity of training to prepare for election day, a focus group of first-time poll workers from various Idaho counties was convened over Zoom.¹³⁴ As a condition of the research, all names and locations have been anonymized. This sample of respondents represented a variety of jurisdictions, roles, and situations. One small-precinct participant served as the chief judge, the person responsible for managing the precinct, and in this case, had a team made up almost entirely of first-timers. Another participant served in one of the largest precincts, a combination of three precincts in fact, in one of Idaho's largest counties. The overall roles of these eight participants covered a broad range, yet their experiences shared common threads, which are analyzed at the end of this section. They were roughly equally divided male to female, and their ages ranged from mid-twenties to upper sixties.

¹³⁴ The use of Zoom video conferencing, which much of society used during the COVID-19 pandemic, helped to expand the geographic range from which the focus group and interviews could be conducted. Over Zoom, the focus group could include participants from counties around the state both without travel costs and without exposing participants to COVID-related risks.

The following subsections detail their responses to various questions. Presented as first-person narratives, the statements were transcribed and anonymized from the overall two-hour discussion. A portion of the responses was submitted by the eighth participant in the group by email following the group discussion and incorporated in the appropriate locations. This participant could hear the conversation but, due to technical issues and signal strength, could not speak during the live call. To re-create a conversational flow, the participants' answers appear within the general sequence of the questions they were presented.

1. What was the extent of the training available to you, or if you've already heard someone describe your scenario, what was it most similar to that we've already heard?

- I had a two-hour training window the week before the election, and four days before that training I got a packet to read through. I went to training, and we were trained together on two machines and got to look at all the paperwork that would be involved in the process. We had a physical copy of the log book (pollbook), but we were also using electronic pollbooks. We also got an overview of how to handle curbside voting, loading data to and logging into machines, and other processes—all in two hours. It was well organized. Directions were easy to follow, and I always had my packet of information to refer back to, which helped significantly.
- I went in two hours, the Tuesday before the election, and we covered all the material, similar to what was just said.
- I didn't get a "training" as much as I attended a pre-meeting demo of the pollbooks and the check-in process, and a step-by-step on how a voter would walk through the different steps on election day. The remainder happened on the actual election day and was more focused on my specific role.
- I was similar to [removed], and they also attended the state employee backup training, where I got a breakdown of the process of operating an e-pollbook, but the trainer was excellent at explaining—he was young and

understood the technology.¹³⁵ I spent the first part of the election day at my polling location learning on-the-job so to speak. I noticed that positions on election day were not necessarily optimized to people's skills or tendencies, like not putting outgoing or confident people in positions where they would be interacting the most with the public.

- I had roughly two hours training provided by my county clerk and the elections director. I was assigned to verify addresses, and they had a station set up for me. As a result, I went to that station and learned that task. That is also where I spent my time on election day, but I knew I always had a chief judge I could call on with questions on other parts of the process.
 - The training event at our local courthouse and facilitated by our local auditor/recorder was very well planned and organized. Our clerk asked each volunteer what specific duty that they would like to handle and focused individually on the training for that position and/or equipment. We were easily given other options if we felt overwhelmed. Then, she brought us together for an overall view on procedures and manuals in the event we would need to “pinch hit.”
2. **Discuss a scenario where you felt unprepared to answer a question from a voter, or where you believe that your answer reduced that voter's confidence in the process.**
- A voter came up to register, and we had an e-pollbook in front of us. I asked for ID and scanned it, and it pulled up his information. If the ID did not match the voter's address, I was to ask for a second piece of ID, and the first time it happened I selected the “no” response on the pollbook. That prompted the machine to say the voter was ineligible to vote. If I lived in that community, I could have spoken to the voter's eligibility, but

¹³⁵ In the week before the November election, Idaho recruited a large number of state employees and provided an emergency training session for them when officials realized many counties would be short poll workers due to last-minute COVID-19 infections and testing. This effort augmented county trainings and represented the last opportunity to train workers before the election.

I was working out of my community. As such, I had to call over a chief judge and start over. I was told to respond that they *had* provided the evidence when in fact they had not. It left me uncomfortable with having broken the oath I took. When I took a break, I watched several people simply bypass the evidence component and pass the voter on with a “yes.” This process wasn’t covered during training.

- Alternatively, we simply put it back on the voter in my precinct, and they went and got the additional information needed before we approved them to move on.
- Language barriers were also a challenge in my district, and the voters were unsure what questions were actually being asked of them because we had no one who spoke Spanish.
- I felt ill prepared to deal with the technology aspect of it—we had two machines for ballots to scan into, but occasionally one worked and one didn’t. Voters also felt concerned that even though they saw that a ballot went *into* a tabulator, how did they know that it was actually counted in the total?
- Curbside voting—we had people that were assisting people outside voting, but there is no necessary manner for a person at the curb to know that their ballot made it back to the actual tabulator. I didn’t know how to answer their concern.

3. What elements of the election process do YOU as a trained poll worker feel uncertain about?

- Everyone in my precinct save one was new—while that avoided any entrenched practices, it also didn’t leave us with a track record to rely on. Midday, because of an e-pollbook issue, we received a second manual pollbook and were off by one voter on our count reconciling later in the night. We were unprepared for what to do when something goes wrong.

- Spoiled ballots were something that I didn't feel we covered or covered well in training, so it caught me off guard when the first discussion of "spoiling" came up.¹³⁶
 - I felt unprepared in all regards to start, but now I only really know one aspect of what I saw and worked on that day. I don't have a high comfort level in necessarily any areas.
 - During my 20-minute break mentioned earlier, I forgot to log out of my pollbook, and when I returned, the chief judge was on my pollbook using it in my login. I got in a hurry and blew past protocols like logging out, and don't think we covered security enough.
 - I felt very prepared as a first-time poll worker because of the training I received, but most importantly, I want to add that there were no voter issues that arose that were not handled tactfully and professionally by the chief judge.
- 4. What are you confident about because of the training you received?**
- I believe we received adequate training, but we were not necessarily trained to do the jobs we would eventually do.
 - Knowing that we had the clerk's phone number as a sort of hotline fallback was good for my confidence as a chief judge. We were all depending on each other's recollections.
 - I had extreme confidence in our clerk that was always available for us to escalate issues if we needed it.
 - At the polling place, the flow of the process was well thought out. COVID measures were well explained in signage and reiterated by volunteers, so I thought we did that well. I was able to assist with individuals utilizing the

¹³⁶ Spoiling of a ballot is a process by which an improperly or erroneously voted, mismarked, or damaged ballot is labeled so as not to be counted yet retained as a component of a ballot inventory system before a new ballot is issued to a voter. Proper spoiling of ballots ensures that audit trails for ballot counts are maintained.

curbside voting as well as manning the electronic polling booth, and I was comfortable with my knowledge as a first-time poll worker.

- One of the things I quickly learned is that I came across a lot of types of voters, and I felt comfortable teaching them how to feed the machine. I could handle that and directed them manually on how to do that correctly. The human touch aspect was important. There are a lot of levels of voter knowledge with the processes, and varied experience there.
- Interaction with the voter was the most enjoyable part for me as we waited for a booth to open up for them. We had conversations, and I asked them questions. The human connection was a key factor that would bring me back.
- It was gratifying to see the civic engagement taking place, and I appreciated being able to participate.

5. Would you do it again (go through training in order to work as a poll worker)?

- I would sit through the training again, even given the 14 hours that I spent on the election day working. It was a long day, but I will continue to invest the time in training because election day made it worth it.
- I didn't even know that we were getting paid. I'd still do it without the check. The only criticism I have is that it is such a long day. There was no cover for breaks. I stayed busy the whole time. We needed more staffing as I had no time to eat.
- I had several voters come up to me to say thank you. That's amazing. It's a duty that we are fulfilling, but it's also fulfilling to be able to perform that duty on behalf of the voters. I'm in for another election, yes.
- We had a dedicated substitute there to make sure that the scenario just mentioned (no break time) didn't happen. We had a much more laid-back environment, and everyone had time for breaks, food, and whatnot.

6. What were some of the most common misperceptions you encountered?

- Understanding of under-voting or over-voting—people asked, do I have to vote for this race for the ballot to count?
 - The way that a particular county does it is not the way that all counties do it. I think most people think that the way they vote in their precinct is how it is done statewide.
 - Some people were bringing in a ballot that had been mailed to them that they “didn’t request.” I don’t know if that was a mistake in the system or if they just forgot, but they just thought everyone got a ballot mailed to them.
 - I think there are a lot of misunderstandings about voting by mail and voter fraud by mail versus absentee voting. People had the idea that the county didn’t know who got a ballot or who it came from. Also, people think vote-by-mail and absentee voting are the same thing.
 - The only issue that I would mention is that people would come to the polling place with their requested mailed ballot in hand. We could not accept them, and that seemed to perplex people, but they seemed satisfied that they could vote in person and witness the spoiling of the mailed ballot.
 - Another concern that I heard from a few of the voters was around the authenticity of their signature. Some felt that as their signature changed due to age-related ability to write or preferences in script, that their absentee ballot would be rejected.
7. **What suggestions would you have to improve poll-worker training, especially for first-time poll workers?**
- Change the training by splitting it up—one section more specifically oriented for machines and another for the pitfalls that can happen and how to solve them. We could do different scenario-based training on how a voter moves through a precinct. Also, we get too much at once—you have to throw out the first idea in your brain to make room for the eleventh.

- Because I was trained for a position, I felt comfortable where I was stationed but would not have felt comfortable in another position. I feel like position-specific trainings are helpful, but could we access more of them to be able to be more valuable or more flexible?
- 8. What do you want to know before returning to this position again? How likely would you complete “homework” if it were given to you, and how much time would you commit annually to that?**
- I did not volunteer to be the chief judge either time. I was just told that is where I was needed. I don’t normally get involved in politics, but this is fun. If we had the two-hour training plus the more detailed pieces, it would stick with me longer. I think testing for understanding is fully reasonable.
 - I think testing/homework is a great idea, and there is no such thing as too much information, just too much information in too short a time. For those familiar with the process, they could always bypass the information they don’t need to see if they can “test out.” Any training I can get, I’m all over it.
 - Quizzes are given to see both how much someone knows and how well a subject is taught. It can gauge both ends of the spectrum. I would watch videos all the time if they were available, and I think that videos are a great means of communicating with both visual and hearing-based learners.
 - I enjoyed it, and it wouldn’t take much for me to come back. There is so much to learn, and I am excited about the process. I’d be willing to do more take home than I did, especially at a four-hour-or-less level.
 - I think all aspects of learning and all learning types should be leveraged when possible. I would have no resistance to additional training. The more the merrier.

- The more we are equipped as poll workers, the more we are able to make the vote happen for people. I don't think you can be over-equipped for this.
- 9. Do you have any final thoughts to add?**
- Since we serve on jury duty and we do it regularly, why not be "voluntold" to be poll workers? I had never considered working until I was asked by a personal friend. It's not as hard as one might think.
 - Could we use public service announcements for poll-worker recruitment? Should someone create a video ad that can play there?
 - I appreciate being a part of the process now. Having done it once, I'll be up to doing it again, but no matter the format the training ultimately takes, we should be encouraging anyone interested in participating as a poll worker to look at the training in advance, which means making it available in advance.
 - Could we develop a type of scenario-based training, like the alternate ending books, for a poll worker that covers the voting process? That way the poll worker could walk through the different interactive decisions that could play out.
 - A small community, even with an active pandemic and a volatile election year, will view the privilege of casting a vote as an American tradition and act appropriately.

10. Additional Commentary from Focus Group Leader

Based on the answers by the midpoint of the focus group, I wanted to gauge, through a scenario-based question, whether the poll workers' training gave them the procedural understanding of how a voter could be challenged.¹³⁷ Consistent with the IRB-

¹³⁷ The process known as challenging a voter is a procedure by which someone designated by a chief judge or election official as a challenger for a polling location can contest the qualifications of a voter to receive a ballot. Upon the issuance of a challenge, different states have varied procedures by which a challenged voter may proceed, either with a provisional ballot or by signing an affidavit, for example.

approved process of using the questions as discussion starters, the scenario proposed was an uncommon event in most precincts but one that did have a specific procedure to follow.

I first asked whether they were comfortable with how to handle a challenged voter at the pollbook. At the time of the question, there were six people on the line. Two responded that they were comfortable while four responded that they were not. I then asked the question through a scenario—What would you do if a challenge happened once the ballot had been placed in the tabulator? With this scenario, all four “no” respondents still said no but did not recognize that I had asked an unreasonable question, as the voter can only be challenged at the start of the process and not at the end. One of the two “yes” respondents picked up on the issue that one cannot challenge a voter past the check-in phase while the other did not remember ever being trained on that scenario but could not come up with a reason to allow or deny it.

B. FOCUS GROUP ANALYSIS

Poll-worker training varies greatly and is not necessarily related to the size of the county performing it. In fact, the lower turnover and smaller training numbers typically found in smaller jurisdictions lead to more intimate, more tailored trainings for first-time individuals. Training materials are often used to supplement the approximately two-hour to two-and-a-half-hour training schedule, assigned in advance to be reviewed before the training for familiarization.

The part-time nature of the positions that poll workers fill is not a limiting factor when it comes to the amount of training they are willing to undergo to serve. A sense of civic duty and personal pride appears to override the time or return on investment that one might typically associate with training for a paid position. While participants on average did not identify a sense of under-preparedness, their confidence often relied more on knowing where to go to get the answer than on knowing an answer. Because of the motivating factors of duty, accuracy, and importance of role, participants voiced a high commitment to self-education, including but not limited to several hours of at-home training and material review before formal training.

Poll workers have a high proclaimed confidence in their knowledge of procedures; however, based on having only one of six participants answer the scenario-specific question correctly, they may over-appraise their knowledge when self-reporting without a measurement tool or test instrument. Nevertheless, regarding the scenario question, while only one out of six would have clearly responded to the issue presented on election day without assistance, that one participant had been trained as a chief judge. For the others, assistance notably would have been available to them in the form of a superior.

Position-specific trainings and clear process maps appear to help participants compartmentalize the vast amount of information that could be made available. Furthermore, a high reliance on interdependence and collective knowledge appear to allow individuals to develop specific areas of understanding while others do the same in another specialization, such as checking in voters, spoiling and re-issuing ballots, or operating tabulation machines. Self-reference guides, charts, and cheat-sheet-type tools were utilized in many jurisdictions and found to be extremely helpful to poll workers.

Voter understanding of the processes involved in elections is relatively low, and combined poll-worker and voter-education campaigns could dispel many common misperceptions. These similar campaigns could serve as a recruiting tool for poll workers as well, potentially helping what appears to be a shortage.

C. ELECTION COORDINATOR INTERVIEWS

The first interview was set up with the elections training coordinator, “Daisy” of the large county—the third largest in Idaho (see Table 1).¹³⁸ In a typical election, Daisy trains approximately 320 temporary, part-time, paid poll workers to address the needs of the various precincts across the county.

¹³⁸ The county and its respective trainers have been anonymized by this author.

Table 1. Large Jurisdiction Demographics as of November 2020¹³⁹

County Demographics	Large County, Idaho
Population (estimated)	170,628
Rank in population size (based on estimate)	3rd
Registered Voters	103,549
Voting Precincts	70
Typical Poll-Worker Count	320
New (First-Time) Poll Workers	200

In 2020, the large county received a grant from the Idaho Secretary of State's Office, made possible by the 2020 COVID CARES Act through the Election Assistance Commission. With funding from this grant, according to Daisy, the county acquired new electronic pollbooks and ballot-on-demand printers for the general presidential election in November. One of the recurring themes during the interview was how this technology impacted the election process and how it was received by voters and those working the polls.

One area of tension centered on voters not clearly understanding the purpose of the pollbooks, and where they fit in the voting process. Because the pollbooks communicated wirelessly with a central statewide database, they reflected near-real-time updates on the status of a voter's absentee ballot, giving poll workers the capacity to void or spoil an outstanding absentee ballot and allowing an individual to vote in person. This connectivity, however, was initially mistaken by many trainees, according to Daisy, as a connected voting machine, something they had learned from the media was a cybersecurity risk. "In hindsight, I wouldn't have introduced new electronic pollbooks in a presidential. It got confused with 'voting online' because of all the rhetoric in the media," said Daisy. "Anything plugged into a wall [the machines ran on 110v power and communicated with each other over an onsite ad hoc network] had to be bad."

¹³⁹ Adapted from "County Population Totals: 2010–2020," Census Bureau, accessed July 8, 2021, <https://www.census.gov/programs-surveys/popest/technical-documentation/research/evaluation-estimates/2020-evaluation-estimates/2010s-counties-total.html>; "Voter Registration Totals," Idaho Secretary of State's Office, accessed July 8, 2021, <https://sos.idaho.gov/elections-division/voter-registration-totals/>.

Providing extended exposure to the pollbook technology beyond the initial training for the poll workers proved to be a key differentiator. Daisy offered that a large base of the county's poll workers before 2020 were elderly, so the new technology might have been unnerving to them. The county created a two-week window for poll workers to observe others use the technology or even try the machines themselves. Making time for them to have hands-on unstructured use before the rollout was beneficial. "When they saw how user-friendly they [pollbooks] are, they became more comfortable with them," Daisy observed.

Unique to the 2020 election, Daisy trained an exceedingly large group of first-time poll workers. While out of roughly 320 workers there had been only 26 and 36 new first-time workers in the March and May 2020 elections, respectively, the November crew included 200 first-timers among a total of 350 temporary workers. This huge increase was attributed to the increased exposure risk to elderly individuals from the COVID-19 pandemic.

The average training session in the large county was held in a single evening, typically two and a half hours in duration. The training was offered three to four weeks before election day, as early voting locations typically opened within two weeks of the election. Daisy described the following about the training:

- Training was accomplished with up to 40 workers in a session, with multiple sessions scheduled in a day. This kept class sizes smaller.
- Participants signed up for sessions online via scheduling software.
- Smaller groups tended to have better engagement and ask more questions.
- The classes, one on policy and the other on process and technology, were approximately one hour each and included a 15-minute introduction at the beginning and a 15-minute break in between them.
- Sessions were then broken into two groups of 20, and trainers switched at the midpoint.

- Workers received handouts, referred to as “cheat sheets,” to reference on election day. Based on job descriptions or roles on election day, these cheat sheets were used extensively for reference and continued study.
- To combat side-distractions such as meal planning and social media use, quizzes and incentives like chocolate for right answers kept trainees engaged. As Daisy explained, “People put their cell phones down once they know there is chocolate available.”
- The county offered a training website with the presentations for further review after the classes, and the web address appeared on the cheat sheets that went home with each trainee.
- A specific challenge the county faced was having people complete the training but then back out before election day or not show up at all. This happens in one to two precincts every election, according to Daisy. The challenge in addressing this problem lies in the inability to run a new training session for replacement workers due to time.

1. Large Jurisdiction Analysis

The following points from the interview summarize the most important discoveries:

- Regarding the electronic pollbooks and their connected status, neither poll workers nor voters initially understood what phase or step in the process the tool was addressing. Nor did they understand what security measures were being applied to ensure integrity and why the technology did not represent a significant risk to election integrity.
- Poll workers tended to be more elderly and appreciate additional time to become familiar with new technology.
- As poll workers continued to age up and out of service, training a new work force and replacing tacit knowledge becomes more critical.

- Actual poll-worker training time was extremely limited, possibly even less than eight hours before arriving on post for a shift.
- Due to this limited training, creating alternative reference guides and making additional exposures available increased poll-worker effectiveness and preparedness.
- Temporary workers have shown they are willing to put in additional unpaid training time to do the job well.

The second interview was set up with the elections training coordinator, “Jenny” for the small county—ranked 36th of 44 counties by population in Idaho (see Table 2).¹⁴⁰ For the November 2020 election, Jenny had to train only 80 temporary, part-time, paid poll workers, the majority of whom were experienced workers, to address the needs of the various polling locations across the small county.

Table 2. Small Jurisdiction Demographics as of November 2020¹⁴¹

County Demographics	Small County, Idaho
Population (estimated)	6,143
Rank in population size (based on estimate)	36th
Registered Voters	3,688
Voting Precincts	10
Typical Poll-Worker Count	80
New (First-Time) Poll Workers	8

Like the large county, the small county received a 2020 COVID CARES Act grant funded through the Election Assistance Commission and administered by the Idaho Secretary of State’s Office. The small county spent over 75 percent of its funding on personal protective equipment (PPE); postage; personnel expenses, for example, overtime due to increased COVID workloads; and five new laptops for its staff. These investments

¹⁴⁰ The county and its respective trainers have been anonymized by this author.

¹⁴¹ Adapted from Census Bureau, “County Population Totals”; Idaho Secretary of State’s Office, “Voter Registration Totals.”

were predominantly security and modernization expenditures, as opposed to creating new election capabilities by purchasing new equipment.

The county did not purchase electronic pollbooks. “The only tech we use are Express Votes [a machine that facilitates adaptive voting] . . . because the consumers don’t have confidence in *what* the machine is supposed to accomplish for them. . . . They are concerned the data is connected to a bigger ‘hub,’ and voters want to make sure that their ballot goes to a ‘safe place,’” says Jenny. Especially following the 2020 presidential election cycle, according to Jenny, “voter confidence is lower.” Even with that observed drop in confidence and the county’s reluctance to adopt new technology, the county is looking into adopting electronic pollbooks for 2022.

Its poll workers plan to attend an election in a neighboring county in 2021 to watch the electronic pollbooks in action because county leaders believe the technology presents an easy-to-maintain option to which voters statewide have responded positively. Should the county ultimately decide to make the purchase, leaders believe that a rollout plan will be key to a successful implementation. “A segment of our population believes that elections can be ‘rigged,’ that conspiracy exists,” explains Jenny. She maintains that if the voters had something to consume to help them understand how the machines and the process of voting work, they would have more confidence in the process.

The county’s largest city is home to nearly half the county’s population. The county seat has a population of just over 500. As such, the entire county is captured in just 10 precincts. Each uses a team of eight poll workers, for a part-time poll-worker group of around 80. In the November 2020 election, only eight of these poll workers served for the first time. “With a small community, we have one-on-one training with new people because we have the ability to do so,” says Jenny. Trainers use physical samples of registration cards and pollbooks in their trainings and, except for first-timers, typically “deep-dive one topic per election, then skim and Q&A the others, as well as review any issues from the previous election,” according to Jenny. Once a year, all poll workers come together for a full overview of all the steps, and they are encouraged to rotate positions on an election-by-election basis for additional growth. “They are very serious about this job,” Jenny claims. When asked how she thought they would react to additional out-of-office training

delivered at home, she responded, “I’m positive that all our poll workers would be ecstatic to have homework in the month prior to an election.”

Jenny described the following about the training:

- Training is easier to pull off because everyone knows everyone. There is relational context and trust due to the community’s size. However, this trust makes poll workers significantly more influential in the eyes of the voter, a situation that can be both good and bad.
- Finding new poll workers is a challenge, which makes fill-ins and back-ups difficult.
- Poll workers are older and, as such, a little set in their ways, so anything new takes a few repetitions to get them used to it.
- Elections in the county office are basically “a one-person show,” as only four total workers in the office fulfill eight county functions.
- There is less technology to train on, as the small county counts ballots by hand and at the precinct (i.e., manual, precinct tabulation).
- Flip charts of processes and physical samples of consumables are used as references for poll workers to complete their jobs accurately. One particular success story was a first-time chief judge who came into the office, put in additional personal time for training, and went through every flip chart.

2. Small Jurisdiction Analysis

The following points from the interview summarize the most important discoveries:

- In a smaller community, relational context increases efficiency of training.
- Poll workers are highly dedicated to their work, but learning opportunities are limited.

- The tight-knit nature of the group, with low numbers and high retention, could facilitate friendly competition.
- Technology, while not prevalent, is feared but not rejected. Once understood as beneficial to the job, the technology will be received openly.
- Temporary workers have shown they are willing to put in additional unpaid training time to do the job well.
- A lack of exposure (e.g., to processes or technology) drives fear of adoption.
- Given the small size of staff, anything that improves efficiency would be welcomed.

3. Comparative Analysis: Large versus Small County

Based on information gleaned from both the small and large county trainer interviews, the following comparative and contrasting points are noted:

- With regard to implementing new technology, fear and a lack of understanding drive resistance to adoption in both small and large counties. Larger counties, which tend to have greater access to funding, may adopt technology more quickly but not necessarily accept it widely while smaller counties have more opportunities to take their time and let acceptance build before the acquisition.
- Both small and large counties face the common challenges of older poll workers who are resistant to change until they can see the benefits of a technology.
- Both small and large counties operate in a limited training window, averaging less than three hours of formal training.

- Both small and large counties rely on analog reference guides as a fallback to retained knowledge, whether in the form of notes from training, flip charts, or quick-reference guides.
- Both trainers were confident that exposing poll workers more extensively to technology would increase their effectiveness, preparedness, and technology acceptance.
- Though only temporary and part-time, poll workers in both small and large counties have demonstrated the desire and ability to do the job well, and their trainers believe they would be willing to put in time outside of formal training to increase their competency.
- While the small county cited the small staff size and the large county the sheer number of people it needed to train, both agreed that tools to improve the efficiency of training or serve as force multipliers would be advantageous to the training of poll workers (see Table 3).

Table 3. Comparative Analysis¹⁴²

	Large County	Small County
2020 Population (estimated)	170,628	6,143
Rank in population size (of 44)	3rd	36th
Registered voters	103,549	3,688
Voting precincts	70	10
Typical poll-worker count	320	80
New (first-time) poll workers	200	8
On what did you spend the majority of your 2020 COVID funding provided by the Idaho Secretary of State, or any federal COVID relief funds?	Electronic Pollbooks (EPBs)	PPE, postage for absentee ballots, personnel costs for overtime, and five new laptops for elections
What technology do you use?	EPBs, ballot on demand, Elections Software & Solutions (ES&S)'s central count tabulators, and ES&S Express Votes	ES&S Express Votes
How comfortable are consumers with the tech you use?	Fairly confident. We've used tech for a while and have good adoption.	Consumers have low confidence due to low utilization.
How comfortable are your poll workers with the tech you use?	Extremely now, but it wasn't easy getting there. They get multiple opportunities to familiarize with it prior to using it in front of public.	Reluctant and hesitant, until they use it and see how easy it is. Going to another county to watch EPBs in use this year.
How is voter confidence in the election system?	low	low
Do you face conspiracy concerns or rigged elections allegations from the public?	definitely	yes
Would training materials specific to the technology help with your poll workers' acceptance?	yes	yes
Would training materials specific to the technology help with your voters' acceptance?	yes	absolutely
Biggest challenge	Time and volume. Too many people to train effectively in traditional ways.	Poll workers are significantly influential in a voter's eyes, which can be both good and bad.
Best tool	Chocolate during training for attention retention (reward for pop quizzes)	Take home flip charts and handouts, 1:1 training of new recruits
Would your poll workers take on additional at-home training, and if so, how many hours do you think they would take?	Definitely, and up to 3–4 hours.	Willing to put in unpaid time to do the job well, likely 2–4 hours, more if due to friendly competition.
Additional Comment	Voter no-shows are a consistent and challenging problem.	Anything that can help us scale our small staff and improve efficiency is welcomed.

¹⁴² Demographics adapted from Census Bureau, “County Population Totals”; Idaho Secretary of State’s Office, “Voter Registration Totals.” Demographics are based on data as of November 2020.

V. CASE STUDIES

This chapter presents two case studies that illustrate opposite outcomes for nearly parallel situations—a failed 2020 reporting application rollout and a successful 2016 rollout of a solution with similar functions. This approach is used to identify important foundational practices for implementing and deploying consumer-facing technology in the election space. The analysis of these case studies appears in reverse chronological order to emphasize the failures exhibited in 2020 before revealing the simple differences that led to a successful deployment four years earlier. The author examines how lessons observed by comparison can be translated to poll-worker training. Specific attention is paid to lessons that will assist in setting poll workers up for success when deploying new technology in the election environment, thus providing positive voter experiences and instilling confidence in that technology.

Before approaching the case studies, a bit of historical context is in order. Following 2012’s premature declaration by the Iowa Republican Party of Mitt Romney’s win by a mere four-vote margin—a result that days later would be overturned upon recount and become a 34-vote victory for Rick Santorum—Iowa chose to fund the development of an application for both parties to use in calculating and reporting results statewide in 2016.¹⁴³ It would present the total delegates on a precinct-by-precinct basis and be tailored to each party’s unique caucus processes.¹⁴⁴ As 2020 approached, however, some rules had changed, and the state had not yet offered to pick up the tab.¹⁴⁵ As a result, the Democratic Party of Iowa appears to have gone its own way. “The Iowa Democratic Party didn’t respond to request for comment on why it didn’t use the 2016 app [for 2020], and Microsoft

¹⁴³ Aaron Blake, “For Iowa, a Second Caucus Debacle in Eight Years,” *Washington Post*, February 4, 2020, <https://www.washingtonpost.com/politics/2020/02/04/iowa-second-caucus-debacle-eight-years/>; Morrison, “Iowa’s 2016 Caucus App Worked.”

¹⁴⁴ Dan’l Lewin, “Microsoft Technology to Usher in New Era for 2016 Iowa Caucuses,” Microsoft, June 5, 2015, <https://blogs.microsoft.com/on-the-issues/2015/06/05/microsoft-technology-to-usher-in-new-era-for-2016-iowa-caucuses/>.

¹⁴⁵ Smiley, “Iowa Caucus Results Delay.”

wouldn't comment beyond a tweet from a spokesperson that said it wasn't involved in the 2020 app," wrote Sara Morrison in her post-2020-caucus review.¹⁴⁶

A. FAILURE OF THE 2020 IOWA CAUCUS APP

"First in the nation." That is the unofficial tagline of the Iowa Caucuses. Since 1972, Iowa has had the distinction of hosting the first presidential nominating processes in the country for both principal U.S. political parties. To maintain that distinction, the Iowa Legislature established the practice in law, saying the state must schedule its caucuses at least eight days before any other state.¹⁴⁷ It has been said that Iowa is "not first because they're important; they're important because they're first."¹⁴⁸ That special distinction proved problematic in 2020, when the new app developed to report the Iowa Democratic Party's 2020 caucus results failed dramatically on its spotlight night of February 3, delaying initial results by days and final results by nearly a week, ultimately leading to recounts that consumed the remaining month of February 2020.¹⁴⁹

Kim Smiley, a mechanical engineer and specialist in root cause analysis who investigates failures from an engineering perspective, analyzed the failed rollout of the 2020 Iowa caucus app.¹⁵⁰ At the core of the app's failed deployment were four contributing factors: a lack of experience; a lack of proper funding; a lack of adequate time, which led to derivative issues such as a lack of testing, poor deployment tactics, and a lack of proper end-user training; and a poorly constructed contingency plan.¹⁵¹ See Figure 9 for a map of the causal relationships between these factors and related decisions.

¹⁴⁶ Morrison, "Iowa's 2016 Caucus App Worked."

¹⁴⁷ "Code Section Listings," Iowa Legislature, accessed July 17, 2021, <https://www.legis.iowa.gov/law/iowaCode/sections?codeChapter=43&year=2021>; Iowa Code, § 43.4(1) (2021).

¹⁴⁸ "Iowa Democratic Caucus Election Results," *Des Moines Register*, February 29, 2020, <https://www.desmoinesregister.com/elections/results/primaries/democratic/iowa/>.

¹⁴⁹ Associated Press, "Nevada Democrats Dropping Caucus App after Iowa Fiasco," *MarketWatch*, February 4, 2020, <https://www.marketwatch.com/story/nevada-democrats-dropping-caucus-app-after-iowa-fiasco-2020-02-04>; "Iowa Democratic Caucus Election Results"; Blake, "Second Caucus Debacle in Eight Years."

¹⁵⁰ "Kimberly Smiley, P.E.," LinkedIn, accessed August 29, 2021, <https://www.linkedin.com/in/kimberly-smiley-p-e-2a1b4666/>; Smiley, "Iowa Caucus Results Delay."

¹⁵¹ Smiley, "Iowa Caucus Results Delay."

While several parties, ranging from the end users to the Iowa Democratic Party, might bear some blame in the failure of the 2020 Iowa caucus app, the greatest weight lands on the shoulders of a company formerly named Shadow, which following the Iowa failure changed its name to BlueLink.¹⁵² Shadow was hired to handle the Democratic caucus, by many accounts, only months before the crucial February event date—some say August while others say the timeline was even more condensed.¹⁵³ Project management methodology generally prioritizes decisions based on three key variables—time, budget, and scope—assuming quality is a necessary predefined constant. These variables collectively constitute what is known as the theory of triple constraint, which holds that if one of the three variables is changed, one of the other two must also change for the third to stay in balance without altering quality.¹⁵⁴ In other words, “Good, fast, or cheap. Choose two.”¹⁵⁵ For example, if a vendor wanted the scope of a project to expand, either the time to complete the project or the price charged would likewise have to increase. Based on this principle, one can shorten the time to delivery by increasing personnel, but only with increased cost and if scope does not change—lest product quality falters. To that end, the following variables are considered.

1. Time

The constraint of time was important, as Shadow was notably short of it. Smiley’s case study indicates that Shadow began work in August for a January deadline—a period of five months.¹⁵⁶ Other press reports following the caucus stated that Shadow had less than two to three months in total.¹⁵⁷ As the timeline compressed around the company,

¹⁵² Theodore Schleifer, “The Democratic Party’s Most Hated Startup Can’t Change What Happened in Iowa. But It Can Change Its Name,” Vox, May 8, 2020, <https://www.vox.com/recode/2020/5/8/21251438/shadow-bluelink-iowa-caucus-app-rebranding>.

¹⁵³ Morrison, “Iowa’s 2016 Caucus App Worked.”

¹⁵⁴ C. J. Van Wyngaard, J. H. C. Pretorius, and L. Pretorius, “Theory of the Triple Constraint—A Conceptual Review,” in *Proceedings of the 2012 IEEE International Conference on Industrial Engineering and Engineering Management* (Piscataway, NJ: IEEE, 2012), https://www.academia.edu/8294762/Theory_of_the_Triple_Constraint_a_Conceptual_Review.

¹⁵⁵ Van Wyngaard, Pretorius, and Pretorius.

¹⁵⁶ Smiley, “Iowa Caucus Results Delay.”

¹⁵⁷ Rosenberg et al., “Faulty Iowa App”; Morrison, “Iowa’s 2016 Caucus App Worked.”

Shadow’s app developers had insufficient time to obtain approval from Apple for inclusion in its App Store, and similar issues arose on the Android side of the market. Thus, users would have to go through a process to bypass their phones’ security to install the app manually—a significant product quality issue from a usability standpoint.¹⁵⁸ Ultimately, this installation work-around, which was a function of too little time, would mean that fewer than 25 percent (439 out of 1,700) of those required to report results would even install the app by caucus night.¹⁵⁹ It also meant there was likewise little time for pre-rollout bug testing and no time for an update to be pushed once a bug was identified on election night, as users had already begun to submit inaccurate results.¹⁶⁰ In short, Shadow had too little time for the scope of the task.

2. Experience

Regardless of whether the company had two months or six, the small team of inexperienced engineers at Shadow were unequipped to produce such a product given the tight timeline.¹⁶¹ The company had never developed a product of this nature and had previous experience only in creating texting and donation apps for the political market, based on their list of clientele.¹⁶² As a result, critical errors were made in almost every aspect of project management. Furthermore, no explanations were given for Shadow’s “secret” selection by the Iowa Democratic Party, leaving the public to speculate as to the founders’ connections to Hillary Clinton’s failed 2016 presidential campaign and subsequent ties to the DNC.¹⁶³ Essentially, its lack of experience prevented the company from identifying the proper scope, necessary resources, and appropriate timeline.

¹⁵⁸ Smiley, “Iowa Caucus Results Delay.”

¹⁵⁹ Smiley.

¹⁶⁰ Smiley.

¹⁶¹ Swoboda, “People, Not Technology, Failed in the 2020 Iowa Caucuses.”

¹⁶² Michael Biesecker and Brian Slodysko, “Maker of Glitchy Iowa Caucus App Has Democratic Party Ties,” AP News, February 4, 2020, <https://apnews.com/article/donald-trump-iowa-campaign-2016-election-2020-technology-5232ce5601996c1de440806ad30fa4fb>.

¹⁶³ Biesecker and Slodysko.

3. Funding

Campaign finance reports collected by the *New York Times* showed that Iowa paid only \$63,183 for the project.¹⁶⁴ Nevada reports having paid “technology services” in an amount of \$58,000 in August to Shadow, with an additional \$50,000 spread over October and December.¹⁶⁵ Following the Iowa caucus, Nevada chose not to use the app. Between these two states and based on their reports, this author estimates that Shadow would have received payments of merely \$171,183 for the endeavor. As is shown in the subsequent case study, this figure is a comparably small amount for the development of such a critical application in such a tight timeline, and it does not equate with sufficient funding to hire the additional engineers who would have been necessary to adjust for the shortfalls in either the experience or timeline areas from a project management perspective.

4. Contingency Planning

With roughly 75 percent of the user population unable or unwilling to install the application, the contingency plans became a prominent focus of the overall deployment. A phone bank had been established with human operators originally intended to provide customer support on the application. Instead, it became a hotline through which the results ultimately were reported. The phone bank, however, was understaffed to cover the volume of calls—a volume four times greater than anticipated—and unprepared to handle incoming results reporting, likewise causing it to fail.¹⁶⁶ Combined with the prevalent human-induced errors from operating under timeline stress, several reporting discrepancies began appearing in the results, eventually leading to requests for recounts from two presidential campaigns. The bottom line was, when all else failed—and it did—so did the backup plan.

¹⁶⁴ Rosenberg et al., “Faulty Iowa App.”

¹⁶⁵ Associated Press, “Nevada Democrats Dropping Caucus App.”

¹⁶⁶ Smiley, “Iowa Caucus Results Delay.”

5. A Set-Up for Failure

In summary, timing or lack thereof proved to be everything, both in the challenges faced and in a lack of solutions to them. According to Smiley, “If the issues with the app had been identified earlier and were fixed prior to the caucus, then a lot of heart burn, embarrassment, and stress could have been avoided.”¹⁶⁷ With the timing as it was, however, Iowa’s Democratic Party faced a series of delays and recounts that did not subside until February 29, when the Iowa Democratic Party finally announced the results.¹⁶⁸ It did not have to be that way, however. The 2016 Iowa caucus provides insight into how a project with relatively similar functionality requirements succeeded for the Iowa Democratic Party as well as its Republican counterparts.¹⁶⁹

¹⁶⁷ Smiley.

¹⁶⁸ “Iowa Democratic Caucus Election Results.”

¹⁶⁹ Morrison, “Iowa’s 2016 Caucus App Worked.”

75

B. SUCCESS OF THE 2016 IOWA CAUCUS APP

The results of another app deployment stand in stark contrast to the outcome and events of the Iowa Democratic Caucus of 2020, and ironically, it was also in Iowa—in 2016. Guided by a company called InterKnowlogy, under a contract from well-known U.S. software provider Microsoft, the 2016 app was used by not only the Iowa Democratic Party but also the Republicans. It was experimental, had a similarly low-adoption percentage, and leveraged a contingency plan for those unwilling or unable to use the application. Because the two apps share so many similarities yet saw such different outcomes, the 2016 app can provide insight into those things done differently. Ironically, because the rollout of the 2016 app experienced far fewer public complications than the 2020 app did, most of the public has likely never heard of it.

1. Experience as a Predictor of Success

InterKnowlogy is an enterprise software development firm, recruited by Microsoft to assist both of Iowa’s political parties by providing a “mobile-enabled, cloud-based platform that will facilitate accuracy and efficiency of the reporting process.”¹⁷¹ The company is a Microsoft Gold Partner, which means it has a dedicated vendor support agreement directly with Microsoft solutions engineers should an unforeseen conflict arise during a client’s project.¹⁷² Given that the Iowa Republican Party had incorrectly declared Mitt Romney the official winner of the caucus in 2012, both parties were looking for a better solution to assist them in collecting caucus reports on primary night and tabulating those results more accurately.¹⁷³ They reached out to Microsoft, and the project was kicked off to create the first of its kind mobile app for the first-in-the-nation primary state. As Microsoft engaged, it looked to a partner with whom it had completed several “primetime apps,” such as the CNN Magic Wall, according to co-founder and co-CEO of

¹⁷¹ Lewin, “Microsoft Technology to Usher in New Era.”

¹⁷² Stan Freck, “Microsoft Technology Powers the 2016 Iowa Caucuses,” *Microsoft Industry Blogs*, March 1, 2016, <https://cloudblogs.microsoft.com/industry-blog/government/2016/03/01/microsoft-technology-powers-the-2016-iowa-caucuses/>.

¹⁷³ Blake, “Second Caucus Debacle in Eight Years”; Morrison, “Iowa’s 2016 Caucus App Worked.”

InterKnowlogy, Rodney Guzman.¹⁷⁴ Not only did Guzman's team have experience partnering with Microsoft on large-scale apps that had to be right the first time deployed, it also had a deep bench of engineers, assigning as many as five to seven of them to the project at once, with an entire support team in place on rollout night should anything go wrong. This deep bench would prove beneficial in reducing needed time and valuable as an element of the contingency plan.

2. Time

According to Guzman, InterKnowlogy had roughly a year to work on the project from concept to completion for the 2016 Iowa primary, and spent as much as three months on the front end "on product design, meeting with both parties, and doing usability studies to anticipate precinct chair's needs."¹⁷⁵ The team's project scoping and requirement documentation was so in-depth that it had determined details down to the size of the buttons used on the phone's screen before even beginning actual development.¹⁷⁶ Preliminary testing alone was, according to InterKnowlogy software engineer Michael Gramley, a two-month step in the development timeline.¹⁷⁷ Also factored into InterKnowlogy's timeline was a window of months during which a customer service team would interface with end-user precinct chairs, many of whom in 2016 might not have owned or used a smartphone or had "little experience with apps, let alone any familiarity with necessary security measures like two-factor authentication," said Gramley.¹⁷⁸ Finally, the timeline defined for the project allowed for the app to be rolled out through Apple's App Store and the Android Marketplace, two established distribution channels with understood installation protocols, as early as October 2015. This distribution path also allowed for application updates and code changes as standardized updates through the normal process on the user's phone should a bug be found.

¹⁷⁴ Lewin, "Microsoft Technology to Usher in New Era"; Morrison, "Iowa's 2016 Caucus App Worked."

¹⁷⁵ Morrison, "Iowa's 2016 Caucus App Worked."

¹⁷⁶ Morrison.

¹⁷⁷ Morrison.

¹⁷⁸ Morrison.

3. Finances

While no hard figure was published, InterKnowlogy is reported to have had adequate resources to put five to seven full-time software engineers on the project, a level of effort that would have yielded a payroll of over \$1,000,000 for the project, according to Gramley.¹⁷⁹ Guzman, while unwilling in his interview with case study author Sara Morrison to share exactly what his company was paid in 2016 for its work, likewise put the number north of the \$1–\$1.5 million mark, stating that it was “at least” 10 times what Shadow was paid in 2020.¹⁸⁰ These significantly larger financial resources allowed InterKnowlogy to produce an app that deployed smoothly, worked as intended, and met the needs of the customer.

4. Contingency Planning

Anticipating that they would need to provide customer support on the night of reporting, and that for whatever reason some users would need to report their results by an alternative channel, InterKnowlogy devised an automated phone system. Focused on simplicity, the automated prompts allowed users to manually enter their results for a given precinct and verify those results without needing to speak to a human unless the data were incorrect. This system proved to be highly scalable and saw little to no wait times, with adequate resources allocated for the size of the userbase.¹⁸¹

C. CASE STUDY COMPARATIVE ANALYSIS

While the products designed by both parties in the case studies were similar, the outcomes were vastly different. The applicable variables observed included the experience of the firm, the time available for completion of the project, the funding available to the project, and the contingency plans in place should something go wrong. These specific areas showed stark contrasts between the two cases examined and appear to have been determining factors in the significantly different outcomes.

¹⁷⁹ Morrison.

¹⁸⁰ Morrison.

¹⁸¹ Morrison.

1. Experience

In terms of experience, InterKnowlogy was an established Microsoft Gold Partner, a certification level that brings with it resources like dedicated Microsoft developer support.¹⁸² Backed by one of the largest software manufacturers in the world, InterKnowlogy had the customer support teams and project managers sufficient to provide deep coverage to multiple customers at once. Shadow was a small shop that had focused primarily on text-messaging solutions, with little experience in the app development space or on an app with this level of criticality.

2. Time

InterKnowlogy took on the project in 2015 with over a year to prepare and spent more time in product design discussions than Shadow did on the whole project. The former also spent more time testing the app after developing a code-complete product than Shadow did actually developing its product. Guzman is reported to have said that if he had been offered the timeline Shadow was given, he would have rejected the project.¹⁸³

3. Funding

Funding is a visibly evident differentiator, with a multiple of 10 in favor of InterKnowlogy as a starting point. While Shadow was reportedly working on other projects for other clients, the total reported to the Federal Election Commission for this project from the Iowa Democratic Party was below \$65,000. Even in adding an additional \$108,000, as reported by Nevada, the total constitutes a significantly smaller pool of resources from which Shadow could try to hire its way out of an issue.

4. Contingency Plans

The contingency plans likewise differentiate how each company answered the question “What if . . .?” Shadow appeared to have put the phone bank in as an afterthought, not providing nearly enough capacity for the thousands of calls it would eventually get,

¹⁸² Freck, “Microsoft Technology Powers the 2016 Iowa Caucuses.”

¹⁸³ Morrison, “Iowa’s 2016 Caucus App Worked.”

compounded by the calls from Trump supporters who had pulled the hotline number off a 4chan message board, and frustrating users who found the hotline number on social media.¹⁸⁴ InterKnowlogy, anticipating a need but understanding the requirements of scale, appears to have designed a plan that lacked a human limitation factor, instead solving the core requirement of the 2016 app—reporting the result—by providing a computer-driven interface that let users input numerical data using their keypads. See Table 4 for the side-by-side comparison of the cases.

¹⁸⁴ Smiley, “Iowa Caucus Results Delay.”

Table 4. Comparative Analysis, Iowa Caucus Apps¹⁸⁵

	Iowa 2016, InterKnowlogy	Iowa 2020, Shadow
Experience	Microsoft, a far-reaching company with extensive human resources, hired InterKnowlogy, a 20-year-old enterprise development company with a track record of “primetime apps,” as a subcontractor.	The Iowa Democratic Party hired a previously bankrupt company headed by two former Clinton campaign workers.
Time	*A one-year lead time, with three months in planning, design, and research. *More than six months of 5–7 full-time engineers during development (not including months of scoping and planning prior). *Code-complete deployment two months ahead of caucus with duration of time testing and debugging. *Engineering team still worked 80-hour weeks in final lead-up to caucus. *Got app to Apple and Android stores.	*August–December, according to Shadow CEO, though multiple reports say only 2–3 months for actual coding. *Did not get app approved at Apple or Android, leaving users to bypass security on devices to load the app.
Funding	Undisclosed but reported by InterKnowlogy exec as “at least” 10x more than Shadow, while another familiar with the project claimed engineers alone would have billed \$1–\$1.5 million Approx. \$2,000,000	\$63,138 in Iowa \$108,000 in Nevada Approx. \$171,000
Contingency Plan	Automated phone system to call in results. Sources say a “large percentage” still used this system over the app, but short of “a couple disconnections” there were few issues.	Human operators on phones, with too few phone lines to handle the volume that resulted from low install numbers and app bugs.

D. CASE STUDY TRANSLATION: BRINGING THE LESSONS LEARNED TO THIS THESIS

Perhaps the greatest differentiator in the case studies examined is not a single error but rather a whole greater than the sum of the parts—a combined failure to acquire in

¹⁸⁵ Adapted from Morrison, “Iowa’s 2016 Caucus App Worked”; Rosenberg et al., “Faulty Iowa App”; Associated Press, “Nevada Democrats Dropping Caucus App.”

advance the needed time, money, and experience—to set the user up for failure. Shadow found itself without enough of any one of the three constraints—time, cash, or experience—to ultimately afford its users the means to install the app through traditional channels. Shadow required users to undertake a foreign process to a common procedure, to bypass their phones’ security and follow a complicated set of written instructions to install the app, something fewer than 25 percent of the users accomplished. InterKnowlogy’s apps were available through common commercial pathways for both Apple and Android devices. This contrast underlines what this author believes may be the most important factor in successfully deploying technology at an election space: the capacity and limitations of the intended end users relevant to the technology, and the implications for designing a training plan. InterKnowlogy spent months, after making the app available to load by users, working with those users and training them in its correct use, resolving problems ahead of caucus night. Shadow, in contrast, used the phone line for reporting results on election night to solve app installation problems and provide customer assistance.¹⁸⁶

What is clear from these two case studies is that while proper time, budget, and contingency planning must be present for a technology rollout to be successful, it is an understanding of the limiting factors of the user population, whether voters, caucus chairs, or—in the case of this thesis—poll workers, that must be at the center of the discussion. If the poll worker cannot use or understand the technology or explain it to a voter, the technology will harm rather than bolster the voter’s experience and, thus, voter confidence in election integrity. Chapter VI further addresses these ideas and those drawn from the research interviews and focus group.

¹⁸⁶ Smiley, “Iowa Caucus Results Delay.”

VI. FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This thesis sought to address whether the training of poll workers generally—and their training on technology specifically—could be improved to enhance the voter experience and increase voter confidence in the election process. This was a necessary inquiry, as this thesis has established that, since 2004, voter confidence has been used as a measure of the voter’s willingness to accept the outcome of an election. Furthermore, this thesis has demonstrated that this willingness to accept the outcome of an election is a key component in sustaining democracy, as evidenced by the peaceful transition of power in the United States for over 200 years. Yet the peaceful transition of power was challenged more significantly following the 2020 presidential election than at any time in recent history, as societal events demonstrated a higher-than-normal percentage of voters who rejected the outcome of the 2020 presidential election. This rejection revealed a sentiment, which research has reinforced, that voter confidence as a measure of U.S. election integrity has been on the decline. Therefore, those responsible for setting election policies and administering elections in the United States must curb the erosion of confidence in the integrity of the American election ecosystem. In pursuit of that goal, the following findings and associated conclusions are presented for consideration in Section A, with recommendations for policy and practice in Section B of this chapter.

A. FINDINGS AND ASSOCIATED CONCLUSIONS

The following pages present several key findings that rose to the surface of the research and literature for this project. Election policymakers, election administrators, and professional public servants who operate within the realm of today’s election environment should examine each critical understanding. Following each finding is a conclusion in bold drawn from the work conducted herein. These are the author’s assertions of the necessary campaigns within the larger battle for the confidence of U.S. voters in the electoral process.

- The voters’ experience at the polls—in person on election day—has a direct corollary relationship to their confidence in the integrity of the election system; **therefore, it is in the best interest of the elections**

community to ensure those poll experiences are as positive as possible in terms of the ability to cast a ballot successfully, the time to do so, any issues encountered in that process, and the way those issues are handled.¹⁸⁷

- Poll workers are largely temporary, part-time staff who are hired and trained only shortly before they are needed for an election. Poll-worker interactions with voters in polling locations directly affect the voters' overall experience, either positively or negatively; **therefore, it is necessary to consider the manner and method used in training poll workers to increase their preparedness, and to recognize how poll-worker actions will impact voter experience.**
- Voters who have a greater understanding of the processes of an election have less reason to interact extensively with poll workers; **therefore, voter education is a critical component in combatting the erosion of voter confidence and a potential means of reducing the impact of poll-worker training on voter confidence by diminishing the voter's need for assistance at the polls** (see Figure 10).

¹⁸⁷ The focus on poll workers necessarily relegated the scope of this paper to jurisdictions that use such workers in a physical polling location on election day. While parallels might be drawn to early voting, it is this author's experience that the limited number of locations for early voting results in staffing by agency professionals. Nonetheless, the recommendations made here for training those individuals—and the impact their actions have on the voting public vis-à-vis voter confidence—are likely applicable but outside the scope of this thesis. A similar position is taken regarding the processes of mail-in and absentee voting and the individuals who would assist voters with those processes.

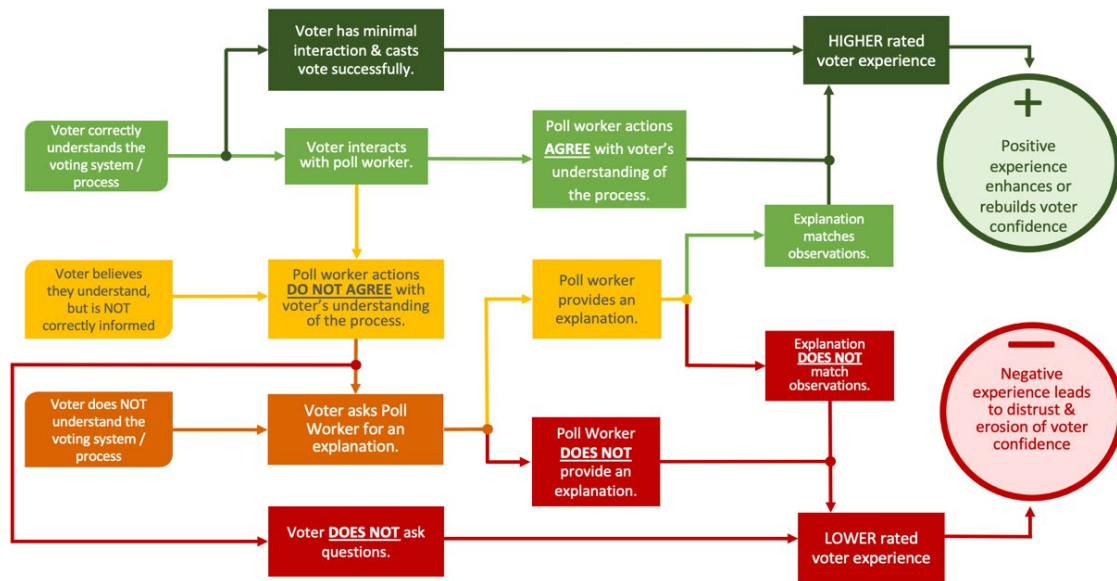


Figure 10. Impacts of Poll-Worker Actions on In-Person Voter Experience¹⁸⁸

- The subject matter needed for a broad voter-education campaign is similar to that needed for increasing poll-worker understanding and preparedness. **As such, it would be possible to leverage media or educational material generated for a voter-education audience to the benefit of a poll-worker training audience as well, and vice-versa.**
- Technology is becoming more prominent in polling locations as funds infused by the Help America Vote Act grants in both 2018 and 2020 enabled jurisdictions to make technology investments.
- Poll workers tend to be older and have less daily exposure to or interaction with technology, and most poll workers undergo only 2–3.5 hours of training per election training cycle.

¹⁸⁸ Figure 10 is entirely the author’s creation, derived from the premises of Claassen et al., “At Your Service”; and Burden and Milyo, “The Quantities and Qualities of Poll Workers.”

- As the case studies in this paper demonstrate, the theory of three constraints manipulates time, scope, and costs to produce a functioning product. This thesis has demonstrated that while these three constraints are all inputs to developing a technology, considering the capacity and limitations of the intended end users in navigating the technology must drive the design of a functional training plan if the technology is to be successfully deployed.
- As the voter does not typically see the technology used in the voting experience until election day, the poll worker becomes the sole agent for translating all the time, budget, and expertise invested by the developers to the voter or end user through demonstrating knowledge of the technology. Expecting a poll worker to explain the use of technology without having a thorough understanding and competency oneself would be unreasonable; therefore, the amount of knowledge required (scope) cannot be adjusted and additional dollars cannot increase the poll worker's or voter's ability to use the technology in the moment (funding), so time is the only constraint that can be adjusted in what is effectively a new project—training the poll worker to train the voter to use the technology.
Therefore, since election day is a fixed end point, the poll worker must be permitted time to use the technology in advance.
- Trainings tend to focus on policy and procedure, with most time spent on the norms, not on what to do when the unexpected occurs, especially with technology. This approach to training leaves many poll workers unprepared for what to do when the unintended happens or ill-equipped to handle a situation without waiting for technical assistance, thus increasing the time it takes a voter to enter, vote, and leave the polling location. **This extended time is a negative as it lessens the likelihood of a positive voter experience.**

- Unlike in retail environments where trainees are typically identified as in training and supported by a trainer, to voters, first-time poll workers are visually indistinguishable from their more-experienced colleagues in an election environment; therefore, voters have no means by which to differentiate levels of experience or base expectations. **This lack of visual differentiation places less-experienced poll workers at risk of failing to meet voter expectations and, likewise, does not help voters understand who should have what knowledge.**
- Poll workers sense a high degree of civic duty and, as such, a desire to do the job well for altruistic reasons. They are less motivated by pay and demonstrate a willingness to take on additional training, especially at home or remotely. Furthermore, based on this author's research, poll workers who were given an opportunity to spend additional time gaining familiarity with new equipment took advantage of that opportunity; **therefore, it is in the best interest of the poll worker, the jurisdiction which they are serving, and ultimately the voter to make additional non-mandatory training available to poll workers, especially if technology will be used in a jurisdiction.**
- Specific to the task of training poll workers, the trainers interviewed for this thesis expressed a limitation in both time and resources to accomplish the task. In most jurisdictions, completion of training, as opposed to testing or certification, is the sole means of measuring poll-worker preparedness. However, to paraphrase a member of the focus group, testing for certification could be a means of both validating the poll worker's preparedness as an outcome of the training and measuring the efficacy of the training/trainer as an input to that training. **To validate the material or trainers, a level of standardization in training materials would be necessary.** Then, the matter of delivering that material could be evaluated as an independent variable. Other variables could include the length instructors are given to cover the same material, the portions of the

material presented to trainees outside of training, and the manner of advanced preparation.

- The quality of the recruit has an impact on the effectiveness of the training, given the short window of exposure.¹⁸⁹ With this higher uptake and retention in mind, an emphasis on recruiting quality over quantity could likewise serve to reduce the constrained time issue while increasing the likelihood of successful training and improving voter experiences.

B. RECOMMENDATIONS FOR COMBATTING THE EROSION OF VOTER CONFIDENCE

It is important to reiterate that the scope of this thesis was narrowed to two small facets of the larger, more-encompassing American voting ecosystem. The press, whether online, in print, or over the air; the candidates and their campaigns; elected officials and their staff; and even the voters themselves in how they conduct their civil discourse all can help to erode or build voter confidence in election integrity. Many nuances within this domain are worthy of consideration for future research. Poll workers and the technology they use and instruct others to use, however, are front and center for voters who choose to cast their ballots at the polls on election day and are foundational in shaping those voters' election experiences. For this reason, this author makes the following recommendations for policymakers and elections administrators in combatting the erosion of voter confidence at the polls.

- **Additional research** should be undertaken by counties and states in partnership with their local universities to discover the levels of effectiveness achieved by varied means of poll-worker training, including

¹⁸⁹ This assertion is based on this author's direct experience—having participated in recruiting, training, and deploying of over 80 professional state employees from various divisions as emergency fill-in poll workers—and observations of the focus group comprising first-time poll workers who demonstrated professional qualities/backgrounds and effectiveness with a limited (2–3 hour) training exposure. The ability to assimilate, retain, and subsequently apply vast information in a short training period makes the quality of a recruit a factor for consideration, perhaps over quantity—a position likewise held by Burden and Milyo in their research. Burden and Milyo, “The Quantities and Qualities of Poll Workers.”

but not limited to the use of online learning modules, quizzes, and certification exams.

- States should assist local jurisdictions in **standardizing** the more broadly applicable aspects of election administration, paving the way for a standardized state-level basic training, and increasing consistency in training materials while likely improving local jurisdictional compliance with state laws.
- States should assist local jurisdictions in **creating a new generation of poll workers with a focus on quality over quantity**, by developing recruiting tactics and programs that help to lower the average age and increase the focus on professionals. This effort could include incentivizing local businesses to provide poll workers with a vacation day, declaring election days a state holiday, or freeing up for the day those state employees who have passed, as evidenced by an exam, a state-provided training course to serve as poll workers.
- States should undertake the task of **creating a comprehensive voter-education plan** that covers, at a minimum, the following procedures and processes: registering voters, requesting a ballot, receiving and marking a ballot, returning a ballot, and tabulating ballots, as well as election administration basics and election fraud controls. This education plan will serve as a first line of defense in combatting the erosion of voter confidence.
- Material from the voter-education plan should be leveraged, in parallel, to **provide local jurisdictions with either a state prerequisite course of standardized poll-worker training**, or base material from which they can compile a poll worker's basic training library.
- Consistent with the designation of elections as critical infrastructure, emphasizing the importance of the physical and cyber security of the elections sector and its need for financial support by appropriation, state

and federal legislatures should **acknowledge the pathway** that leads from voter education and poll-worker preparation, through voter experience, to the public's confidence (or lack thereof) in election integrity.

- State and federal appropriation committees should likewise **make funds available** to secretaries of state or appropriate state election officials for the express purpose of combatting the erosion of voter confidence through improved poll-worker recruitment, training, and technology familiarization.
- Regarding technology used in elections, local jurisdictions should first **run and achieve success with a pilot program** during a minor election or perform significant testing in a limited rollout, **before deploying a new election technology** on a broader scope and scale.
- With regard to public-facing technology used in elections (e.g., electronic pollbooks), budgeting should include sufficient funds to allow for a publicly accessible copy to be on display before election day, staffed by a trained poll worker or staff member for demonstration purposes and questions. Alternatively, an open house for that piece of equipment should be held for the public to familiarize voters with its purpose and use.
- If the former recommendation is not feasible, a video should be created that accomplishes the same goal, along with a plan for broadly distributing that video to the public before the first election in which a specific technology is to be used.
- Regarding public-facing technology used in elections, poll workers should **a) receive a thorough explanation of the technology's role in the voting process, b) have time to adequately familiarize themselves with the use of the technology, and c) be prepared to guide voters in its use.** In a case where these three recommendations cannot be met, election administrators should delay the deployment of the technology.

- Any public-facing technology used in elections by a poll worker or whose use will be explained to a voter by a poll worker **should be made available** in appropriate numbers such that each poll worker has individual access to an unshared machine, **for hands-on poll-worker familiarization**. This familiarization and hands-on contact should be outside of regular and required training hours and for a sufficient duration to allow poll workers to become familiar enough with the equipment to explain its use confidently to a voter.
- Both state and local jurisdictions should **begin the practice of keeping a record** or journal of the unexpected issues that come up during an election day, along with the process used to resolve the issue. This journal can be used to gain insight on what events may occur more than believed, and can be used for training material in how to (or how not to) approach similar situations as a lessons-learned debrief in the future.
- All poll-worker training **should include a means of testing for comprehension** and subsequent re-testing for retention in later cycles.
- With regard to poll-worker identification, formal nametags that include the poll workers' years of experience should be prepared.
- Given the civic-duty nature of poll workers and their willingness and desire for advanced or additional training, **advanced courses or additional materials should be created** that can be passed by assessment, gaining the poll worker additional credentials, certifications, or merit-badge-style acknowledgments.¹⁹⁰
- If the two previous recommendations are implemented, the **name tag and the merit badges should merge, as a form of gamification of the training process**, with a public-facing explanation of the marks used on

¹⁹⁰ A merit badge could be any tokenized form of visual identification and distinction, from a pin to a patch to a simple sticker or color, that designates a specific achievement or collection of achievements.

the tags (e.g., orange circle for pollbook expert, yellow circle for registration expert, and red circle for expert in spoiling ballots).

By implementing even one of these specific poll-worker recommendations, such as testing for comprehension, state and local jurisdictions will begin the process of improving the way they equip poll workers. As shown in Figure 11, poll-worker training leaves the largest footprint on the overall voter experience and likely yields the most significant initial returns on investment of time, effort, and dollars. By increasing the scope of implementation to include the technology recommendations and leveraging parallel content creation for voter education and poll-worker training, the positive impact will be felt by even more of the voting population.

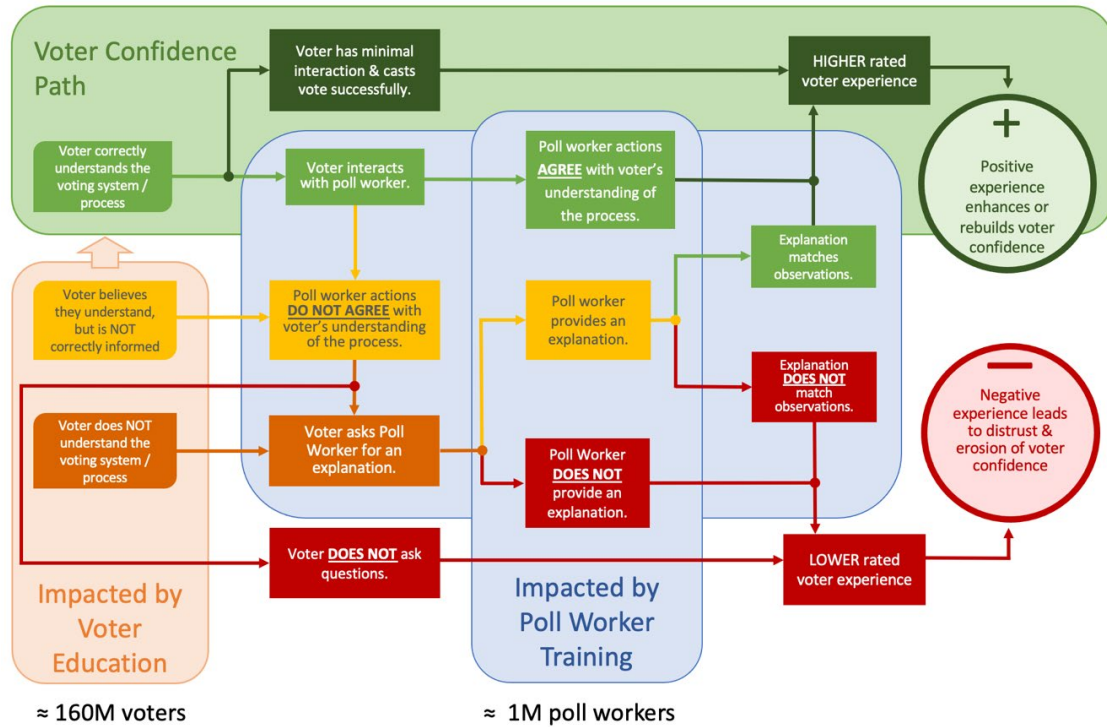


Figure 11. Footprints of Training Impacts on Voter Confidence¹⁹¹

C. FUTURE RESEARCH

While many questions were asked and answered in the development of this work, many questions require further investigation or, to this author's knowledge, have yet to be considered. For example, a more thorough investigation into the impact of a voter's lack of understanding about a process on one's confidence could prove worthwhile. Likewise, given the federalization of elections in the United States and the diversity of approaches used to administer elections, not only at the state level but also locally, this author would

¹⁹¹ Figure 11 is the author's creation, with approximated voter and poll worker populations based on the following 2020 election participation statistics and commonly published data: "The Data around How Many Poll Workers We Need in 2020," *Democracy Works* (blog), August 3, 2020, <https://www.democracyworks.org/blog/2020/8/3/the-data-around-how-many-poll-workers-we-need-in-2020>; Election Assistance Commission, *Election Administration and Voting Survey 2020 Comprehensive Report* (Washington, DC: Election Assistance Commission, 2021), https://www.eac.gov/sites/default/files/document_library/files/2020_EAVS_Report_Final_508c.pdf; "Election Workers Needed," MIT Election Lab and Democracy Works, accessed September 15, 2021, <https://docs.google.com/spreadsheets/d/1pkW4zeJ84BzLkVpazQqj4X0VkuR-Vr4EKUkOfryRYw/edit#gid=624597481>. The concepts illustrated in Figure 11 were derived from Claassen et al., "At Your Service"; and Burden and Milyo, "The Quantities and Qualities of Poll Workers."

be interested in understanding the impacts of 2020s extensive de-urbanization and relocation on elector confidence as voters move across state lines and into new systems they likely do not understand, hindered by misconceptions of how it was done where they most recently lived.

Another topic of interest would be within the space of gamification, specifically whether a model or collection of models would prove fruitful in countering the erosion of voter confidence in the election process. As with the merit-badge recommendation, a form of gamification, another intriguing suggestion came up in the focus group: to create a type of “choose your own ending book” experience in a game format, where a poll worker could face various scenarios or issues and select from a list of possible paths forward, to either one’s demise or the voter’s successful casting of a ballot. As such, gamification within the voting space and as a means of poll-worker training is an area ripe for exploration.

Finally, the 2020 post-election unrest saw another significant new development in the election space, as state election officials began receiving death threats for their role in the election or their perceived failure to perform their role. While this has resulted in an entirely new homeland security challenge, it was almost five months after the election before the Department of Justice declared a task force to combat threats against election workers. Having reached beyond the officials and now landing at the doorsteps of even common poll workers, it is yet to be seen whether this threatening environment will have future implications in the recruiting of poll workers and their subsequent service in administering the elections of the United States.

LIST OF REFERENCES

- Alvarez, R. Michael, Thad E. Hall, and Morgan H. Llewellyn. "Are Americans Confident Their Ballots Are Counted?" *Journal of Politics* 70, no. 3 (July 2008): 754–66. <https://doi.org/10.1017/S0022381608080730>.
- Associated Press. "Nevada Democrats Dropping Caucus App after Iowa Fiasco." MarketWatch, February 4, 2020. <https://www.marketwatch.com/story/nevada-democrats-dropping-caucus-app-after-iowa-fiasco-2020-02-04>.
- . "Trump on Twitter Says 'We Should Look at the Votes' in Effort to Contest Election Results." ABC7 Washington, DC, November 8, 2020. <http://wjla.com/news/local/president-trump-vows-to-keep-fighting-amid-election-results>.
- Atkeson, Lonna Rae, and Kyle L. Saunders. "The Effect of Election Administration on Voter Confidence: A Local Matter?" *PS: Political Science & Politics* 40, no. 4 (October 2007): 655–60. <https://doi.org/10.1017/S1049096507071041>.
- Bacchus, Emily Beaulieu, and Carew Boulding. "Corruption Perceptions: Confidence in Elections and Evaluations of Clientelism." *Governance* (2021): 1–24. <https://doi.org/10.1111/gove.12598>.
- Barthel, Michael, and Galen Stocking. "Older People Account for Large Shares of Poll Workers and Voters in U.S. General Elections." Pew Research Center, April 6, 2020. <https://www.pewresearch.org/fact-tank/2020/04/06/older-people-account-for-large-shares-of-poll-workers-and-voters-in-u-s-general-elections/>.
- Berggren, D. Jason. "Presidential Election of 1789." George Washington's Mount Vernon. Accessed January 9, 2021. <http://www.mountvernon.org/library/digitalhistory/digital-encyclopedia/article/presidential-election-of-1789/>.
- Berman, Mark, Renae Merle, and Matea Gold. "'Not My President': Thousands Protest Trump in Rallies across the US." *Sydney Morning Herald*, November 11, 2016. <https://www.smh.com.au/world/north-america/not-my-president-thousands-protest-trump-in-rallies-across-the-us-20161111-gsnfpd.html>.
- Biesecker, Michael, and Brian Slodysko. "Maker of Glitchy Iowa Caucus App Has Democratic Party Ties." AP News, February 4, 2020. <https://apnews.com/article/donald-trump-iowa-campaign-2016-election-2020-technology-5232ce5601996c1de440806ad30fa4fb>.
- Blake, Aaron. "For Iowa, a Second Caucus Debacle in Eight Years." *Washington Post*, February 4, 2020. <https://www.washingtonpost.com/politics/2020/02/04/iowa-second-caucus-debacle-eight-years/>.

- . “What Trump Said before His Supporters Stormed the Capitol, Annotated.” *Washington Post*, January 11, 2021. <https://www.washingtonpost.com/politics/interactive/2021/annotated-trump-speech-jan-6-capitol/>.
- Blaze, Matt. “Testimony before the U.S. House of Representatives, Committee on Homeland Security Subcommittee on Cybersecurity, Infrastructure Protection, and Innovation, Hearing on Defending against Election Interference.” U.S. Congress, November 19, 2019. <https://www.congress.gov/116/meeting/house/110238/witnesses/HHRG-116-HM08-Wstate-BlazeM-20191119.pdf>.
- Blaze, Matt, Jake Braun, Harri Hursti, Joseph Lorenzo Hall, Margaret MacAlpine, and Jeff Moss. *Def Con 25 Voting Machine Hacking Village: Report on Cyber Vulnerabilities in U.S. Election Equipment, Databases, and Infrastructure*. Def Con, 2017. <https://www.defcon.org/images/defcon-25/DEF%20CON%2025%20voting%20village%20report.pdf>.
- Bloomberg Quicktake: Now. “LIVE: Trump Delivers Remarks at the ‘Save America Rally’ in Washington, D.C.” January 6, 2021. YouTube. Video, 3:51:04. <https://www.youtube.com/watch?v=ht20eDYmLXU>.
- Burden, Barry C., and Jeffrey Milyo. “The Quantities and Qualities of Poll Workers.” *Election Law Journal: Rules, Politics, and Policy* 14, no. 1 (2015): 38–46. <https://doi.org/10.1089/elj.2014.0277>.
- Caplan, Robyn, Lauren Hanson, and Joan Donovan. *Dead Reckoning: Navigating Content Moderation after “Fake News.”* New York: Data & Society Research Institute, 2018. <https://datasociety.net/library/dead-reckoning/>.
- Census Bureau. “County Population Totals: 2010–2020.” Accessed July 8, 2021. <https://www.census.gov/programs-surveys/popest/technical-documentation/research/evaluation-estimates/2020-evaluation-estimates/2010s-counties-total.html>.
- Chang, Eric C. C., and Nicholas N. Kerr. “Do Voters Have Different Attitudes toward Corruption?” Working paper, Afrobarometer, 2009.
- Claassen, Ryan L., David B. Magleby, J. Quin Monson, and Kelly D. Patterson. “‘At Your Service’: Voter Evaluations of Poll Worker Performance.” *American Politics Research* 36, no. 4 (July 2008): 612–34. <https://doi.org/10.1177/1532673X08319006>.
- Democracy Works*. “The Data around How Many Poll Workers We Need in 2020.” August 3, 2020. <https://www.democracy.works/blog/2020/8/3/the-data-around-how-many-poll-workers-we-need-in-2020>.

- Desilver, Drew. "In Past Elections, U.S. Trained Most Developed Countries in Voter Turnout." Pew Research Center, November 3, 2020. <https://www.pewresearch.org/fact-tank/2020/11/03/in-past-elections-u-s-trained-most-developed-countries-in-voter-turnout/>.
- . "Turnout Soared in 2020 as Nearly Two-Thirds of Eligible U.S. Voters Cast Ballots for President." Pew Research Center, January 28, 2021. <https://www.pewresearch.org/fact-tank/2021/01/28/turnout-soared-in-2020-as-nearly-two-thirds-of-eligible-u-s-voters-cast-ballots-for-president/>.
- Des Moines Register*. "Iowa Democratic Caucus Election Results." February 29, 2020. <https://www.desmoinesregister.com/elections/results/primaries/democratic/iowa/>.
- Donovan, Joan, and Danah Boyd. "Stop the Presses? Moving from Strategic Silence to Strategic Amplification in a Networked Media Ecosystem." *American Behavioral Scientist* 65, no. 2 (February 2021): 333–50. <https://doi.org/10.1177/0002764219878229>.
- Election Assistance Commission. *Election Administration and Voting Survey 2020 Comprehensive Report*. Washington, DC: Election Assistance Commission, 2021. https://www.eac.gov/sites/default/files/document_library/files/2020_EAVS_Report_Final_508c.pdf.
- Facebook. "Advertising Policies." Accessed July 23, 2021. https://www.facebook.com/policies/ads/restricted_content/disclaimers.
- . "Community Standards Enforcement Report." Accessed July 23, 2021. <https://transparency.fb.com/data/community-standards-enforcement/>.
- Freck, Stan. "Microsoft Technology Powers the 2016 Iowa Caucuses." *Microsoft Industry Blogs*, March 1, 2016. <https://cloudblogs.microsoft.com/industry-blog/government/2016/03/01/microsoft-technology-powers-the-2016-iowa-caucuses/>.
- Google. "Advertising Policies Help: Political Content." Accessed July 23, 2021, <https://support.google.com/adspolicy/answer/6014595?hl=en#zippy=%2Celection-ads-in-the-united-states%2Cadvertiser-verification-requirements-for-election-ads-in-the-united-states%2Ctroubleshooter>.
- Hall, Thad E. "Election Administration." In *The Oxford Handbook of Electoral Systems*, edited by Erik S. Herron, Robert J. Pekkanen, and Matthew S. Shugart. Oxford: Oxford University Press, 2018. <https://doi.org/10.1093/oxfordhb/9780190258658.013.9>.

- Hall, Thad E., J. Quin Monson, and Kelly D. Patterson. "The Human Dimension of Elections: How Poll Workers Shape Public Confidence in Elections." *Political Research Quarterly* 62, no. 3 (2009): 507–22. <https://doi.org/10.1177/1065912908324870>.
- Idaho Office of the Governor. "Idaho's Primary Election to Remain on May 19, Will Be Conducted by Mail." March 30, 2020. <https://gov.idaho.gov/pressrelease/idahos-primary-election-to-remain-on-may-19-will-be-conducted-by-mail/>.
- Idaho Secretary of State's Office. "Voter Registration Totals." Accessed July 8, 2021. <https://sos.idaho.gov/elections-division/voter-registration-totals/>.
- International Churchill Society. "Folger Library—Churchill's Shakespeare." October 21, 2018. <https://winstonchurchill.org/resources/in-the-media/churchill-in-the-news/folger-library-churchills-shakespeare/>.
- Iowa Legislature. "Code Section Listings." Accessed July 17, 2021. <https://www.legis.iowa.gov/law/iowaCode/sections?codeChapter=43&year=2021>.
- James, Toby S. *Comparative Electoral Management: Performance, Networks and Instruments*. London: Routledge, 2020. <https://www.routledge.com/Comparative-Electoral-Management-Performance-Networks-and-Instruments/James/p/book/9781138682412>.
- King, Bridgett A., and Alicia Barnes. "Descriptive Representation in Election Administration: Poll Workers and Voter Confidence." *Election Law Journal: Rules, Politics, and Policy* 18, no. 1 (March 2019): 16–30. <https://doi.org/10.1089/elj.2018.0485>.
- Lamb, Matt. "Disparities in Democracy: The Causes and Consequences of Polling Place Practices and Conditions." PhD diss., Rice University, 2020. <https://scholarship.rice.edu/handle/1911/109205>.
- Lewin, Dan'l. "Microsoft Technology to Usher in New Era for 2016 Iowa Caucuses." Microsoft, June 5, 2015. <https://blogs.microsoft.com/on-the-issues/2015/06/05/microsoft-technology-to-usher-in-new-era-for-2016-iowa-caucuses/>.
- LinkedIn. "Kimberly Smiley, P.E." Accessed August 29, 2021. <https://www.linkedin.com/in/kimberly-smiley-p-e-2a1b4666/>.
- Linz, Juan J., and Alfred Stepan. *Problems of Democratic Transition and Consolidation*. Baltimore: Johns Hopkins University Press, 1996.
- Lopez, Mark Hugo, and Paul Taylor. *Dissecting the 2008 Electorate: Most Diverse in U.S. History*. Washington, DC: Pew Research Center, 2009. <https://www.pewresearch.org/hispanic/2009/04/30/dissecting-the-2008-electorate-most-diverse-in-us-history/>.

- Ma, Alexandra, and Ben Gilbert. "Facebook Understood How Dangerous the Trump-Linked Data Firm Cambridge Analytica Could Be Much Earlier than It Previously Said. Here's Everything That's Happened up until Now." *Business Insider*, August 23, 2019. <https://www.businessinsider.com/cambridge-analytica-a-guide-to-the-trump-linked-data-firm-that-harvested-50-million-facebook-profiles-2018-3>.
- Mangan, Dan, and Kevin Breuninger. "Twitter Fact-Checks Trump, Slaps Warning Labels on His Tweets about Mail-in Ballots." *CNBC*, May 26, 2020. <https://www.cnbc.com/2020/05/26/twitter-fact-checks-trump-slaps-warning-labels-on-his-tweets-about-mail-in-ballots.html>.
- Masters, Jonathan. "Russia, Trump, and the 2016 U.S. Election." *Council on Foreign Relations*, February 16, 2018. <https://www.cfr.org/backgrounder/russia-trump-and-2016-us-election>.
- McCarthy, Justin. "Confidence in Accuracy of U.S. Election Matches Record Low." *Gallup*, October 8, 2020. <https://news.gallup.com/poll/321665/confidence-accuracy-election-matches-record-low.aspx>.
- McCarthy, Justin, and John Clifton. "Update: Americans' Confidence in Voting, Election." *Gallup*, November 1, 2016. <https://news.gallup.com/poll/196976/update-americans-confidence-voting-election.aspx>.
- McCarthy, Niall. "Facebook Deleted More than 2 Billion Fake Accounts in the First Quarter of the Year [Infographic]." *Forbes*, May 24, 2019. <https://www.forbes.com/sites/niallmccarthy/2019/05/24/facebook-deleted-more-than-2-billion-fake-accounts-in-the-first-quarter-of-the-year-infographic/?sh=658919c167e3>.
- McNerthney, Casey. "Coronavirus in Washington State: A Timeline of the Outbreak through March 2020." *KIRO 7 News Seattle*, April 3, 2020. <https://www.kiro7.com/news/local/coronavirus-washington-state-timeline-outbreak/IM65JK66N5BYTIAPZ3FUZSKMUE/>.
- MIT Election Lab. "MEDSL Explains: Voter Confidence." *Medium (blog)*, April 17, 2018. <https://medium.com/mit-election-lab/medsl-explains-voter-confidence-35279061bfd7>.
- MIT Election Lab and Democracy Works. "Election Workers Needed." Accessed September 15, 2021. <https://docs.google.com/spreadsheets/d/1pkW4zeJ84BzLkVpapzQqj4X0VkuR-Vr4EKUkOfryRYw/edit#gid=624597481>.
- Molina, Brett, and Elizabeth Weise. "11-Year-Old Hacks Replica of Florida State website, Changes Election Results." *USA Today*, August 13, 2018. <https://www.usatoday.com/story/tech/nation-now/2018/08/13/11-year-old-hacks-replica-florida-election-site-changes-results/975121002/>.

- Morrison, Aaron. "Black Lives Matter Faces Test of Its Influence in Election." AP News, October 31, 2020. <https://apnews.com/article/election-2020-race-and-ethnicity-virus-outbreak-los-angeles-elections-f027a8c51f71cb0e884ab667f45dfdfa>.
- Morrison, Sara. "Iowa's 2016 Caucus App Worked and Everyone Forgot about It." Vox, February 7, 2020. <https://www.vox.com/recode/2020/2/7/21125078/iowa-caucus-2016-mobile-app-2020>.
- MSNBC. "Inside an All-Black Militia Group." March 22, 2021. YouTube. Video, 5:20. https://www.youtube.com/watch?v=0n-DT_0_2no.
- Nadler, Anthony, Matthew Crain, and Joan Donovan. *Weaponizing the Digital Influence Machine: The Political Perils of Online Ad Tech*. New York: Data & Society Research Institute, 2018. <https://datasociety.net/library/weaponizing-the-digital-influence-machine/>.
- Nagesh, Ashitha. "This Police-Free Protest Zone Was Dismantled—but Was It the End?" BBC News, July 11, 2020. <https://www.bbc.com/news/world-us-canada-53218448>.
- National Commission on Federal Election Reform. *To Assure Pride and Confidence in the Electoral Process*. Charlottesville: Miller Center of Public Affairs, University of Virginia, 2001. http://web1.millercenter.org/commissions/comm_2001.pdf.
- Norris, Pippa. *Why Electoral Integrity Matters*. Cambridge: Cambridge University Press, 2014.
- Nott, Lata. "Political Advertising on Social Media Platforms." American Bar Association, June 25, 2020. https://www.americanbar.org/groups/crsj/publications/human_rights_magazine_home/voting-in-2020/political-advertising-on-social-media-platforms/.
- Office of Director of National Intelligence. *Assessing Russian Activities and Intentions in Recent U.S. Elections*. ICA 2017–01D. Washington, DC: Office of Director of National Intelligence, 2017. https://www.dni.gov/files/documents/ICA_2017_01.pdf.
- O'Sullivan, Donie. "Russian Trolls Created Facebook Events Seen by More than 300,000 Users." CNN, January 26, 2018. <https://money.cnn.com/2018/01/26/media/russia-trolls-facebook-events/index.html>.
- Petras, George, Janet Loehrke, Ramon Padilla, Javier Zarracina, and Jennifer Borresen. "Timeline: How the Storming of the U.S. Capitol Unfolded on Jan. 6." *USA Today*, January 6, 2021. <https://www.usatoday.com/in-depth/news/2021/01/06/dc-protests-capitol-riot-trump-supporters-electoral-college-stolen-election/6568305002/>.

- Pew Research Center. "Voting Concerns and Confidence." In *Liberal Dems Top Conservative Reps in Donations, Activism*, 11–12. Washington, DC: Pew Research Center, 2008. <https://www.pewresearch.org/politics/2008/10/23/section-3-voting-concerns-and-confidence/>.
- Politico. "Full Transcript: Third 2016 Presidential Debate." October 20, 2016. <https://www.politico.com/story/2016/10/full-transcript-third-2016-presidential-debate-230063>.
- Reinhart, R. J. "Faith in Elections in Relatively Short Supply in U.S." Gallup, February 13, 2020. <https://news.gallup.com/poll/285608/faith-elections-relatively-short-supply.aspx>.
- Rosenberg, Matthew, Nick Corasaniti, Sheera Frenkel, and Nicole Perlroth. "Faulty Iowa App Was Part of Push to Restore Democrats' Digital Edge." *New York Times*, February 4, 2020. <https://www.nytimes.com/2020/02/04/us/politics/iowa-caucus-shadow-app.html>.
- Schleifer, Theodore. "The Democratic Party's Most Hated Startup Can't Change What Happened in Iowa. But It Can Change Its Name." Vox, May 8, 2020. <https://www.vox.com/recode/2020/5/8/21251438/shadow-bluelink-iowa-caucus-app-rebranding>.
- Silverman, Craig. "This Analysis Shows How Viral Fake Election News Stories Outperformed Real News on Facebook." BuzzFeed News, November 16, 2016. <https://www.buzzfeednews.com/article/craigsilverman/viral-fake-election-news-outperformed-real-news-on-facebook>.
- Smiley, Kim. "Case Study: Iowa Caucus Results Delay." *ThinkReliability* (blog), March 2, 2020. <https://blog.thinkreliability.com/case-study-iowa-caucus-results-delay>.
- Solis, Steph. "As Trump Wins White House Bid, #NotMyPresident Trends on Twitter." *USA Today*, November 9, 2016. <https://www.usatoday.com/story/news/politics/onpolitics/2016/11/09/donald-trump-twitter-not-my-president-trend/93532790/>.
- Stein, Robert M., and Greg Vonnahme. "Polling Place Practices and the Voting Experience." In *The Measure of American Elections*, edited by Barry C. Burden and Charles Stewart III, 166–87. Cambridge: Cambridge University Press, 2014. <https://doi.org/10.1017/CBO9781107589117>.
- Stiglitz, Anya. "Mis- and Disinformation Online: A Taxonomy of Solutions." PhD thesis, Universidad De Navarra, 2020.
- Swoboda, Chuck. "People, Not Technology, Failed in the 2020 Iowa Caucuses." *Forbes*, March 22, 2020. <https://www.forbes.com/sites/chuckswoboda/2020/03/22/people-not-technology-failed-in-the-2020-iowa-caucuses/#5d5c46bb31d0>.

- Twitter. “Permanent Suspension of @realDonaldTrump.” January 8, 2021. https://blog.twitter.com/en_us/topics/company/2020/suspension.html.
- . “Political Content.” Accessed July 23, 2021. <https://business.twitter.com/en/help/ads-policies/ads-content-policies/political-content.html>.
- . “Trump Makes Unsubstantiated Claim That Mail-in Ballots Will Lead to Voter Fraud.” May 26, 2020. <https://twitter.com/i/events/1265330601034256384>.
- Underwood, Katherine. “Dozens Support Police at ‘Back the Blue’ Demonstration in Mansfield.” NBC Boston, September 27, 2020. <https://www.nbcboston.com/news/local/all-lives-matter-dozens-support-police-at-back-the-blue-demonstration-in-mansfield/2202473/>.
- U.S. Congress. Senate Select Committee on Intelligence. *Russian Active Measures Campaigns and Interference on the 2016 U.S. Election [Redacted]*. Vol. 2. Washington, DC: Senate, 2019. https://www.intelligence.senate.gov/sites/default/files/documents/Report_Volume2.pdf.
- U.S. News & World Report*. “5 Reasons Why the 2008 Election Is Historic.” November 5, 2008. <https://www.usnews.com/opinion/articles/2008/11/05/5-reasons-why-the-2008-election-is-historic>.
- Van Wyngaard, C. J., J. H. C. Pretorius, and L. Pretorius. “Theory of the Triple Constraint—A Conceptual Review.” In *Proceedings of the 2012 IEEE International Conference on Industrial Engineering and Engineering Management*, 1991–97. Piscataway, NJ: IEEE, 2012. https://www.academia.edu/8294762/Theory_of_the_Triple_Constraint_a_Conceptual_Review.
- Wardle, Claire. “Fake News. It’s Complicated.” First Draft, February 16, 2017. <https://firstdraftnews.org:443/articles/fake-news-complicated/>.
- Weir, Kellie. “Safeguarding Democracy: Increasing Election Integrity through Enhanced Voter Verification.” Master’s thesis, Naval Postgraduate School, 2018. <http://hdl.handle.net/10945/58274>.
- White House Historical Association. “Donald J. Trump.” White House. Accessed May 13, 2021. <https://www.whitehouse.gov/about-the-white-house/presidents/donald-j-trump/>.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California