Beyond the Tech Surge: An Evaluation of the Consumer Experience Provided by the Health Insurance Exchange Web sites of the Patient Protection and Affordable Care Act

Curtis W. Leeth

Applied Research Project

curtis.leeth@gmail.com

Submitted to the Department of Political Science
Texas State University-San Marcos
In Partial Fulfillment for the Requirements for the Degree of
Masters of Public Administration

Spring 2014

Faculty Approval:

_____

Dr. Hassan Tajalli, Ph.D.

_____

Dr. Howard Balanoff, Ph.D.

_____

Dr. Maria Luz Valverde, PhD

ABSTRACT

Purpose. The purpose of this applied research project is to gauge the quality of consumer experience provided by the individual marketplaces of the health insurance exchange web sites of the Patient Protection and Affordable Care Act (ACA). *Methods.* A review of the literature and applicable Federal regulations informs the development of a conceptual framework comprised of three experiential categories: a sense of being well-informed, a sense of personal control, and a sense of influence. The conceptual framework acts as the foundation for the coding sheet used in a content analysis of the sixteen individual marketplaces of the health insurance exchanges. *Results.* The exchanges are somewhat consistent in the goals of the ACA and HHS in the quality of consumer experience they wish to provide; earning a 67% or a D in the model. Additionally, there is great variation in quality between the health insurance exchange web sites, either Maryland scoring the highest and Kentucky / Oregon scoring the lowest. The primary problem areas for the exchange web sites are accessibility, navigability and feedback. *Conclusion.* The health insurance exchange websites should concentrate on fixing their accessibility errors, improving access to search functions and site maps and offer more robust and frequent opportunities for users to give feedback.

About the Author

Curtis W. Leeth graduated in August 2014 with a Master of Public Administration degree from Texas State University. As of this writing (April 15, 2014), Curtis is currently involved in a job search to begin his career in the public sector. Curtis received a Bachelor's of Art degree in May 2011 from Washburn University in Topeka, Kansas. He moved from the state of Kansas to Texas in the summer of 2012 to attend Texas State University. He currently lives in San Marcos, TX with his wife, Caitlin. They plan to continue their lives and start a family here in Texas. Curtis can be contacted at: curtis.leeth@gmail.com

Table of Contents

List of Tables 6
List of Figures 7
Chapter 1 – Introduction 8
History of Health Care Reform 8
The Affordable Care Act 11
Research Purpose 15
Summary of Chapters 15
Chapter 2 –Literature Review 16
Purpose 16
The Experiential Model 16
Sense of being Well-Informed 20
Sense of Personal Control 27
Sense of Influence 34
Chapter Overview 40
Chapter 3 – Methodology 41
Purpose 41
Operationalization 41
Unit of Analysis 45
Research Methodology 47
Procedures: The Coding Sheet 49
Human Subjects Protection 51
Chapter Overview 51
Chapter 4 – Result 53
Purpose 53
Overview of Results 53
Analysis by Authority – The sixteen web sites of the ACA 66
Chapter Overview 75
Chapter 5 – Discussion & Recommendations 77
Purpose 77
Discussion of Results 77
Recommended Practices 81
Recommendations for Future Research 87
Bibliography 88
Appendix A 93
Appendix B 94

List of Tables

Table 2.1. Conceptual Framework tied to Literature 17
Table 3.1. Operationalization Table 41
Table 3.2. Health Insurance Exchanges disqualified from study 45
Table 3.3. Studied Health Insurance Exchange Web sites of the Affordable Care Act 46
Table 3.4. Coding Sheet 48
Table 4.1. Accessibility results 53
Table 4.2. Readability results 55
Table 4.3. Decision Tools results 56
Table 4.4. Navigability results 58
Table 4.5. Information Architecture results 60
Table 4.6. Privacy results 61
Table 4.7. Feedback results 63
Table 4.8. User-help results 64
Table 4.9. Perfect score example report card 66
Table 4.10. Healthcare.gov report card 67
Table 4.11. Covered California report card 67
Table 4.12. Connect for Health Colorado report card 68
Table 4.13. Access Health CT report card 68
Table 4.14. DC Health Link report card 69
Table 4.15. Hawai'i Health Connector report card 69
Table 4.16. kynect report card 70
Table 4.17. Maryland Health Connection report card 70
Table 4.18. Massachusetts Health Connector report card 71
Table 4.19. MNSure report card 71
Table 4.20. Silver State Health Insurance Exchange report card 72
Table 4.21. NYState of Health report card 72
Table 4.22. Cover Oregon report card 73
Table 4.23. HealthSource RI report card 73
Table 4.24. Vermont Health Connect report card 74
Table 4.25. Washington Healthplanfinder report card 74
Table 5.1. Health Insurance Exchange Web sites Overall Class score 77
Table 5.2. Summary of Major Findings 77
Table 5.3. Health Insurance Exchange Ranking 79

List of Figures

Figure 2.1. Site Index page 29
Figure 2.2. Multiple Avenues (Hyperlinks) 31
Figure 2.3. Intra-process feedback mechanism 36
Figure 5.4. Healthcare.gov: Accessibility Policy Statement Best Practice 82
Figure 5.5. Maryland: Health Insurance Terms and their Definitions Best Practice 83
Figure 5.6. Oregon: Quality Ratings Best Practice 84
Figure 5.7. Healthcare.gov: Search function Best Practice 85
Figure 5.8. Connecticut: Feedback combination Best Practice 86

Chapter 1
Introduction

Few topics are as controversial and politicized in 2014 as the Affordable Care Act, or so called Obamacare. Polarized politics and media frenzy has turned the success or failure of a particular government web site – Healthcare.gov – into a referendum on the reputation and legacy of an entire presidency. The battle over its implementation has been waged from the Supreme Court of the United States to the streets of Texas cities where volunteers seek to sign up the uninsured. Nearly every politician in the year 2014 runs either against or for the law and the division across the nation could not be starker than with this particular issue.

Because of the politics and controversy, such a topic could be viewed as a poor choice for research by a graduate student at Texas State University. This could not be further from the truth. For when there is a cacophony of political noise the comparative silence of a nonpartisan research study is all the more important.

History of Health Care Reform

The controversy and political war over the Affordable Care Act, for all its fury, is not the exception but the norm in the history of health care policy in the United States. Health care reform has been a goal, to one degree or another, of every American president since Franklin Delano Roosevelt (Blumenthal & Morone, 2010). In fact, the first Federal safety net, Social Security, for a time included provisions for universal coverage (Blumenthal & Morone, 2010). This "lost reform" of the New Deal was taken up with vigor as a comprehensive National Health Insurance (NHI) bill by Harry S. Truman during his time as President, 1947 – 1953. NHI

extended health insurance coverage for all Americans as a part of the Social Security Act. This first major political struggle for universal health insurance struck chords not dissimilar today:

> This is Compulsory Sickness Insurance. . . This is the Collectivist – the Soviet Method. Our American way of life, our American institutions cannot survive. . . Under its operation, the independent status of the professions would be sacrificed (National Physician Committee, 1947).

Despite the championing by Truman, his proposals for national health insurance all failed during his presidency. Of course, Democratic Presidents do not have a monopoly on the history of health insurance reform in the United States. President Dwight D. Eisenhower, a Republican, created, in 1953, the Department of Health, Education and Welfare (Blumenthal and Morone, 2010). This Federal agency later became the Department of Health and Human Services (HHS); the same agency that is charged to implement the Affordable Care Act under President Obama.

The Presidencies of John F. Kennedy and Lyndon B. Johnson culminated in the passage of Medicare and Medicaid, the first Federal programs aimed at providing health insurance coverage. The legacy of Medicare and Medicaid is owed to both presidents. The tragedy of Kennedy's assassination provided the political capital; the legislative genius of Johnson got it through Congress (Blumenthal and Morone, 2010). These programs, added to the Social Security legislation, expanded coverage to the poor and the elderly but did not promise universal coverage. While these two programs provide benefits to millions of Americans they simultaneously are some of the primary drivers of the ballooning national debt around which political debate in 2014 rages.

The goal of universal coverage in the Affordable Care Act may be rooted in Truman's NHI, but its policy origins can be found in the Comprehensive Health Insurance Program (CHIP)

designed by the administration of President Richard Nixon. CHIP mandated employers provide insurance to their employees and created government programs to cover those who could not find coverage. In addition CHIP regulated the benefits offered by health insurance plans and imposed no income eligibility limits (Blumenthal and Morone, 2010). The elements from Obamacare: employer mandate, universal coverage and regulation of insurance plans are all seen in this proposed, but never enacted, Nixon legislation. The never introduced legislation, like Nixon's presidency, was consumed by the fires of political scandal in Watergate.

The next serious expansion of Federal health care coverage actually occurs under President Ronald Reagan with the enactment of the Medicare Catastrophic Coverage Act in 1988. This act expanded Medicare benefits for the elderly to hospital stays and home nursing care (Blumenthal & Morone, 2010). However the law contained a self-financing provision that made a minor charge to seniors for the extra coverage; this caused the law to be repealed a year later.

The significant attempts at health care reform during the presidency of William Clinton sought ambitiously to extend universal coverage without new taxes. To achieve these goals a highly complex, confusing system of "managed competition" was designed within the White House under the leadership of First Lady Hillary Clinton (Blumenthal & Morone, 2010). The complexity of the law and mismanagement caused multitudes of delay, allowing insurance company attack ads and conservative politicians to solidify in opposition. President Clinton's managed competition plan, when finally revealed to the American people fell flat on its face in the Congress and is soon joined the scrapheap of American health care reform attempts along with NHI and CHIP.

From 2000 to 2014, the United States' two Twenty-First Century Presidencies (Presidents George W. Bush and Barack Obama) produced two significant landmarks in health care reform: Medicare Modernization Act (MMA) and the Affordable Care Act (ACA). MMA, passed after a heated vote in 2003, added the long-sought pharmaceutical benefits to the coverage provided by Medicare as well as creating new "Medicare Advantage" options for seniors and a new Health Savings Account (Blumenthal & Morone, 2010). MMA was the largest expansion of Federal health coverage since the passage of Medicare and Medicaid under President Johnson.

This brings the history of health care reform in the United States to the current political struggle over the ACA. Passed in 2010, the ACA gathered pieces and ideas from the wreckage of previous Presidential proposals: NHI, CHIP and managed competition. An incredibly complex law, the ACA contains four main moving parts to extend insurance: an employer mandate, an individual mandate, Medicaid expansion and insurance reform. Gallons of ink has been spilled analyzing and dissecting the intricacies of the law. Such an analysis is beyond the scope of this research study.

The history of health insurance reform reveals two stark facts: President Barack Obama is hardly the first president to seek universal health insurance, nor is health insurance reform simply a Democratic Party issue. Nearly every Presidential administration since Franklin Roosevelt has engaged in health care reform in some way. The history puts the health insurance exchanges of Obamacare in context, but, four years after its passage, the final consequences of the law are still not completely known.

The Affordable Care Act

The complexity of the law, political resistance and bureaucratic ineptitude have all combined to create a difficult four year implementation period for the ACA. Nevertheless, on April 1, 2014, President Obama announced from the White House about 7.1 million people have gained insurance coverage through the exchange web sites. While hard data will not be available for months from this writing, a *LA Times* article on March 30, 2014 reported the combined findings of a RAND Corporation study and other surveys, they report:

> • At least 6 million people have signed up for health coverage on the new marketplaces, about one-third of whom were previously uninsured.
>
> • A February survey by consulting firm McKinsey & Co. found 27% of new enrollees were previously uninsured, but newer survey data from the nonprofit Rand Corp. and reports from marketplace officials in several states suggest that share increased in March.
>
> • At least 4.5 million previously uninsured adults have signed up for state Medicaid programs, according to Rand's unpublished survey data, which were shared with The Times. That tracks with estimates from Avalere Health, a consulting firm that is closely following the law's implementation.
>
> • An additional 3 million young adults have gained coverage in recent years through a provision of the law that enables dependent children to remain on their parents' health plans until they turn 26, according to national health insurance surveys from the federal Centers for Disease Control and Prevention.
>
> • About 9 million people have bought health plans directly from insurers, instead of using the marketplaces, Rand found. The vast majority of these people were previously insured.
>
> • Fewer than a million people who had health plans in 2013 are now uninsured because their plans were canceled for not meeting new standards set by the law, the Rand survey indicates. (Levey, 2014)

These figures, the best available data on April 1, 2014, are more impressive considering the combined forces of complexity, political resistance and bureaucratic ineptitude.

The ACA's painful implementation began with a Supreme Court decision, National Federation of Independent Business v. Sebelius, that altered a key feature of the law: Medicaid expansion. With the 5-4 decision, Medicaid expansion (from 100-percent of the Federal Poverty Limit to 135-percent of the Federal Poverty Limit), previously mandatory, was now left up to the decision of the states. This created a "gap" in coverage for those states that declined the expansion, as the ACA subsidies on the exchanges begin at 138-FPL. The 100-FPL to 138-FPL gap for states, such as Texas, which decline to expand Medicaid mean the ACA cannot provide subsidies to millions who are too rich for Medicaid but too poor for the exchanges.

In addition to states declining the option to expand Medicaid, the majority of the states in the Union have declined to create their own health insurance exchange web sites. This surprised many in the administration of President Obama and meant that Healthcare.gov, originally envisioned as a supplement to the states, would instead take center stage on October 1, 2013. Healthcare.gov, for the year 2013-2014 sign up period, facilitates the residents of thirty-six states (State Health Facts, 2013). Only fourteen states with the District of Columbia have distinct individual marketplaces on their health insurance exchange web site for the 2013-2014 sign up period. The decision of so many states to decline to participate in either the Medicaid expansion or the creation of health insurance exchanges placed great strain on the implementation of the law from 2010 to 2014.

The ACA's employer mandate, another key piece of the legislation, has likewise undergone not one, but two, delays. As of April 1, 2014 the employer mandate is delayed till January 2015 while the employer mandate for small businesses (50 to 99 employees) has been delayed till January 2016. This also means that the small business marketplace of the health

insurance exchange web sites are not up and running across the nation. For this reason, this study could only look at the individual marketplaces, which opened October 1, 2013.

One cannot discuss the ACA exchange web sites without mentioning the multitude of technical issues that have plagued them, most notably, Healthcare.gov. Headlines for the October 1st rollout on the *New York Times* and *Washington Post* declared, "High Demand and Technical Snags Slow Debut of Insurance Marketplaces" and "Obamacare site goes live, with some glitches." These headlines, while hardly encouraging, did not capture the true extent of issues that plagued the system. In fact, in the six weeks following the launch only a few thousand actually managed to purchase insurance through the exchanges (Alter, 2014). Hundreds of thousands of others were prevented from completing their applications or purchases by glitches, crashes and other technical failures. This inauspicious start prompted a full-blown "Tech Surge" by the Obama administration to fix the problems on the exchanges.

The mishaps and mismanagement of the exchange web sites extended beyond the October rollout, however, and into the new year. In January, CGI Federal, the contractor who built Healthcare.gov, was fired from its contract and more heads are expected to roll after the exchange web sites close March 31, 2014 (Alter, 2014). The states exchanges also suffered issues to varying degrees: Maryland recently announced its $125.5 million investment to build and operate its exchange was all for naught. After the March 31st deadline, Maryland will retool the exchange's technical side with the help of Connecticut, likely costing tens of million dollars more (Johnson & Flaherty, 2014). Nevada's exchange, meanwhile, is facing a class-action lawsuit stemming from technical glitches that caused some residents to sign-up for insurance, pay premiums but not receive coverage (KTNV, 2014).

It is among the swirling politics, glitches, lawsuits and media frenzy that this research study resides. Truly, any research project on the ACA could not escape mentioning the ever-moving and changing struggle over the most ambitious health reform law since President Johnson's Medicaid and Medicare acts. This study will cut through the noise around it and judge just one promise of the ACA: does the health insurance exchange web sites provide a *quality* consumer experience to its users.

Research Purpose

The purpose of this applied research project is to gauge the quality of consumer experience provided by the individual marketplaces of the health insurance exchange web sites of the Patient Protection and Affordable Care Act (ACA). A review of the literature and applicable Federal regulations informs the development of a conceptual framework comprised of three experiential categories: a sense of being well-informed, a sense of personal control, and a sense of influence. The conceptual framework acts as the foundation for the coding sheet used in a content analysis of the sixteen individual marketplaces of the health insurance exchanges. The content analysis results are then used to provide a report card for the exchange web sites as well as recommendations for improvement in providing a quality consumer experience.

Summary of Chapters

This research study is organized into five chapters, the first of which is now complete. In Chapter 2, a review of the literature is utilized to develop the conceptual framework that will be the roadmap for the assessment of the sixteen individual marketplaces of the health insurance exchange web sites. Chapter 3 details the research methodology used in this study to operationalize the conceptual framework and create the assessment tool necessary to produce a

gauging of the exchange web sites. Chapter 4 presents the results of the content analysis and Chapter 5 draws conclusions from the results, recommends best practices and details recommendations for future research.

Chapter 2

Literature Review

Purpose

The purpose of this chapter is to develop an ideal model with which to judge the consumer experience provided by the sixteen health insurance exchange web sites of the Patient Protection and Affordable Care Act (ACA). The model's conceptual framework[1] is composed of three experiential categories: a sense of being *well-informed*, a sense of *personal control* and a sense of *influence*. These experiential categories are from computer sciences experts Mike Grimsly and Anthony Meehan's 2007 article "e-Government information systems: Evaluation-led design for public value and client trust." This conceptual framework is that upon which the rest of the research project is built. In this chapter the Grimsley-Meehan framework is augmented with applicable federal statute, Health Human Services (HHS) regulations and readings of the scholarly literature from health communication, e-governance, and consumer marketing. This research will provide an ideal model by which to judge the consumer experience of the health insurance exchange web sites and a report card for the efforts state and federal authorities have taken to meet the model.

The Experiential Model

The experiential focus of this analysis of the exchange web sites is rooted in the first goal of HHS's Information Technology (IT) strategies. HHS identified the first goal of state authorities in designing their IT architecture as "customers should *experience* a high level of service, support and ease of use, similar to that experienced by customers of leading service and

[1] For more information on conceptual frameworks see Shields and Tajalli, 2006; Shields, 1998; Shields and Rangarajan, 2013.

retail companies and organizations doing business in the United States" (emphasis added) (CMS 2011, 4). While the exchange Web sites are a public program, they have a decidedly commercial goal – to assist customers in purchasing "qualified health plans" (QHPs) that best serve the needs of themselves and their families. Like online retailers, the exchanges will have to provide a "flow experience" to improve customer value perception (Bauer et al. 2006, 873). Unlike online commerce though, the exchanges also, as a public program, are attempting to foster public values: equality, social inclusion, community cohesion, well-being and trust (Grimsly and Meehan 2007, 135-6).

If harmonizing public values with a commercial focus was not difficult enough, the other literature shows Americans, in general, find health insurance to be both confusing and intimidating (Hibbard et al. 1997; Sinaiko et al. 2013). Additionally, it is impossible to separate the exchange web site portal from the political struggle during the formulation, passage and gradual implementation of the ACA. This is readily apparent by the fact that twenty-six states, over half of the union, have declined to participate in designing and implementing the exchanges (State Health Facts, 2013). It is therefore within the scope of reason to assume that at least a segment of the American population will not only be confused and intimidated while shopping for insurance but approach the exchanges with disdain. If the exchange Web sites violate merely one of the three experiential categories there will be a chorus of protests; if the exchange Web sites fail entirely to create public value while delivering commercial services then Obamacare may fail from a consumer backlash joining the already existent political resistance. The first step to overcoming these myriad challenges is for the exchange Web sites to give customers a sense of being *well-informed*.

Table 2.1. Conceptual Framework tied to Literature

Category	Related Literature
1. Sense of being Well-Informed	
1.1 Accessibility Should include the following:	
1.1.1 Section 508 compliance • Web Accessibility Checker = 0 • Web Accessibility Evaluation Tool = 0	45 C.F.R. § 311.7001; CMS (2011)
1.1.2 Accessibility Policy Statements	Olalere and Lazar (2011)
1.1.3 Language Services	45 C.F.R. § 155.210(c)(2); Language Use in the United States (2011)
1.2 Readability Should include the following:	
1.2.1 Less than or equal to an eighth grade reading level on Flesch-Kinkaid Readability test. • Flesch-Kincaid Reading Ease ≥ 60 • Flesch-Kincaid Grade Level ≤ 8 • SMOG Grade Level ≤ 8	CMS (2011); Cochrane, et al. (2012); Friedman & Tanner 2007; McCray 2005; McInnes & Haglund 2011
1.2.2 Health insurance terms and their definitions	Health Literacy Expert Roundtable (2012); Hibbard et. al. (1997)
1.3 Decision Tools Should include the following:	
1.3.1 Cost calculators	45 C.F.R. § 155.205(6); CMS (2011); Sinaiko et. al. (2013)
1.3.2 Comparison tools • Premiums and costing sharing information • A summary of benefits and coverage • QHP plan levels • Enrollee satisfaction surveys • Quality ratings • Medical loss ratio • Coverage measures	45 C.F.R. § 155.205(1); CMS (2011); Corlette et al. (2012)
1.3.3 Insurance performance report cards	45 C.F.R. § 155.205(1); Hibbard et al. (1997)

Table 2.1. Continued

2. Sense of Personal Control	
2.1 Navigability Should include the following:	
2.1.1 Orientation • Welcome Statement • Frequently Asked Questions 2.2.2 Site index page 2.2.3 Search function	Baker (2009); Bauer et al. (2006); Elling et al. (2012) Baker (2009) Elling et al. (2012); Harder and Jordan (2013)
2.2 Information Architecture Should include the following:	
2.2.1 Multiple avenues • Multiple Hyperlinks • Tabbed Viewing 2.2.2 Downloadable Forms	Baker (2009); Bauer et al. (2006); Elling et al. (2012) Baker (2009); Harder and Jordan (2013)
2.3 Privacy Should include the following:	
2.3.1 Privacy & Security policy statements 2.3.2 Disclaimer/Disclosure statement	45 C.F.R. § 155.260(a)(3)(iii); Baker (2009) 45 C.F.R. § 155.260(a)(3)(iv)
3. Sense of Influence	
3.1 Feedback Should include the following:	
3.1.1 User Satisfaction Surveys 3.1.2 Timely feedback mechanisms • Email Verification • Intra-process feedback	45 C.F.R. § 155.230(c); Bolkan et al. (2010) Grimsley and Meehan (2007)
3.2 User-help Should include the following:	
3.2.1 Health Navigator assistance 3.2.2 Other User-help options • Consumer Assistant Program contact information • Broker information • Insurance contact information • Local help information	45 C.F.R. § 155.205(a); Sinaiko et al. (2013); Corlette et al. (2013) 45 C.F.R. § 155.205(b)(3); 45 C.F.R. § 155.220(b); Grob et al. (2013)

Sense of Being Well-Informed

Grimsly and Meehan defined this sense as a "need to feel well-informed about a public service, what to expect of it, and how to engage with it" and represents the most fundamental challenge of the exchanges (2007, 139). The literature suggests that Americans not only have limited comprehension of health insurance's complexities but also do not recognize their own deficiency (Health Literacy Expert Roundtable 2011). Hibbard et al. argued health insurance information is burdensome and difficult for consumers to process because it involves three unique aspects: first the decision "often involves choosing for others (e.g., family members)," second the decision, "while oblivious consequential for the individual may also affect the performance of the health care delivery system," and third there is no clear right decision to be made (1997, 406). Bridging these challenges requires three elements: accessibility, readability and providing decision tools to customers.

Accessibility

Accessibility for the purposes of this model is primarily concerned with non-discriminate accommodating of all Americans regardless of disability or language. This is an important task for a *universal* individual mandate. Accessibility is in fact the lawful requirement for all federal agencies and their IT efforts under Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended by the Workforce Investment Act of 1998 (P.L. 105-220):

> (ii) individuals with disabilities who are members of the public seeking information or services from a Federal department or agency to have access to and use of information and data that is comparable to the access to and use of the information and data by such members of the public who are not individuals with disabilities (Section508.gov).

This requirement is likewise mandated by Health and Human Services regulations for all state exchanges: all state exchanges must be non-discriminate to disability in accordance with Federal law (45 C.F.R. § 155.120(a)). Providing mechanisms by which those with perceptual or motor impairments can access and understand the content of the insurance exchanges is not only the law of the land but particularly necessary for an ethical implementation of the universal mandate.

It is noted by the literature, however, that there is little compliance among Federal agencies to section 508 mandates (Olalere and Lazar 2011, 304). This study found that non-compliance violations to be a startling 90% of surveyed Web sites (Olalere and Lazar 2011, 307). The stakes of compliance are far higher for the exchange Web sites. For Americans, including those who are disabled, are mandated to purchase insurance; with an internet portal as the main place to shop. Olalere and Lazar's analysis recommended accessibility policy statements as a useful and practical method for a Federal Web site to inform the disabled of its accessibility features (2011, 306). This model employs two automated web accessibility evaluations: Web Accessibility Checker (http://achecker.ca/checker/index.php) and WAVE: Web Accessibility Evaluation Tool (http://wave.webaim.org/). The use of two automated tools is necessary to improve accuracy, as noted by computer scientists Olalere and Lazar (2011, 305), because different programs use different algorithms. It is important to note that the exchanges will also feature navigators to assist the disabled outside the confines of the Web site. The importance of making the navigators known to the disabled is critical as well. Including an accessibility policy statement will help improve the information available to the disabled and increase their sense of being well-informed.

The other primary concern of accessibility addresses the needs of those with limited English proficiency. The importance of language options for government web pages is acknowledged by Harder and Jordan's study of municipal Web sites (2013, 112-3). Because of the difficulty many Americans have understanding the complexities of health insurance, those learning English are particularly vulnerable. Terms such as premiums, deductible, and copayments are foreign to many native speakers, much less those who struggle with English. Furthermore the exchanges are mandated in the Code of Federal Regulations to provide individuals with limited English proficiency oral and written language services (45 C.F.R. § 155.210(c)(2)).

Determining the number of American citizens who may need help navigating the exchanges in English is admittedly difficult. A good starting point is the American Community Surveys data collected for use under the Voting Rights Act. The Census Bureau records English proficiency for those who speak a language other than English in their home. Those who cannot speak English "Very Well" are designated to "be helped with translation services, education, or assistance in accessing government services" (Language Use in the United States 2011, 1). Census data reported that of 60,577,020 Americans over age five who spoke another language other than English at home, only 58.2% responded they spoke English "Very Well" (Language Use in the United States 2011, 3).

The lion's share of this population uses Spanish at home rather than English. There are 37,579,787 Americans over age five who speak Spanish in their homes, of which only 56.3% respond they speak English "Very Well" (Language Use in the United States 2011, 3). The numbers are clear, a large portion of Americans will need help purchasing health insurance on

English language exchange Web sites. Even for those Americans who speak another language at home but understand English very well, having the ability to navigate the complexities of health insurance in their native tongue is advisable to facilitate accessibility under a universal mandate.

Readability

Readability is defined as "a measure of the ease with which a passage of text can be read," and comprehended (McInnes & Haglund 2011, 175). Readability for the purposes of this model entails two forms of literacy necessary for citizens to be able to understand and comprehend the exchange Web sites: English literacy and health insurance literacy.

The health exchanges are mandated to present information in "plain English," in order to ensure accessibility (45 C.F.R. § 155.210(c)). Likewise official guidance from HHS states the exchanges provide a "high level of service, support and ease of use, similar to that experienced by customers of leading service and retail companies," (CMS 2011, 4). In order to provide the ease of use, the exchanges must present their written information at an eighth grade level. This is because over half of all Americans possess low proficiency levels of literacy while another 34% of Americans possessed average literacy skills (OECD 2013, 257). Compounding these startling statistics is that it is the sicker and the poorer, the uninsured and underinsured, the unemployed and the underemployed who possess, on average, lower proficiency levels of literacy (OECD 2013, 23-4). This spectrum of Americans are the primary target population of the health insurance exchanges.

Interestingly, a recent study indicated that government web sites perform better than commercial web sites when it came to the readability of their online health information (Cochrane 2012, 1009). Nonetheless neither category, commercial or governmental, were able to

reach the fifth to eighth grade reading level recommended by the health communications literature (Cochrane 2012; Friedman & Tanner 2007; McCray 2005; McInnes & Haglund 2011). In order for health insurance exchange consumers to feel a sense of being well-informed they must be able to comprehend the written material before them. The eight grade reading level baseline is heightened in importance because of the difficulty inherent to health insurance. This model employs three readability tests, the Flesch-Kincaid Grade Level, Flesh Reading Ease and SMOG Grade Level, the same tests employed in the Cochrane (2012) study.

In accordance with Organization for Economic Cooperation data, the literature indicates approximately half of U.S. Adults have difficulty comprehending complex written materials, a formidable challenge for the exchanges (Cochrane et al. 2012, 1004; Hibbard et al. 1997, 408). Beyond complexity, health insurance entails a language unique to itself: health insurance literacy. According to the Health Insurance Literacy Expert Roundtable, convened by Consumers Union in 2011, health insurance literacy "measures the degree to which individuals have the knowledge, ability and confidence to find and evaluate information about health plans, select the best plan for their own (or their family's) financial and health circumstances and use the plan once enrolled" (2011, ii). Health insurance literacy encompasses familiarity with jargon, as well as the ability to compare complex benefit packages against each other.

The health insurance exchanges must address this literacy by providing terms, definitions and explanations to guide the user throughout the experience. Moreover, the experience of Massachusetts residents demonstrates that many Americans will need help shopping for health insurance on the exchanges (Sinaiko et al. 2013, 83). The difficulties of health insurance literacy has led to discussion within the literature on how standardized the Qualified Health Plans

(QHPs) should be on the exchanges (Corlette et al. 2012; Hibbard et al. 1997; Sinaiko et al. 2013). These design choices are largely left to the discretion of state authorities. Regardless of where the exchange web site falls on the continuum between standardization and individually tailored plans, state authorities must square a streamlined consumer experience with the complexities of insurance. This model does not make a judgment to the level of standardization but simply that the exchanges effectively *convey* the complexities of their QHPs through the defining of key terms.

The exchanges must keep an eighth grade or lower reading level and address health insurance literacy in order to guarantee readability to all Americans. Readability is especially critical in improving the sense of being well-informed. If consumers are able to easily comprehend and interact with the exchange web site then there is a chance that the political aversion and confusion over the ACA's intent can be overcome.

Decision Tools

The final element to create a sense of being well-informed is the availability of decision tools. Decision tools include cost calculators and comparison tools. These elements are both mandated by Federal regulations and called for by experts in the field (45 C.F.R. § 155.205(1); CMS 2011; Corlette et al. 2013; Hibbard et al. 1997; Sinaiko et al. 2013). These key decision tools will be used by consumers to help them weigh the pros and cons of the various QHPs offered on the exchange Web sites. In essence decision tools lessen the burden of numeracy and literacy when weighing various deductibles, co-pays, premiums and tax credits. If the exchanges fail to streamline and unburden the process of understanding and purchasing health insurance the

individual mandate will cause frustration and discontent among Americans, undermining the intentions of the ACA.

Cost calculators are a simple but critical decision tool mandated by Federal regulations 45 C.F.R. § 155.205(6). These calculators will help consumers discern their monthly payments, federal tax credits and other cost-sharing reductions. Cost calculators will help make dollars and sense of the ACA's benefits as well as assist comparison shopping between QHPs. In addition to ensuring the Web site has an eighth grade level readability, the exchanges must ensure that the burden of manual calculations is not placed on users.

Comparison tools are all mandated by Federal regulations and include the following: premiums and cost sharing information; a summary of benefits and coverage; QHP plan levels (bronze, silver, gold or platinum); the results of enrollee satisfaction surveys; quality ratings; medical loss ratio information and coverage measures used in the QHP certification process (45 C.F.R. § 155.205(1)(i-vii)). These tools are at the heart of the health insurance exchange: to make, for the first time, comparative shopping of insurance a possibility to Americans. These tools likewise facilitate the "interactive customer service" goal of the exchanges, by empowering Americans to shop for the best plan for themselves and their families (CMS 2011, 5). Comparison tools are, quite simply, the tools with which Americans will use to shop.

It is important to note also that these comparison tools provide another key mechanism for the success of the ACA: making health care affordable. The logic of the ACA is that by giving Americans the ability to shop for health insurance, competition and market forces will lower health care costs for the average American. This goal is in the preface of Title I of the Affordable Care Act:

> Americans without insurance coverage will be able to choose the insurance coverage that works best for them in a new open, competitive insurance market [. . .]. The insurance exchange will pool buying power and give Americans new affordable choices of private insurance plans that have to compete for their business based on cost and quality. (HHS.gov/HealthCare).

Giving Americans the tools to shop is not only critical to the sense of being well-informed but also ensures that affordability remains the first A of the Affordable Care Act.

Making decision tools available is the final portion of the model that ensures users can possess a sense that they are well-informed while on the health insurance exchange web sites. Federal regulations and guidance documents in conjuncture with the literature demonstrate that accessibility, readability and decision tools are three distinct but critical categories that must work together to ensure the consumer's positive shopping experience. If the exchange Web sites fail to create a sense of being well-informed, skeptical consumers will *never* be satisfied or trust that the ACA is designed to improve the American health care system. A consumer backlash against an onerous and confusing Web site will join with a political backlash and undermine the law entirely.

Sense of Personal Control

The second key experiential category necessary for the exchange web sites to create is a sense of personal control in the consumer. Grimsly and Meehan described this sense as a

> need to feel that engagement with the service fits in with the way they juggle the diverse demands made upon their time by work, family care and social life. Public services that are inflexible or unresponsive are also 'opportunity costly' and diminish people's sense of *personal control* in life (2007, 139).

Bauer et al. (2006), from the field of marketing research, echoes this sentiment, arguing that customer value is created by the customer throughout the process and therefore value creation is

co-productive in nature (2006, 873). This co-productive nature is critical because while the exchanges may seek broad socio-economic and socio-political goals, many will approach the web site with suspicion, confusion and/or hostility.

For the exchanges, they must work to give the user a sense of personal control in the process of browsing and purchasing health insurance for their families. Only by giving the user a sense of individual control during the process of purchasing insurance will the process feel less like a *mandate* and more like a *shopping experience*. E-government and online retail literature demonstrates that creating this sense of choice is accomplished through the web sites' navigability, information architecture and privacy (Baker 2009; Bauer et al. 2006; Elling et al. 2012).

Navigability

Navigability entails allowing consumers to maneuver through the web site readily and easily to specific destinations. Navigability is admittedly intuitive and poses a challenge to measurement. Navigability is best defined as the:

> Extent to which the navigational structure of an e-government website can be easily traversed and its service content accessed in a user-friendly manner (e.g., minimizing the number of clicks required to retrieve any specific place of information.) (Tan et al. 2013, 91).

The exchange web sites should achieve navigability through orientation elements, a site index page and a search function. These elements, while basic, are key to creating a sense of personal control for the user.

Orientation elements are those tools with which a first-time user can orient themselves on how to proceed in the process. The great preponderance of misinformation on the ACA necessitates that the process begin with immediate home page access to a welcome statement and answers to frequently asked questions. This model does not include the aesthetic values, but instead the functional elements that assist the users in finding their way. The importance of these orientation elements in the first phase of interaction between the user and the web site is noted in both the fields of e-government and online marketing (Baker 2009; Bauer et al. 2006; Elling et al. 2012).

Baker (2009) lists both welcome statements and a "logical query/response system" as key variables a part of navigation in their web site usability content analysis (2009, 84). Additionally HHS states the exchange web sites, during initial interactions, should provide "windows that open to provide or seek additional information based on individual preferences or answers" (CMS 2011, 5). If these windows contain key questions and answers for the user during their initial interaction with the exchange web site, then the demands of this model will be met.

Navigability also necessitates the inclusion of some sort of logical central hub, a site index page or site map. If the user is unable to effortlessly travel from point A to B and back again, then navigability will be severely hampered. Both a site map and/or site index are listed as variables in Baker's (2009) content analysis (84). If the web site is built like a chain of hyperlinks without a central point to navigate through, then the potentially confusing health insurance information will be heightened by confusion of how to proceed and how to return to a previous point in the process. Figure 2.1 demonstrates a site index page.

Figure 2.1. Site Index page

Source: *HHS.gov, "HHS A to Z Index," U.S. Department of Health and Human Services, http://www.hhs.gov/az/index.html# (accessed November 19, 2013).*

The final element in navigability for this model is a search function. A search function is a powerful tool to reduce the number of clicks it takes to move from point A to B. E-government literature indicates a search function is a critical part of measuring web site quality (Elling et al. 2012, 392; Harder and Jordan 2013, 113). The ability for users to pull exactly what they are looking for is perhaps the most empowering ability a web site can give in the course of navigation. If consumers are able to pull what information they need, when they need it, then the logistics of purchasing health insurance will become far more intuitive and efficient.

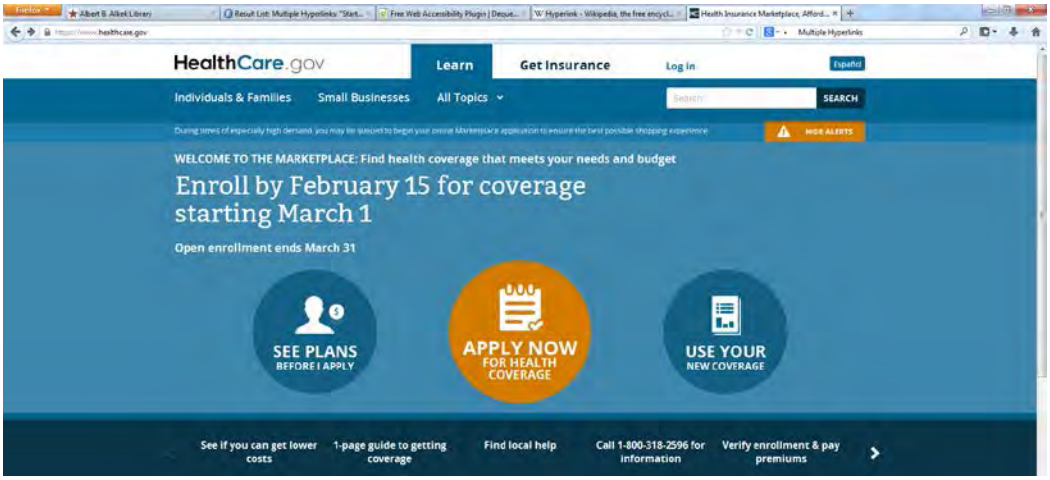
Because of the complexity and difficulty of the decision-making process inherent to health insurance, streamlining the navigation is essential to reducing consumer frustration. HHS made navigability a key concern for the IT architecture of the web sites and plans to design support systems that "optimize ease of use, site navigation and maximize self-service" (CMS 2011, 5). Navigability is the most basic element to creating a sense of personal control; after all if a consumer cannot understand required destinations or how to get there, they certainly cannot create feel any sense of personal control.

Information Architecture

The second element necessary to creating a sense of personal control for consumers is the design of the information architecture. Information architecture refers to those devices that "illustrate Web site information structure and organization" and how information is presented to users (Baker 2009, 84). Rather than navigation aids per say, information architecture details how information is presented to aid the reader. Included elements are multiple avenues of access and availability of down-loadable forms.

The importance of structure to navigation is noted by Elling et al. (2012) in the context of web site usability and Bauer et al. (2006) in the context of consumer satisfaction with e-commerce. Avenues of multiple access in this model include enabled tabbed viewing and availability of hyperlinks. By giving consumers multiple streamlined options to view information, a sense of personal control is greatly heightened. Figure 2.2 demonstrates how multiple hyperlinks ("Get Insurance" on top bar and the "Apply Now" orange circle) are used to add navigability options from the HealthCare.gov main page.

Figure 2.2. Multiple Avenues (Hyperlinks)



Source: *HealthCare.gov, U.S. Centers for Medicare & Medicaid Services, http://www.healthcare.gov (accessed January 23, 2014).*

Downloadable forms are documents that users are able to download from the web site server directly onto their hard disk, e.g. a PDF file. By offering the ability to download forms, consumers can review their options on another device. Furthermore, a downloadable form empowers a consumer to print the document and make decisions away from the computer screen. Harder & Jordan (2013) in their measurement of e-government transparency and Baker (2009) in his e-government usability content analysis include downloadable forms as variables.

The inclusion of Information Architecture allows the model to measure the degree of which the Web site allows multiple pathways to achieving the same end. Allowing multiple pathways is noted as a method to promote a sense of personal control in the Grimsley-Meehan framework (2007, 146). Multiple avenues and downloadable forms gives users the ability to make choices in how they view and interact with the Web site information and choice is a powerful part of value co-creation of a sense of personal control.

Privacy

The third element that creates a sense of personal control for the consumer is transparency and confidentiality in how their private information is used. In the context of the health insurance exchange web sites, giving the consumer the knowledge of how their personal information is handled is key to creating trust in the process. Baker places privacy within the context of "legitimacy" creation by government in his analysis of web site usability (2009, 84). Tan et al. likewise notes the importance of privacy during the acquisition of government services (2013, 88).

The health insurance exchange web sites must maintain privacy in compliance with Health Insurance Portability and Accountability Act of 1996 (HIPPA) provisions and Section 6103 of the Internal Revenue Code while handling medical records, tax return information and other sensitive financial information (CMS 2011, 9-10). Moreover the exchanges are mandated to be open and transparent on their privacy policies and procedures (45 C.F.R. § 155.260(a)(3)(iii)). In order to be open and transparent, statements of privacy and security policies must be available to all users. By conferring confidentiality through privacy and security statements, consumers can be assured that their sensitive information is handled accordingly.

In order to increase the sense of personal control, users need disclosure and disclaimer statements when they submit private information. These small statements warn the user when private information is handled as they move through the process. Federal regulations mandate that individuals be given "a reasonable opportunity and capability to make informed decisions about the collection, use, and disclosure of their personal identifiable information" (45 C.F.R. § 155.260(a)(3)(iv)). Issuing a disclaimer gives the user the right to back out of the process and

seek an exchange navigator or health insurance broker if they feel uncomfortable submitting confidential information online. Giving consumers the simple feedback of a disclosure statement increases trust in the process, and trust is key in the co-production of value (Bauer et al. 2006, 869; Grimsley & Meehan 2007, 138). By employing disclosure and disclaimer statements, consumers can feel more in control when they do place their sensitive information into the exchange web site.

The elements of navigability, information architecture and privacy positively influence the sense of personal control for users. By granting users more *choices* throughout the process there will be greater *trust* in the exchange web site and the ACA. More choices for consumers on how they navigate the web site, how they access and view information on the webpage, and when their private information is disclosed all increase a sense of personal control. However, Corlette, et al. (2013) and Hibbard, et al. (1997) note the cognitive difficulties of handling too many choices in a field as complex as health insurance. These assertions from the literature are reinforced by consumer experience in Massachusetts since 2006 (Sinaiko, et al. 2013). To remedy the inherent difficulties and confusion to purchasing health insurance, the exchanges must create for users a sense of *influence* in the process of co-production.

Sense of Influence

This final experiential category for the exchange web sites includes those elements that are used to create a sense of influence. Grimsley and Meehan articulated the sense of influence as "expressed through discussion and negotiation in which there is a sense of each party acknowledging the needs of the other" (2007, 139). Grimsley and Meehan posed two questions in their Experience Management Matrix that particularly apply to the exchanges:

> Does the provider ensure that the client perceives their needs as being recognized even if not met entirely? Is the client able to request (preferably initiate) reasonable adaption of the service to their needs? (2007, 145).

The first question is concerned with *recognition* of a client problem; the second is concerned with *adaption* of services to the client's particular need. These questions were used to form the two elements of this category: feedback (adaption) and user-help (recognition).

Feedback

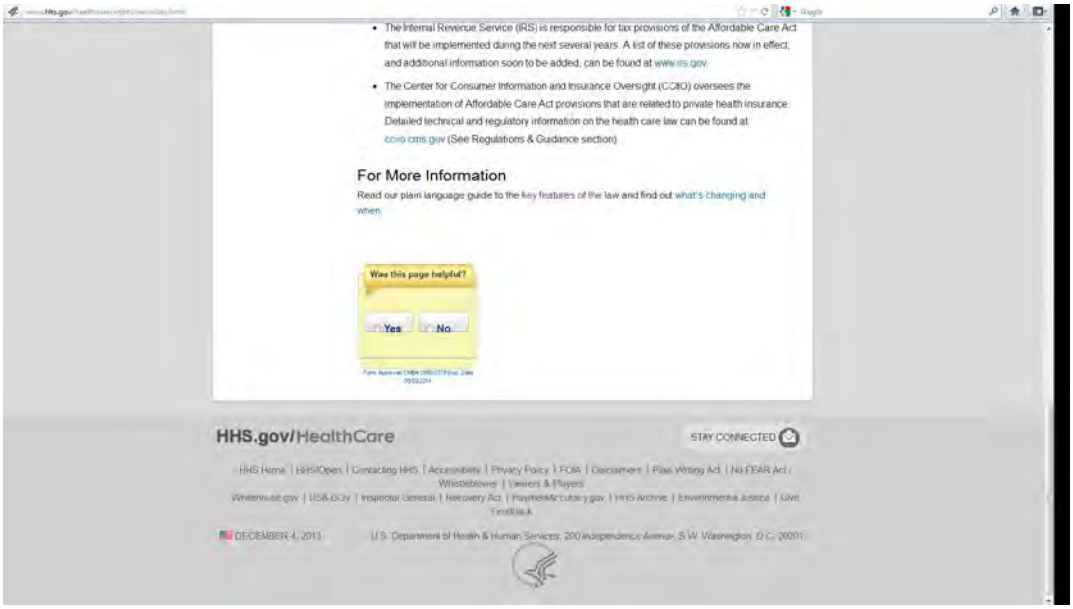
The first element, feedback, is critical to the responsiveness of the exchange web sites, and a responsive exchange web site greatly increases a user's sense of influence in the process. The need for responsiveness for retail services is noted by Bauer, et al., who particularly names "availability of alternative communication channels," as a necessary function for recognition (2006, 870-1). This model calls for Web sites to provide contact information, user feedback surveys, and timely feedback mechanisms so that communication channels are available for the user to convey their satisfaction or dissatisfaction. Giving the consumer the ability to give feedback and then the acknowledgement that their feedback is recognized by the system is critical for promoting a sense of influence in the process.

HHS has promulgated the importance of feedback, calling for a timely and *responsive* resolution process for users and, that "IT systems should be able to generate data in support of performance management, public transparency, policy analysis, program integrity, and program evaluation" (CMS 2011, 4). User satisfaction surveys that gather user opinions after the process can be a tool to improve web site functionality. The functionality improvement is mandated in Federal regulations: exchange web sites must evaluate for appropriateness and usability (45 C.F.R. § 155.230(c)). Feedback surveys like a satisfaction survey provide the qualitative data

necessary for program evaluation called for in Federal regulations. The availability of feedback surveys will increase consumers' sense that their concerns and complaints are *recognized* and valued by the exchange.

The key variable to recognition is that it must be timely; recognition that is delayed can cause more frustration than no recognition at all. Timeliness is a key factor in creating a sense of influence because it shows organizational commitment to the individual (Grimsley & Meehan 2007). There are two mechanisms this model employs to test how quickly the web site can recognize user actions, email verifications and intra-process feedback mechanisms. Email verification is simply the system sending automated confirmations as the user fills out an application in the system. Intra-process feedback mechanisms act as small recognitions, such as a simple "Was this Web page useful to you?" boxes such as those found on HHS.gov/HealthCare demonstrated in Figure 2.3. The key for this feedback is that it is *intra*-process, as in throughout the process as opposed to post-application user surveys. Providing quick feedback opportunities for consumers will help the user feel a greater sense that their input both matters and can be used to shape the experience.

Figure 2.3. Intra-process feedback mechanism



Source: *HHS.gov, "Read the Law," U.S. Department of Health and Human Services, http://www.hhs.gov/healthcare/rights/law/index.html (accessed November 19, 2013).*

The details of the Federal regulation and guidance of HHS ties in nicely with Grimsley and Meehan's call for e-government programs to create a sense of influence among users. If consumers can purchase health insurance for themselves and their families, while giving *recognized* feedback, they will feel able to influence the exchange based upon their issues or problems. This is fundamentally a form of consumer empowerment. If the exchange web sites manage to create a sense of influence the ACA requirements will feel less like a mandate and more like a powerful tool that can be used by the consumer.

User-help

The second element that enhances a client's sense of influence is availability of user-help. The availability of user-help is built into the ACA legislation, by establishing health insurance

navigators and consumer assistance programs (CAPs) and fits nicely with the "availability of service personnel," called for by Bauer, et al. (2006, 870-1). Service personnel give web site users a source of expert advice and an alternative route to purchasing insurance entirely. These service personnel by their mere availability are a form of adaption. They adapt the web site portal to users who may need non-digital or a non-customary level of assistance. Furthermore, the navigator can provide personalized attention to the user's individual problems. If navigators are well-trained and easily accessible they will go a long way towards ensuring the success of the ACA.

The open and transparent display of the navigators' availability on the exchange Web sites is mandated by Federal regulations as well as by statute (*Affordable Care Act* 2009, §1311; 45 C.F.R. § 155.205(a)). In fact the availability of navigators to assist individuals is acknowledged as potentially the key to the success of the entire program by multiple authors (Corlette et al. 2013; Grob, et al. 2013; Hibbard, et al. 1997; Sinaiko, et al. 2013). HHS has likewise stated a goal of ensuring customer service or caseworker support for exchange consumers (CMS 2011, 5). Making navigator phone numbers, emails and even web site chat options prominently available throughout the process will greatly increase users' trust that if they need help they can get it.

Four other forms of user-help also should be available on the health insurance exchange web sites: Consumer Assistant Program (CAP) contact information, broker information, insurance contact information, and local help information. The CAPs are ancillary programs to the exchanges which serve, essentially, as public customer service centers for insurance enrollees. CAPs receive little attention as a part of the ACA but they represent a "national

commitment to consumer assistance for anyone struggling to understand how private health insurance works and how to navigate issues related to coverage, eligibility, enrollment, and denial of claims" (Grob et al. 2013, 347). For those states who have accepted the available Federal grants and have CAPs up and running, including their contact information on the health insurance exchanges will provide further user-help options to consumers. When it comes to user-help, the more options available, the more sense consumers will have that the exchange is there to help them in any way they need.

Information on insurance brokers is another user-help source that should be made available to consumers. The ACA allows states to permit agents and brokers who enroll individuals or employers in QHPs within each respective market. Federal regulations leave discretion to the states if they wish to display the broker information on their exchange web sites (45 C.F.R. § 155.220(b)). Containing basic information on the availability of insurance brokers is advisable to provide another opportunity for consumers to adapt the health insurance exchange process to their needs.

The third and fourth sets of information that should be available is contact information of the insurance companies that are selling QHPs on the exchange and local help information. The contact numbers of the health insurance companies allows a consumer to receive answers directly from the insurance provider. It should be noted that Federal regulations bar a health issuer, a subsidiary of a health issuer or an association that includes a health issuer from acting as a navigator for the exchanges (45 C.F.R. § 155.210(d)). Making available customer service information for the QHP providers gives consumers another source to have their questions and concerns answered. Finally the web site should have a function where users can look up local

help available in their community. Giving consumers an ability to tap local aide is especially useful to those Americans who are uncomfortable interacting with a Web site.

Common sense is sufficient to realize the potential frustration consumers will feel if they cannot reach a representative with their questions and concerns. Providing user help facilitates the exchange to the specifics needs of a consumer; which literature notes greatly increases trust in the process (Bauer et al. 2006; Echeverri & Skålén 2011; Grimsly & Meehan 2007). By providing more resources, there can be greater flexibility in how the exchange can *adapt* its services to the need of the consumer.

Chapter Overview

This returns to the concept of client and retailer co-production of value explained by Bauer et al. (2006, 873). However, the stakes are raised with the exchanges because they bear the hallmark of many public programs – radical goals and fuzzy contexts (Grimsley and Meehan 2007, 136). The insurance exchanges' goals of consumer protection and ensuring universal coverage is difficult to connect with the experience of many Americans: a mandate to purchase insurance less they suffer tax penalties.

Besides the multitude of client and retailer difficulties that e-commerce enterprises must bridge, the exchange web sites will have to bridge the gap between the experience of the user and the fuzzy contexts and radical goals of the ACA. If the exchanges manage to create a sense of being *well-informed*, a sense of *personal control*, and a sense of *influence*, then the challenges of health insurance, e-commerce and political resistance can be overcome. Violate one of these experiential categories and there will be howls of outrage, violate all three and the entire ACA

may fail. The model developed herein can be used to judge how effectively Obamacare's health insurance exchange web sites have bridged this divide.

Chapter 3

Methodology

Purpose

The purpose of this chapter is to discuss the research methodology utilized to apply the conceptual framework model, previously developed, to the sixteen health insurance exchange web sites of the Affordable Care Act. This chapter will detail the research's unit of analysis, methodology, limitations and variables. An Operationalization Table (Table 3.1) and a Coding Sheet (Table 3.4) will also be provided to demonstrate pragmatic operationalizing process the conceptual model, developed in Chapter 2, undergoes for the purposes of the study. This chapter will provide the operational version of the ideal model, which will in turn produce a report card for the efforts state and federal authorities have taken to meet the model.

Operationalization

The conceptual framework, developed in Chapter 2, is the basis for the Operationalization Table (Table 3.1). This table moves the framework's categories to a practical enumeration of the web site's studied elements. This table also details the research method and evidence that will be gathered for each element. Finally this table is the intermediary step between the conceptual framework and the final coding sheet.

Table 3.1. Operationalization Table

Category	**Research Method**	**Evidence**
1. Sense of being Well-Informed		
1.4 Accessibility		
1.4.1 Section 508 compliance:	Web Accessibility Checker	- Number of violations.
	WAVE: Web Accessibility Evaluation Tool	- Number of violations.
1.4.2 Accessibility Policy Statements	Direct observation	- Presence of statement
1.4.3 Language Services	Direct observation	- Language services offered
1.5 Readability		
1.5.1 Less than or equal to an eighth grade reading level	Flesch-Kincaid Reading Ease	- Reading Ease score 0 – 100
	Flesch-Kincaid Grade Level	- Grade Level
	SMOG Grade Level	- Grade Level
1.5.2 Health insurance terms and their definitions	Direct observation	- Terms and definitions present

Table 3.1. Continued

Category	**Research Method**	**Evidence**
1.6 Decision Tools		
1.6.1 Cost calculators	Direct Observation	- Cost calculator availability
1.6.2 Comparison tools • Premiums and cost sharing information • A summary of benefits and coverage • QHP plan levels • Enrollee reviews of QHPs • Quality ratings of QHPs • Medical loss ratio • Coverage measures	Direct observation	- Comparison tool availability
1.6.3 Insurance performance report cards	Direct observation	- Insurance performance report card availability
2. Sense of Personal Control		
2.1 Navigability		
2.1.1 Orientation • Welcome Statement • Frequently Asked Questions	Direct Observation	- Welcome statement and FAQ present
2.1.2 Site index page	Direct Observation	- Site index page present
2.1.3 Search function	Direct Observation	- Search function present
2.2 Information Architecture		
2.2.1 Multiple avenues • Multiple Hyperlinks • Tabbed Viewing	Direct Observation	- Multiple hyperlinks and tabbed viewing available
2.2.2 Downloadable Forms	Direct Observation	- Download forms present

Table 3.1. Continued

Category	**Research Method**	**Evidence**
2.3 Privacy		
2.3.1 Privacy & Security policy statements	- Direct Observation	- Privacy and Security policy statements present
2.3.2 Disclaimer/Disclosure statement	- Direct Observation	- Disclaimer/Disclosure statement present in application
3. Sense of Influence		
3.1 Feedback		
3.1.1 User Satisfaction Surveys	- Direct Observation	- User satisfaction survey offered post-application
3.1.2 Timely feedback mechanisms • Email Verification • Intra-process feedback	- Direct Observation	- Email verification sent post-application; intra-process feedback available
3.2 User-help		
3.2.1 Health Navigator assistance	- Direct observation	- Health Navigators contact available
3.2.2 Other User-help options • Consumer Assistant Program contact information • Broker information • Insurance contact information • Local help information	- Direction observation	- Contact information available

Unit of Analysis

The unit of analysis for this study are the health insurance exchange web sites of the ACA. More specifically, the health insurance exchange web sites that allow individuals to purchase QHPs through the individual marketplace on their web site. No sampling methodologies are utilized in this study, as only one federal and sixteen state (including District of Columbia) health insurance exchanges allow, as of April 1, 2014, individuals to purchase QHPs on their respective web sites. This study will not examine the Small Business Health Options Program (SHOP), the mandate for which has been delayed twice over the past two years. As it currently stands, employers with 50 to 99 full-time equivalents face a mandate penalty in 2016 and employers with 100 or more are under a 2015 mandate (Business Insider, 2014).

There are significant variations among state-operated exchanges in their progress on implementing the ACA, reflecting a myriad of political and administrative struggles. As of this writing, April 1, 2014, nine state exchanges are excluded for various reasons (detailed in Table 3.2). Of these excluded exchanges, two states, Idaho and New Mexico, operate state-based exchange web sites but the Federal web portal, healthcare.gov, handles the individual marketplace for the year 2014 (Commonwealth Fund, 2014). The states of Arkansas, Delaware, Illinois, Iowa, Michigan, New Hampshire and West Virginia operate State-Partnership exchanges (Commonwealth Fund, 2014). These Partnership exchanges give state authority over plan management and consumer assistance but the Federal web portal handles the individual QHP market (Allen, 2013). Some of these states have web sites that lead individuals to healthcare.gov or lack a web site entirely. Utah, meanwhile under a special waiver issued by HHS, operates a small business exchange, while the Federal healthcare.gov handles the

individual exchange for the state. It should be noted, in the future, there could be as many as 52 health insurance exchanges (one federal, fifty state-operated and the District of Columbia).

Table 3.2. Health Insurance Exchanges disqualified from study

Health Insurance Exchange	**Operator**	**Web site URL**	**Reason for Disqualification**
Arkansas Health Connector	Arkansas	http://www.arhealthconnector.org/	State-Partnership Exchange
ChooseHealth Delaware	Delaware	http://www.choosehealthde.com/	State-Partnership Exchange
Get Covered Idaho	Idaho	http://www.getcoveredidaho.com/	Federally-operated individual market for 2014
Get Covered Illinois	Illinois	http://getcoveredillinois.gov/	State-Partnership Exchange
-	Iowa	-	State-Partnership Exchange
-	Michigan	-	State-Partnership Exchange
-	New Hampshire	-	State-Partnership Exchange
NMHix Be Well	New Mexico	http://bewellnm.com/	Federally-operated individual market for 2014
AvenueH	Utah	http://www.avenueh.com/	State Small Business Exchange, Federally-operated individual market

With a small population of sixteen, this study is able to study the individual markets of the health insurance exchanges in totality. Table 3.3 details every health insurance exchange web site, as of April 1, 2014, that is analyzed in this research. Each of these web sites in Table 3.3 are designed and operated by a different authority and allow *individual* users within their jurisdiction to create an account, browse for QHPs and purchase a plan that suites the needs of them and/or their families. The final report card issued at the conclusion of this research study will be for these sixteen authorities.

Table 3.3. Studied Health Insurance Exchange web sites of the Affordable Care Act

Health Insurance Exchange	**Operator**	**Web site URL**
Health Insurance Marketplace	Federal	http://www.healthcare.gov
Covered California	California	https://www.coveredca.com/
Connect for Health Colorado	Colorado	http://connectforhealthco.com/
Access Health CT	Connecticut	https://www.accesshealthct.com/AHCT/LandingPageCTHIX
DC Health Link	District of Columbia	https://dchealthlink.com/
Hawai'i Health Connector	Hawai'i	http://www.hawaiihealthconnector.com/
kynect	Kentucky	https://kyenroll.ky.gov/
Maryland Health Connection	Maryland	http://marylandhealthconnection.gov/
Massachusetts Health Connector	Massachusetts	https://www.mahealthconnector.org/
MNSure	Minnesota	https://www.mnsure.org/
Silver State Health Insurance Exchange	Nevada	https://www.nevadahealthlink.com/
NYState of Health	New York	https://nystateofhealth.ny.gov/
Cover Oregon	Oregon	https://www.coveroregon.com/
HealthSource RI	Rhode Island	http://www.healthsourceri.com/
Vermont Health Connect	Vermont	https://portal.healthconnect.vermont.gov/VTHBELand/welcome.action
Washington Healthplanfinder	Washington	https://www.wahealthplanfinder.org/

Research Methodology

This study utilizes content analysis in order to judge the sixteen individual marketplaces of the health insurance exchange web sites of the ACA. There are many advantages of content analysis, most especially its economy (in terms of time and money) and the ease with which the study can amend its errors (Babbie, 2010). Content analysis neither requires special equipment or a research staff; it can be achieved by a Master of Public Administration student. Furthermore content analysis is particularly suited to studying the individual marketplaces of the health

insurance exchanges because it allows the researcher to engage in the web site as does a consumer.

A consumer shopping on a web page engages only with those web site elements that are manifest, or visible surface content (Babbie, 2010). This study's design seeks to approach the health insurance exchange web sites as a consumer, while recording its manifest elements and their interactions in a systematic and rigorous manner. This research will not access server logs, the web site's code or other information a consumer would not engage with while shopping for QHPs. The concreteness of the elements studied in this research improves the reliability of the content analysis method.

In addition to advantages of content analysis, this research study design also bears certain limitations. Foremost, content analysis does not allow this study to directly measure the inherent subjectivity of any consumer experience, personal opinion, as would a questionnaire or survey. Subjectivity, however, is the chief enemy of reliability in research. The operationalization and encoding processes increases the reliability of the study, but they also "rob concepts of their richness of meaning" by condensing into a numeric coding sheet senses involved in forming a positive consumer experience (Babbie, 2010). This tension, between a study's reliability and validity, is inescapable in any social research. This study, with the combination of the literature review in chapter 2 and the methodology of chapter 3, should give the reader some satisfaction that this researcher has succeeded in allaying this tension.

Procedures: The Coding Sheet

Coding is "the process whereby raw data are transformed into standardized form suitable for machine processing and analysis" (Babbie, 2010). This coding sheet is the final pragmatic implementation of the model developed in Chapter 2. A coding sheet allows the researcher to record, analyze and compare results in a rigorous and ordered manner. It also allows other researchers to pick up this study and preform the analysis themselves in an economical manner. The coding sheet is the final product of the framework's movement from the conceptual to the actionable. This coding sheet is the basis for the final report card, created in Microsoft Excel, found in Appendix B.

The coding sheet details elements from the operationalization table, the criterion for their coding and finally the manner by which they will be coded. The coding sheet is presented in Table 3.4.

Table 3.4. Coding Sheet

	Element	Criteria	Coding
Accessibility	1.1.1.1	What are the number of 'Known Problems' according to Web Accessibility Checker?	Integer greater than 0
	1.1.1.2	What are the number of errors reported by the WAVE: Web Accessibility Evaluation Tool?	Integer greater than 0
	1.1.2	Are Accessibility Policy Statements present on the home page?	**0** - Not present, **1** - Present
	1.1.3	Are alternative language services offered?	**0** - Not present, **1** - Present
Readability	1.2.1.1	What is the Flesch-Kincaid Reading Ease score?	Integer between 0 and 100.
	1.2.1.2	What is the Flesch-Kincaid Grade Level?	Integer between 0 and 18.
	1.2.1.3	What is the SMOG Grade Level?	Integer between 0 and 18.
	1.2.2	Are health insurance terms and their definitions provided?	**0** - Not present, **1** - Present

Table 3.4. Continued

	Element	Criteria	Coding
Decision Tools	1.3.1	Are cost calculators made available?	**0** - Not present, **1** - Present
	1.3.2.1	Is health insurance premium and cost sharing information available?	**0** - Not present, **1** - Present
	1.3.2.2	Is a summary of health insurance benefits and coverage available?	**0** - Not present, **1** - Present
	1.3.2.3	Are Qualified Health Plans organized into plan levels?	**0** - Not present, **1** - Present
	1.3.2.4	Are Enrollee reviews of the QHPs provided?	**0** - Not present, **1** - Present
	1.3.2.5	Are Quality ratings of the QHPs provided?	**0** - Not present, **1** - Present
	1.3.2.6	Are health insurance company medical loss ratios provided?	**0** - Not present, **1** - Present
	1.3.2.7	Are measures of a health insurance plan's coverage included?	**0** - Not present, **1** - Present
	1.3.3	Are insurance performance report cards provided?	**0** - Not present, **1** - Present
Navigability	2.1.1.1	Is a Welcome Statement provided on the homepage?	**0** - Not present, **1** - Present
	2.1.1.2	Is a list of Frequently Asked Questions provided?	**0** - Not present, **1** - Present
	2.1.2	Is there a site index page provided?	**0** - Not present, **1** - Present
	2.1.3	Is a web site search function provided?	**0** - Not present, **1** - Present
Information Architecture	2.2.1.1	Are multiple hyperlinks provided to start shopping?	**0** - Not present, **1** - Present
	2.2.1.2	Is tabbed viewing enabled while shopping?	**0** - Not present, **1** - Present
	2.2.2	Are downloadable forms made available?	**0** - Not present, **1** - Present
Privacy	2.3.1	Are Privacy and/or Security Statements available?	**0** - Not present, **1** - Present
	2.3.2	Are Disclaimer and/or Disclosure Statements available?	**0** - Not present, **1** - Present

Table 3.4. Continued

Feedback	3.1.1	Are User Satisfaction Surveys available to consumers?	**0** - Not present, **1** - Present
	3.1.2.1	Are email verifications sent while shopping?	**0** - Not present, **1** - Present
	3.1.2.2	Are intra-process feedback mechanisms available?	**0** - Not present, **1** - Present
User-help	3.2.1	Is contact information for Health Navigators available?	**0** - Not present, **1** - Present
	3.2.2.1	Is contact information available to Consumer Assistant Programs?	**0** - Not present, **1** - Present
	3.2.2.2	Is contact information available for health insurance brokers?	**0** - Not present, **1** - Present
	3.2.2.3	Is contact information available for health insurance providers?	**0** - Not present, **1** - Present
	3.2.2.4	Is there contact information available for local help?	**0** - Not present, **1** - Present

Human Subjects Protection

In compliance with all applicable law and Texas State University policy, the Institutional Review Board (IRB) exemption for this study, EXP2014D95680V, was granted January 31, 2014. This study is exempted for two reasons: first, this study's unit of analysis are public government web sites involving no human subjects and, second, this study does not examine any confidential financial, medical, legal, personal or otherwise sensitive information. Confidential or personally identifying information is beyond the design of the study. For these reasons this study was exempted from a full IRB review.

Chapter Overview

This chapter discussed the study's methodology through a four-step presentation: the operationalization of the conceptual framework, the unit of analysis, the research methodology, and the final coding process. This chapter, like any methodology chapter, gives the study a

degree of repeatability or retest reliability by providing the processes and logic of the researcher in moving from concept to operation. The next chapter presents the results of the content analysis of the consumer experience provided by the sixteen individual market places of the health insurance exchange web sites of the ACA.

Chapter 4

Results

Purpose

The purpose of this chapter is to present and analyze the results of the data collected using the coding protocol detailed in Chapter 3. Sixteen health insurance exchange web sites were analyzed on March 12, 2014 and the results encoded on an excel spreadsheet in Appendix A. This chapter will first present an overview of the results, organized categorically, and give accompanying analysis to produce a big picture of trends across the ACA web sites. Following the categorical analysis is a jurisdiction by jurisdiction analysis of the sixteen web sites, in the order given in Table 3.3. Following the analysis in this chapter, examples (and accompanying screenshots) of recommended practices found on the sixteen web sites will be presented in Chapter 5.

Overview of Results

The results presented below are on a categorical basis and capture in detail the overall performance of the exchanges in ensuring a user has a sense of being well-informed, a sense of personal control and a sense of influence. Each category will present a succinct analysis along with a summarizing table.

Results for Hawai'i, New York, and Vermont are incomplete because they require registration of a state web ID before you are able to browse through the QHPs provided by the exchange. The researcher was unable to obtain such state web IDs without falsifying information. What categories that could still be analyzed were still encoded for the study.

Sense of being Well-Informed

The sense of being well-informed contains three elements: accessibility, readability and decision tools. These elements ensure a user feels they are able to engage with the health insurance exchange web site on an informed basis. Information gives confidence to the user and helps allay previous apprehension and distrust of the ACA while shopping for health insurance on the exchange web site.

Accessibility

Accessibility is the degree to which those with special needs (be it disability or a poor understanding of English) can be accommodated on the exchange web sites. Accessibility contains three elements: Section 508 compliance (1.1.1), Accessibility Policy Statement (1.1.2) and Language Services Offered (1.1.3). To capture Section 508 compliance two automated tests (1.1.1.1 and 1.1.1.2 respectively) were conducted using Web Accessibility Checker (http://achecker.ca/checker/index.php) and WAVE: Web Accessibility Evaluation Tool (http://wave.webaim.org/). On March 12, the researcher collected the results for the Accessibility sub-category. The findings are presented in Table 4.1.

Table 4.1. Accessibility results

	Section 508 Compliance: Web Accessibility Checker	Section 508 Compliance: WAVE test	Accessibility Policy Statement	Language Services Offered
Federal	12	6	1	1
California	58	8	0	1
Colorado	6	5	0	1
Connecticut	0	3	1	1
District of Columbia	21	13	1	0

Table 4.1. Continued

Hawai'i	7	1	0	1
Kentucky	35	1	0	1
Maryland	29	5	1	1
Massachusetts	12	1	1	1
Minnesota	47	2	1	0
Nevada	2	0	0	1
New York	0	2	1	1
Oregon	36	19	0	1
Rhode Island	35	0	1	1
Vermont	25	14	0	0
Washington	2	2	0	1
Average Number of Errors	20.438	5.125		

No authorities managed to garner zero accessibility errors in both automated tests, though several states performed admirably: Connecticut, Nevada, New York, and Washington all scored under 4 total errors. As a whole the web sites averaged 20.438 errors using Web Accessibility Checker and 5.125 errors using the WAVE test. Of the sixteen states, half (8) were missing accessibility policy statements on their front page and three did not offer languages services for the web page.

Readability

Readability is the ease of which one can read the information presented. Readability contains two elements: reading ease (1.2.1) and defining health insurance terminology (1.2.2). To capture reading ease of the web sites three tests were conducted using an automated readability tool (https://readability-score.com/). These tests were the Flesch-Kincaid Reading Ease (1.2.1.1), Flesch-Kincaid Grade Level (1.2.1.2), and SMOG Grade Level (1.2.1.3). The researcher entered a minimum of 800 words from each web site into the readability tool for the

test results. On March 12, the researcher collected the results for the Readability sub-category. The findings are presented in Table 4.2.

Table 4.2. Readability results

	F.-K. Reading Ease	F.-K. Grade Level	SMOG Grade Level	Health Insurance Definitions
Federal	55.5	6.5	5.6	1
California	54.1	6.7	5.4	1
Colorado	67.4	5	5.2	1
Connecticut	57.4	9.2	9.1	1
District of Columbia	68	4.8	4.8	1
Hawai'i	57.6	6.4	6	1
Kentucky	66	5.6	5.8	0
Maryland	57.9	6.5	6.3	1
Massachusetts	69.9	5.8	6	1
Minnesota	43.9	8	6	1
Nevada	59.2	6.4	6.4	1
New York	63.6	8.2	8.6	1
Oregon	55.4	9	9.1	1
Rhode Island	66.1	5.7	6.1	1
Vermont	73.6	4.3	5	1
Washington	58.4	7.7	8.1	1
Average Reading Scores	60.875	6.6125	6.4688	

As a whole the sixteen exchange websites passed the criterion of this study with an average reading ease score of 60.875 and grade levels of 6.6125 and 6.4688 for the test grade level tests. The criterion recommended in the literature was lower than an eighth grade reading level, which the web sites, on average, superseded. These results demonstrate the health insurance exchange web sites are readable to a majority of Americans. Despite the overall passing grade, several states failed to reach the reading ease criterion in at least two of the three

tests (Connecticut, Minnesota, New York, Oregon, and Washington). Of the sixteen web sites all but one (Kentucky) provided a comprehensive list of health insurance terminology definitions to their users.

Decision Tools

Decision Tools are designed to assist consumers in weighing costs and benefits of QHPs and form an integral part in creating a sense of being Well-Informed for the user. Decision tools contains three elements: cost calculators (1.3.1), comparison tools (1.3.2) and health insurance report cards (1.3.3). Within comparison tools are a number of specific sub-elements that capture different aspects of shopping for health insurance: Premiums and cost sharing information (1.3.2.1), summaries of benefits and coverage (1.3.2.2), QHP plan levels (1.3.2.3), Enrollee reviews (1.3.2.4), Quality ratings (1.3.2.5), Medical loss ratios (1.3.2.6), Coverage measures (1.3.2.7). On March 12, the researcher collected the results for the Decision Tools sub-category. The findings are shown in Table 4.3.

Table 4.3. Decision Tools results

	Calculators	Premium & Cost Sharing	Summaries of Benefits	QHP Plan Levels	Enrollee Reviews	Quality Ratings	Medical loss ratio	Coverage Measures	Report Cards
Federal	1	1	1	1	0	0	0	1	0
California	1	1	1	1	0	1	0	1	0
Colorado	1	1	1	1	0	1	0	1	0
Connecticut	1	1	1	1	0	1	0	1	0
District of Columbia	1	1	1	1	1	1	0	1	0
Hawai'i	x	x	x	x	x	x	x	x	x
Kentucky	1	1	1	1	0	1	0	1	0
Maryland	1	1	1	1	1	1	0	1	1
Massachusetts	1	1	1	1	0	0	0	1	0
Minnesota	1	1	1	1	0	1	0	1	0

Table 4.3. Continued

Nevada	1	1	1	1	0	1	0	1	0
New York	x	x	x	x	x	x	x	x	x
Oregon	1	1	1	1	0	1	0	1	0
Rhode Island	1	1	1	1	1	0	0	1	0
Vermont	x	x	x	x	x	x	x	x	x
Washington	1	1	1	1	1	1	0	1	0

Of the thirteen states exchange web sites that could be analyzed, all thirteen possessed cost calculators (1.3.1), premium and cost sharing information (1.3.2.1), summaries of benefits and coverage (1.3.2.2), QHP plan levels (1.3.2.3), and Coverage measures (1.3.2.7); as required by federal regulation. Meanwhile no exchanges listed Medical loss ratios for the insurance companies on the exchanges (1.3.2.6). Only four jurisdictions (D.C., Maryland, Oregon and Washington) had information for enrollee reviews of the QHPs (1.3.2.4); while more jurisdictions (10) offered quality ratings of the QHPs (1.3.2.5). Finally, only one web site, Maryland's, offered comprehensive QHPs report cards via a downloadable PDF (1.3.3).

These results conclude the sense of being Well-Informed portion of the model. Overall the exchange web sites performed with mixed results in accessibility, admirably for readability and well for Decision Tools. With a high average of accessibility errors, half the web sites lacking accessibility policy statements and even a few lacking language services on their web sites the Accessibility category results are lackluster. Readability meanwhile is a near slam dunk overall, with the web sites average reading ease measurements all passing the criterion and only one jurisdiction lacking definitions for their health insurance terms. Decision Tools meanwhile largely a success across the exchange web sites. The only problems are that there are no comprehensive insurance report cards (besides one jurisdiction), no medical loss ratio

information and mixed access to enrollee reviews and quality ratings. These results show the exchange websites have some work left to do, but are well on their way to ensuring consumers have a sense of being Well-Informed while shopping for QHPs.

Sense of Personal Control

The sense of personal control contains three sub-categories: navigability, information architecture and privacy. These elements ensure users feel they have some control over the process of shopping and purchasing QHPs on the exchange web sites. When consumers feel they have some personal control in how they engage with the process, they are far more likely to come away with a positive experience.

Navigability

Navigability is the degree to which the web site allows consumers to maneuver through the web site readily and easily to specific destinations. Navigability contains three elements: orientation (2.1.1), a site index page (2.1.2) and a search function (2.1.3). Orientation is captured through two sub-elements: a welcome statement on the web site front page (2.1.1.1) and a frequently asked questions page (2.1.1.2). On March 12, the researcher collected the results for the Navigability sub-category. The findings are presented in Table 4.4.

Table 4.4. Navigability results

	Welcome Statement	FAQ	Site Index	Search Function
Federal	0	0	1	1
California	1	1	0	0
Colorado	1	1	1	1

Table 4.4. Continued

Connecticut	1	1	0	0
District of Columbia	1	0	0	1
Hawai'i	1	1	0	1
Kentucky	1	1	0	0
Maryland	1	1	1	1
Massachusetts	1	1	1	0
Minnesota	1	1	1	1
Nevada	1	1	0	0
New York	1	1	1	0
Oregon	1	1	0	0
Rhode Island	1	1	0	0
Vermont	0	1	0	1
Washington	1	1	0	0

Of the sixteen exchange web sites, all but two (Federal and Vermont) possessed an orientating welcome statement on their front page (2.1.1.1). Again all but two of the exchanges (Federal and District of Columbia) possessed an orientating frequently asked questions page (2.1.1.2). Only six states possessed a site index page (2.1.2), while only seven states possessed a search function (2.1.3).

Information Architecture

Information architecture is *how* information is presented rather than the navigation tools given to the user. In essence, navigational tools are used to navigate the architecture of the information presented on the exchange web site. This sub-category contains two elements: multiple avenues of access (2.2.1) and availability of down-loadable forms (2.2.2). Multiple avenues of access are captured in this model with two sub-elements: multiple hyperlinks to start the process (2.2.1.1) and tabbed viewing (2.2.1.2). These elements ensure a user has a sense of personal control by offering multiple opportunities to begin the process; gives them the power to organize the web site's into tabs and ability to download information to their personal computer.

On March 12, the researcher collected the results for the Information Architecture sub-category. The findings are presented in Table 4.5.

Table 4.5. Information Architecture results

	Multiple Hyperlinks	Tabbed Viewing	Downloadable Forms
Federal	1	1	0
California	1	1	1
Colorado	1	1	1
Connecticut	1	1	1
District of Columbia	1	0	1
Hawai'i	1	x	x
Kentucky	0	0	1
Maryland	1	1	1
Massachusetts	1	1	1
Minnesota	1	1	1
Nevada	1	1	0
New York	1	x	x
Oregon	1	1	1
Rhode Island	1	1	1
Vermont	1	x	x
Washington	0	1	1

Of the sixteen exchange web sites, all but two (Washington and Kentucky) offer multiple avenues with which to begin the process of shopping for QHPs (2.2.1.1). All but two of the thirteen exchange web sites provided tabbed viewing while shopping for QHPs (2.2.1.2); likewise all but two of these thirteen exchange web sites offered downloadable forms of the QHP information (2.2.2).

Privacy

The final sub-category is essential to giving individuals a sense of personal control: control over when and where they release their private information. The sense individuals have control over their privacy is accomplished through official Privacy / Security Policy Statements (2.3.1) and Disclaimer / Disclosure Statements (2.3.2). On March 12, the researcher collected the results for the Privacy sub-category. The findings are presented in Table 4.6.

Table 4.6. Privacy results

	Privacy Statements	Disclosure Statements
Federal	1	1
California	1	1
Colorado	1	1
Connecticut	1	1
District of Columbia	1	1
Hawai'i	1	1
Kentucky	1	1
Maryland	1	1
Massachusetts	1	1
Minnesota	1	1
Nevada	1	1
New York	1	1
Oregon	1	1
Rhode Island	1	1
Vermont	1	1
Washington	1	1

This sub-category receives a perfect score for all sixteen exchange web sites of the ACA possessed official privacy policy statements (2.3.1) and disclaimer statements (2.3.2).

These results conclude the sense of personal control portion of the model. Overall the exchange web sites had mixed results in navigability, with roughly half the exchanges lacking either a site index page or a search function. The exchange web sites meanwhile performed better in information architecture with only a maximum of two exchanges failing to meet the model in each of the three elements and sub-elements. Finally the health insurance exchanges performed perfectly in offering official statements concerning privacy and security and offered disclaimer and disclosure statements while entering in information. These results indicate that the health insurance exchanges succeed, as a whole, in offering their users a strong sense of personal control throughout the process.

Sense of Influence

The sense of personal influence contains two sub-categories: Feedback and User-help. Feedback provides mechanisms by which individuals can make their experience known while user-help provides the tools for individuals to get help they need. When users can give feedback and receive help, they feel they have the capability to influence the process. Feedback and access to help moves one from feeling anonymous to feeling like a user that matters to the process and is key in creating a sense of influence for the user.

Feedback

Allowing users to give feedback is an essential mechanism forming a sense of influence in the process. The sub-category of feedback contains two elements: user satisfaction surveys (3.1.1) and timely feedback mechanisms (3.1.2). These two elements allow two important types of feedback: comprehensive feedback and timely feedback. Furthermore timely feedback mechanisms contains two sub-elements: verification emails (3.1.2.1) and intra-process feedback

mechanisms (3.1.2.2). Verification emails and intra-process feedback are elements that ensure the user feels there is a complete feedback loop as they move through the process of shopping and purchasing a QHP. On March 12, the researcher collected the results for the Feedback sub-category. The findings are presented in Table 4.7.

Table 4.7. Feedback results

	Satisfaction Surveys	Verification Emails	Intra-process Feedback
Federal	1	1	1
California	0	1	0
Colorado	0	1	0
Connecticut	1	1	1
District of Columbia	0	1	1
Hawai'i	1	x	0
Kentucky	0	1	0
Maryland	1	1	1
Massachusetts	0	1	1
Minnesota	0	1	0
Nevada	0	1	0
New York	0	x	0
Oregon	0	1	0
Rhode Island	0	1	1
Vermont	0	x	0
Washington	0	1	1

While all the web sites studied offered contact information where a user could contact relevant authorities via email or phone, only four exchanges offered comprehensive user satisfaction surveys on their web sites (3.1.1). Meanwhile all thirteen exchanges able to be studied for this sub-element offered verification emails after creating an account to begin

shopping (3.1.2.1). Of the sixteen exchanges only seven offered intra-process feedback mechanisms while you moved through the web site (3.1.2.2).

User-help

Individuals cannot feel they have a sense of influence in the process if they cannot seek the type of help they need from the sources they need. This sub-category contains two elements of user-help: navigator assistance (3.2.1) and other help options (3.2.2). Other help options includes four sub-elements: contact information for the Consumer Assistance Programs (CAPs) of the ACA (3.2.2.1), contact information for health insurance brokers (3.2.2.2), contact information for the companies offering the QHPs (3.2.2.3) and contact information for face-to-face local help (3.2.2.4). These other help options offer a wide variety help sources outside the navigators. On March 12, the researcher collected the results for the User-help sub-category. The findings are presented in Table 4.8.

Table 4.8. User-help results

	Navigator Assistance	CAPs Information	Broker Information	Company Information	Local Help
Federal	1	1	1	1	1
California	1	0	0	1	1
Colorado	1	0	1	1	1
Connecticut	1	0	1	1	1
District of Columbia	1	0	1	1	1
Hawai'i	1	0	1	1	1
Kentucky	1	0	1	1	1
Maryland	1	0	1	1	1
Massachusetts	1	0	0	1	1
Minnesota	1	0	1	1	1
Nevada	1	0	1	1	1

Table 4.8. Continued

New York	1	0	1	1	1
Oregon	1	0	1	1	1
Rhode Island	1	0	1	1	1
Vermont	1	0	1	1	1
Washington	1	0	1	1	1

All sixteen health insurance exchanges offered access health insurance exchange navigators (3.2.1). Meanwhile only one exchange, the Federal one, offered information on the CAPs apart of the ACA (3.2.2.1). All but two web sites offered information on health insurance brokers (3.2.2.2); while all exchanges offered contact information for both the QHP providers (3.2.2.3) and local help (3.2.2.4).

The analysis shows that the health insurance exchanges performed with mixed results in providing a sense of influence in the process to the user. While the exchange web sites offered consistent access to User-help (outside of the CAPs) they performed poorly in providing feedback opportunities. The lack of robust and formal mechanisms to solicit user feedback and intra-process feedback on many of the exchanges mean users are unable to inform the exchange of their experiences. This frustrates not only users but also limits the capabilities of the exchanges to improve and evolve with user feedback.

This categorical analysis demonstrates that the exchanges as a whole are stronger in some areas (readability) and weaker in others (feedback). The variations in performance and specificity of results validate the model in its ability to assess consumer experience of the exchanges. The analysis will now move to a jurisdiction by jurisdiction analysis so that each authority can be assessed directly on how well they meet the model.

Analysis by Authority – The sixteen web sites of the ACA

The following jurisdiction by jurisdiction analysis will present a summarizing report card broken down by each sub-category in the model. Table 4.9 presents an example of a perfect score in the model to act as a reference for the reader. The summary report cards can be referenced to the coding sheet used by the researcher in Appendix A.

Table 4.9. Perfect score example report card

A	R	DT	N	IA	P	F	U-h	Total
4	4	9	4	3	2	3	5	34

This table allows for the large coding sheet to be condensed into an easy to read report card. There are three moving parts for this report card: color coding, lettering and numbering. The color coding is a simple way to distinguish the experiential categories of the model: *blue* corresponds to a sense of being well-informed, *green* to a sense of personal control and *yellow* to a sense of influence. Within each color spectrum are lettering that corresponds to the sub-categories of each category. The lettering correspond as such: A to accessibility, R to readability, DT to decision tools, N to navigability, IA to information architecture, P to privacy, F to feedback and U-h to user-help. Finally the numbering under each letter corresponds to the number of encoded elements and sub-elements found on the coding sheet, creating a total of 34.

In this perfect score example the numbers shown are an exchange passing every criterion in the model. No exchange scored perfectly on the model, but some clearly performed better than others. This will become apparent as we look at each exchange web site in detail. First we will address the largest and most important of the exchanges: Healthcare.gov.

Federal

The Federal health insurance exchange web site, Healthcare.gov, scored a modest 24 out of 34 possible in this model. The score card for Healthcare.gov is given in Table 4.10. The score card shows that Healthcare.gov struggled in the areas of accessibility (2 out of 4), decision tools (5 out of 9) and navigability (2 out of 4) but otherwise scored well in the model.

These three areas account for 8 out of the 10 missing points, with only other points being missed a low Flesch-Kincaid Reading Ease Score (1.2.1.1) and lack of downloadable forms of the QHPs (2.2.2).

Table 4.10. Healthcare.gov report card

A	R	DT	N	IA	P	F	U-h	Total
2	3	5	2	2	2	3	5	24

California

Covered California, the health insurance exchange of the Golden State, scored a poor 21 out of 34 possible points in the model. The score card for Covered California is given in Table 4.11. Covered California performed poorly in multiple categories, performing particularly bad in accessibility (1 out of 4), navigability (2 out of 4), feedback (1 out of 3), and user-help (3 out of 5). California's exchange did, however, possess quality ratings (1.3.2.5) unlike the Federal exchange.

Table 4.11. Covered California report card

A	R	DT	N	IA	P	F	U-h	Total
1	3	6	2	3	2	1	3	21

Colorado

Connect for Health Colorado receives a score of 25 out of 34 using the model, for a slightly better grade than the Healthcare.gov. The score card for Connect for Health Colorado is given in Table 4.12. Chief problem areas are accessibility (1 out of 4) and feedback (1 out of 3). A decision tools score of 6 (out of 9) is a common score throughout the exchanges, suggesting Colorado is not unique for its score. Colorado did, however, score perfectly in readability (4 out of 4) and navigability (4 out of 4). Overall Colorado performed slightly better than Healthcare.gov even though both exchange web sites struggled in accessibility.

Table 4.12. Connect for Health Colorado report card

A	R	DT	N	IA	P	F	U-h	Total
1	4	6	4	3	2	1	4	25

Connecticut

Access Health CT of the Constitution State, Connecticut, scored a 24 out of 34 on the model. The score card for Access Health CT is given in Table 4.13. The score card shows Connecticut struggled in the areas of readability (1 out of 4), decision tools (6 out of 9), and navigability (2 out of 4). Connecticut did perform well in accessibility (3 out of 4) and feedback (3 out of 4) compared to the California and Colorado exchanges. Connecticut, with Oregon, were the only states to fail the criterion for all three automated readability tests in the model.

Table 4.13. Access Health CT report card

A	R	DT	N	IA	P	F	U-h	Total
3	1	6	2	3	2	3	4	24

District of Columbia

The District of Columbia's exchange, DC Health Link, scored 24 out of 34 using the model. The score card for DC Health Link is given in Table 4.14. The score card reveals the D.C. exchange web site struggled in the areas of accessibility (1 out of 4), navigability (2 out of 4); these categories account for 5 of the exchange's missing scores in the model. The D.C. exchange did, however, score perfect on readability (4 out of 4) and better on decision tools (7 out of 9) than many of the other exchanges.

Table 4.14. DC Health Link report card

A	R	DT	N	IA	P	F	U-h	Total
1	4	7	2	2	2	2	4	24

Hawai'i

Hawai'i Health Connector requires registration as a resident of the state before one is allowed to browse the QHPs. The analysis is therefore incomplete for Hawai'i; the total points available to this exchange is not 34, but 22 (missing all nine criterion of decision tools, two criterion in information architecture and one criterion in feedback). The incomplete score card is presented in Table 4.15. Despite these issues, the model still provides some data to analyze.

Hawai'i performs poorly in accessibility (1 out of 4) while performing well in user-help (4 out of 5). Admittedly Hawai'i cannot be compared against the other states because of incomplete data.

Table 4.15. Hawai'i Health Connector report card

A	R	DT	N	IA	P	F	U-h	Total
1	3	0*	3	1*	2	1*	4	15*

Kentucky

Kentucky's state exchange web site, kynect, scores a poor 20 out of 34 using the model. The score card for Kentucky's kynect is presented Table 4.16. Kentucky has a number of problem areas: accessibility (1 out of 4), navigability (2 out of 4), information architecture (1 out of 3) and feedback (1 out of 3). Kentucky does however score well on readability (3 out of 4) and user-help (4 out of 5). Kentucky's score of 20 ties Oregon for the lowest grade using the model (not including the incomplete scores of Hawai'i, New York and Vermont).

Table 4.16. kynect report card

A	R	DT	N	IA	P	F	U-h	Total
1	3	6	2	1	2	1	4	20

Maryland

Maryland Health Connection, the exchange web site of Maryland, scores a 29 out of 34 possible; the highest of all the exchange web sites. The score card for Maryland is presented in Table 4.17. Maryland weakest category is accessibility (2 out of 4), but otherwise scores well across the sub-categories. Maryland has the highest decision tools score (8 out of 9) of any of the

exchanges, while also scoring a perfect 4 out of 4 in navigability and 3 out of 3 in feedback. According to the model, Maryland Health Connection provides the strongest consumer experience with their exchange web site.

Table 4.17. Maryland Health Connection report card

A	R	DT	N	IA	P	F	U-h	Total
2	3	8	4	3	2	3	4	29

Massachusetts

Massachusetts Health Connector provided the template for the ACA exchange web sites and it scores a 24 out of 34 in the model. The score card for Massachusetts Health Connector is presented in Table 4.18. Massachusetts scores poorly in accessibility (2 out of 4) and decision tools (5 out of 9) while scoring perfect in readability (4 out of 4). Massachusetts, along with California, is also the only exchange web site to score poorly in user-help (3 out of 5).

Table 4.18. Massachusetts Health Connector report card

A	R	DT	N	IA	P	F	U-h	Total
2	4	5	3	3	2	2	3	24

Minnesota

MNSure, the exchange web site for the state of Minnesota, scores 24 out of 34 in the model. The score card for MNSure is given in Table 4.19. Minnesota's exchange web site scores poorly in accessibility (1 out of 4) and feedback (1 out of 3). However, MNSure scores perfect in

the sense of personal control category: navigability (4 out of 4); information architecture (3 out of 3), and privacy (2 out of 2).

Table 4.19. MNSure report card

A	R	DT	N	IA	P	F	U-h	Total
1	3	6	4	3	2	1	4	24

Nevada

Nevada's Silver State Health Insurance Exchange scored 22 out of 34 when tested against the model. The score card for Nevada is presented in Table 4.20. Nevada scored poorly in accessibility (2 out of 4), navigability (2 out of 4) and feedback (1 out of 3) while scoring well in readability (3 out of 4) and user-help (4 out of 5). With a score of 22, Nevada's exchange web site scores in the lower half of the exchanges.

Table 4.20. Silver State Health Insurance Exchange report card

A	R	DT	N	IA	P	F	U-h	Total
2	3	6	2	2	2	1	4	22

New York

New York's exchange, NYState of Health, requires registration as a resident of the state before one is allowed to browse the QHPs. The analysis is therefore incomplete; the total points available to this exchange is not 34, but 22 (missing all nine criterion of decision tools, two criterion in information architecture and one criterion in feedback). The incomplete score card is presented in Table 4.21. The model still provides some limited data to analyze despite these

issues. NYState of Health scores well in accessibility (3 out of 4) and navigability (3 out of 4) but poorly in readability (2 out of 4). However the limited data from the web site prevents us from conducting a full-fledged comparison to the other exchanges.

Table 4.21. NYState of Health report card

A	R	DT	N	IA	P	F	U-h	Total
3	2	0*	3	1*	2	0*	4	15*

Oregon

Cover Oregon, the state exchange of Oregon, scores 20 out of 34 against the model. This is the lowest score (shared with Kentucky) among all the exchanges analyzed. The score card for Cover Oregon is presented in Table 4.22. Oregon has a multitude of problems: accessibility (1 out of 4), readability (1 out of 4), navigability (2 out of 4), and feedback (1 out of 4). Oregon high scores are in the sub-categories of information architecture (3 out of 3), privacy (2 out of 2), and user-help (4 out of 5).

Table 4.22. Cover Oregon report card

A	R	DT	N	IA	P	F	U-h	Total
1	1	6	2	3	2	1	4	20

Rhode Island

HealthSource RI, the state exchange web site of Rhode Island, scores 26 out of 34 in the model. Rhode Island's score card is presented in Table 4.23. Rhode Island performs poorly in navigability (2 out of 4) but otherwise performed at par with the other exchanges (6 out of 9 in

decision tools) or above-average. Notably, HealthSource RI scores perfect in readability (4 out of 4) and information architecture (3 out of 3), while also scoring well in accessibility (3 out of 4).

Table 4.23. HealthSource RI report card

A	R	DT	N	IA	P	F	U-h	Total
3	4	6	2	3	2	2	4	26

Vermont

Vermont Health Connect, the state exchange web site of Vermont, is the third and final exchange where data was incomplete because of the inability to browse the QHPs without pre-registering as a resident of the state. Vermont scored 13 out of 22 against the incomplete model (missing all nine criterion of decision tools, two criterion in information architecture and one criterion in feedback). The incomplete score card for Vermont Health Connect is presented in Table 4.24. The limited data still provides some information for analysis. Vermont scored poorly in accessibility (0 out of 4) and navigability (2 out of 4) while scoring perfectly in readability (4 out of 4).

Table 4.24. Vermont Health Connect report card

A	R	DT	N	IA	P	F	U-h	Total
0	4	0*	2	1*	2	0*	4	13*

Washington

Washington State's Healthplanfinder exchange web site, the final exchange analyzed, scored 22 out of 34 against the model. The Washington Healthplanfinder score card is given in

Table 4.25. Washington's exchange web site performs below par in accessibility (1 out of 4), readability (2 out of 4) and navigability (2 out of 4) while scoring well in decision tools (7 out of 9).

Table 4.25. Washington Healthplanfinder report card

A	R	DT	N	IA	P	F	U-h	Total
1	2	7	2	2	2	2	4	22

Chapter Overview

This chapter presented the results of gauging the study's consumer experience model against the sixteen health insurance exchange web sites of the ACA. The health insurance exchange web sites were tested against the coding sheet, developed in chapter 3 from the consumer experience model. The results of the coding analysis were given both by category and by authority. Each authority received a final score card, judging their efforts to ensure a good consumer experience according to the model. A complete coding sheet and a complete score card are given in Appendix A and Appendix B respectively. The results demonstrate that many exchange web sites have significant problems that must be addressed during the Obamacare offseason to ensure a positive consumer experience for their users during the 2014-15 signup period. The final chapter presents a discussion of these results, recommended practices, and recommendations for future research analyzing the consumer experience of the health insurance exchange web sites of the ACA.

Chapter 5

Discussion & Recommendations

Purpose

The purpose of this chapter is to summarize the results presented in Chapter 4, as well as provide recommendations for both the health insurance exchange web sites and future researchers. In the discussion of results, the findings in Chapter 4 will be analyzed further for patterns across the exchange web sites of the ACA. Recommendations of best practices will be provided to individual exchanges. These best practices are policies that respective authorities should implement during the break between the 2013-2014 enrollment period and the coming 2014-2015 enrollment period to improve the consumer experience. Finally experiences and recommendations gleamed from the research study will be presented to future researchers.

Discussion of Results

This study reveals, in brief, two facts about the individual marketplaces of the health insurance exchanges of the ACA. First, thirteen of the exchanges fully studied in this research provide a quality consumer experience somewhat consistent with the stated goals of the Congress and HHS. Second, there is great variation among the exchanges in the quality of consumer experience they provide. This second fact is somewhat a caveat to the first, and accounts for the 9-point difference between the highest scoring and lowest scoring exchange web sites. Encouragingly, many of the issues of these exchange web sites have easy remedies. It must also be addressed that only thirteen exchanges will be included in this discussion of results portion because three exchanges (Hawai'i, New York, and Vermont) could not be fully examined.

The first conclusion is that the exchanges are somewhat consistent in the goals of the ACA and HHS in the quality of consumer experience they wish to provide. The caveat somewhat is hardly a positive qualifier when describing consistency but it is a necessary qualifier because of mediocre scores by the exchanges in the model. If the thirteen exchange web sites of the ACA were a class at Texas State, their class average would be a paltry 67%! This figure is simply the average score of the thirteen exchange web sites (i.e. 23, divided by the total score possible in the model, 34). Table 5.1 presents the class score of the health insurance exchange web sites of the ACA (note it excludes Hawai'i, New York and Vermont). A score of 67% gives an undergraduate student at Texas State University a passing grade of D, so it is fair to give the exchange web sites a somewhat passing grade on the quality of their consumer experiences.

Table 5.1. Health Insurance Exchange Web Sites Overall Class score

Average Score	Best Possible Score	Average
23	34	0.674 (67.4%)

Of the three experiential categories, the health insurance exchanges of the ACA struggled the most in creating a sense of being well-informed in their users. The exchange websites performed far better in both ensuring a sense of personal control and a sense of influence. Major findings for each sub-category are given in Table 5.2.

Table 5.2. Summary of Major Findings

Sense of Being Well-Informed	
Accessibility	The exchange web sites struggled greatly ensuring accessibility. Every exchange showed accessibility errors on at least one of the two automated tests; additionally half did not provide an accessibility policy statement on their front page. A few exchanges failed to offer language services. On average exchange web sites had 25 accessibility errors between the two tests.

Table 5.2. Continued

Readability	The exchange web sites are quite readable, with only three exchanges measuring above 8th grade reading levels across the three readability tests. Additionally every exchange but Kentucky offered detailed definitions of health insurance terms.
Decision Tools	The thirteen exchange websites able to be analyzed, in general, provide a plethora of decision tools to their users. A majority offered quality ratings, a minority of exchanges offered enrollee reviews of the QHPs, only one offered insurance report cards, none offered MLR information. Otherwise the exchanges offered perfect access to other decision tools.
Sense of Personal Control	
Navigability	The exchange web sites struggled to offer navigable web sites. A majority offered a welcome statement on the home page and a FAQ page. Few exchange web sites, however, offered site index pages and search functions.
Information Architecture	In general, the exchanges offered multiple ways to view the information on their web site. The exchanges consistently offered multiple hyperlinks to start shopping, enabled tabbed viewing and allowed users to easily download and print information off the web site via PDFs.
Privacy	The exchange web sites complied perfectly with Federal law in providing privacy/security and disclaimer/disclosure policy statements to their users.
Sense of Influence	
Feedback	The exchanges offered poor access to robust feedback survey forms, moderate access to intra-process feedback mechanisms. However, they did provide consistent email verifications upon registering to shop.
User-help	The exchanges offered consistent access to various sources of user-help: navigators, brokers, insurance companies and local help. Only the Federal exchange contained information on Consumer Assistant Programs of the ACA.

If the exchange web sites direct their efforts to improving accessibility, navigability and feedback mechanisms, then the quality of their consumer experience they provide will improve dramatically. This study concludes that the exchange web sites, as a whole, should take steps to erasing accessibility errors and move their accessibility policy statements to the front page to improve the user's sense of being well-informed. Half the exchange websites also need to offer search functions and site index pages to their users in order to ensure they feel a sense of personal control while shopping for health insurance. Finally, this research concludes that the

exchanges need to provide more robust access to both comprehensive feedback surveys and intra-process feedback on their web sites so that their users feel they can influence the process.

These overall conclusions will significantly improve the quality of the consumer experience provided by the individual marketplaces of the health insurance exchanges of the ACA. These recommendations need to be refined, however, because there are significant gaps in the quality of consumer experience the exchange web sites provide. This is realized in the second primary lesson from this study.

There are significant gaps in the quality of consumer experience provided by the individual marketplaces of the health insurance exchanges of the ACA. The highest performer, Maryland, scored nine points higher than the two lowest scorers: Oregon and Kentucky. On a 34 point model, this difference is nearly a third of the total points. To analyze these gaps this section will rank the exchange web sites based on their performance and analyze the differences between the best performers and the worst performers. The ranking of the exchange web sites is presented in Table 5.3. Note that this ranking excludes the three exchange that were not fully analyzed: Hawai'i, New York, and Vermont.

Table 5.3. Health Insurance Exchange Ranking

Authority	Score out of 34	Rank
Maryland	29	1
Rhode Island	26	2
Colorado	25	3
Federal	24	T-4
Connecticut	24	T-4
District of Columbia	24	T-4
Massachusetts	24	T-4
Minnesota	24	T-4
Nevada	22	T-5
Washington	22	T-5

Table 5.3. Continued

California	21	6
Kentucky	20	T-7
Oregon	20	T-7

Generally the difference between the top performers and the bottom performers were how they performed in the three problem areas for the exchange web sites: accessibility, navigability and feedback. For example Maryland scored perfect in navigability (4 out of 4) while Kentucky and Oregon both scored poorly (2 out of 4). Likewise Rhode Island, another top performer, scored well in accessibility (3 out of 4) while Kentucky and Oregon both scored poorly (1 out of 4). The differences in degree between the exchanges become differences in kind when one considers that these missing elements are key features like accessibility errors, search functions and user feedback surveys. Such small differences can have immense impact with the functionality and user-friendliness of the web sites.

The next section of this chapter is a series of recommended practices to the various exchanges. During the course of the analysis, the researcher took note of exemplary elements that can be used as concrete and actionable recommendations to the exchanges who lack those elements.

Recommended Practices

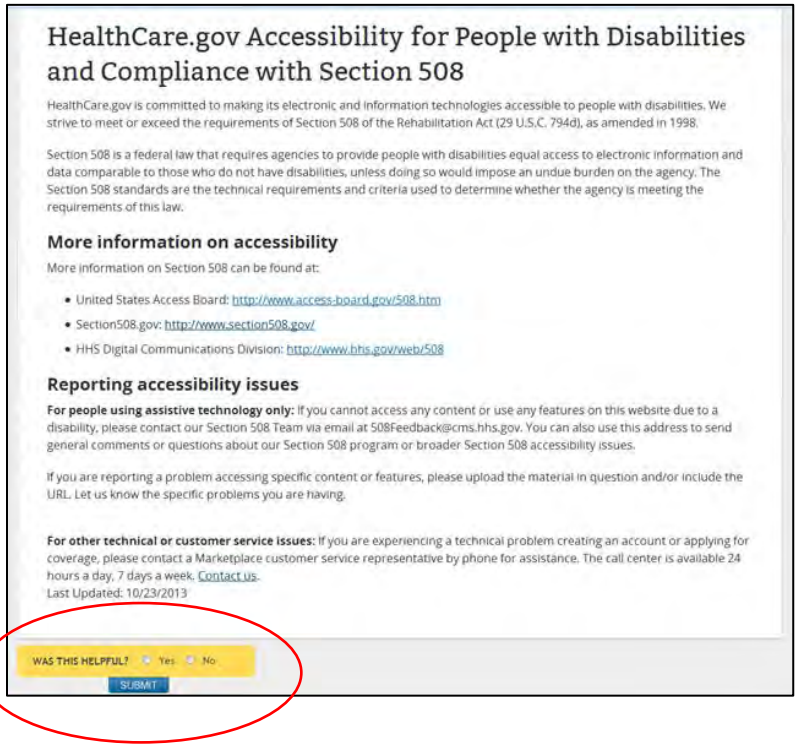
The purpose of this section is to recommend best practices of ensuring a quality consumer experience to the health insurance exchange web sites of the ACA. These examples are drawn from the various exchange web sites; even those web sites that scored poorly on the model had elements on them that were exemplary. It should be noted this section does not bear a

best practices recommendation for every element in the model, nor does this section serve as a substitute for the content analysis. These best practice recommendations capture some of the nuance that content analysis lacks. These recommendations can be used by relevant authorities to improve the consumer experience provided by their exchange web site.

Accessibility: Accessibility Policy Statement (1.1.2)

Accessibility policy statements (1.1.2), which half the exchange web sites lacked on the homepage, are a problem area for the exchanges. For this reason, the researcher recommends an example from Healthcare.gov, the Federal exchange web site. Figure 5.4, a cropped screenshot from Healthcare.gov, demonstrates Healthcare.gov organized and highly presentable accessibility policy statement. In addition, circled in red, is an intra-process feedback mechanism for the accessibility policy statement page. The combination of these two elements in the model on a single webpage makes this a fine example for other exchange web sites to follow. This allows users to both reference the web site's accessibility policies, report issues they are experiencing and give quick feedback on the helpfulness of the webpage. Healthcare.gov's accessibility policy statement is a recommended practice to those exchanges lacking accessibility policy statements on their homepage.

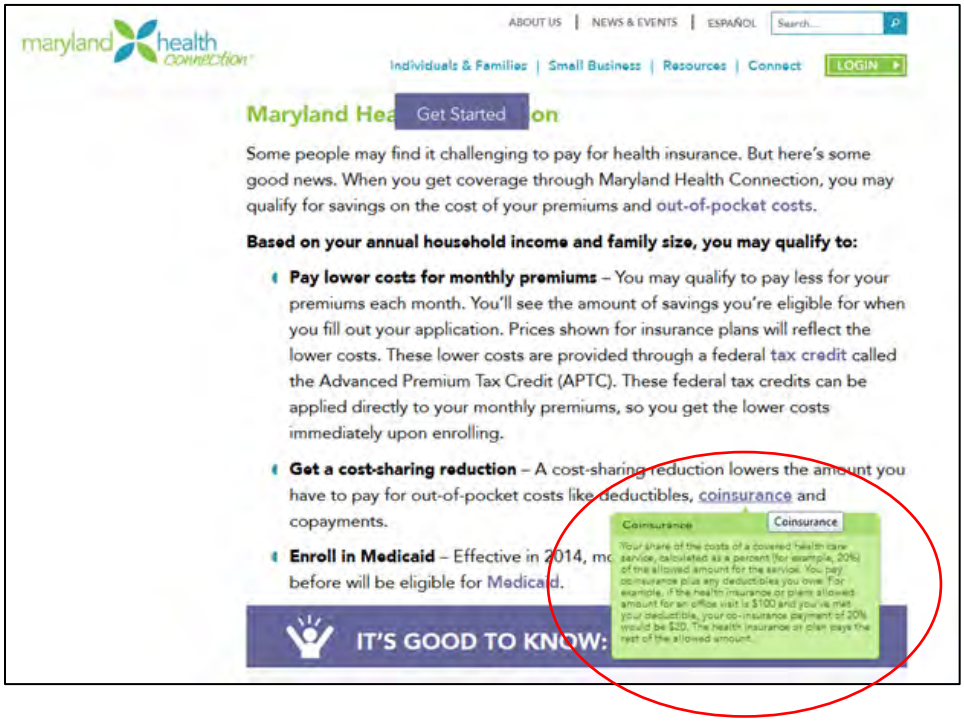
Figure 5.4. Healthcare.gov: Accessibility Policy Statement Best Practice



Readability: Health Insurance Terms and Definitions (1.2.2)

While defining health insurance terms (1.2.2) were not a problem area for the exchanges, several exchanges implemented them more seamlessly into the shopping experience than others. This example of a best practice, in Figure 5.5, is from Maryland's exchange web site. Maryland Health Connection integrated health insurance definitions into tooltips that popped up upon hovering your mouse over the word. Circled in red is the pop-up tooltip with the definition for coinsurance. This best practice means a user can reference definitions as they read along without having to look the unknown term on a separate glossary webpage on the exchange. The seamless and intuitive integration of definitions into the webpage on Maryland Health Connection is a recommended practice to the exchange web sites.

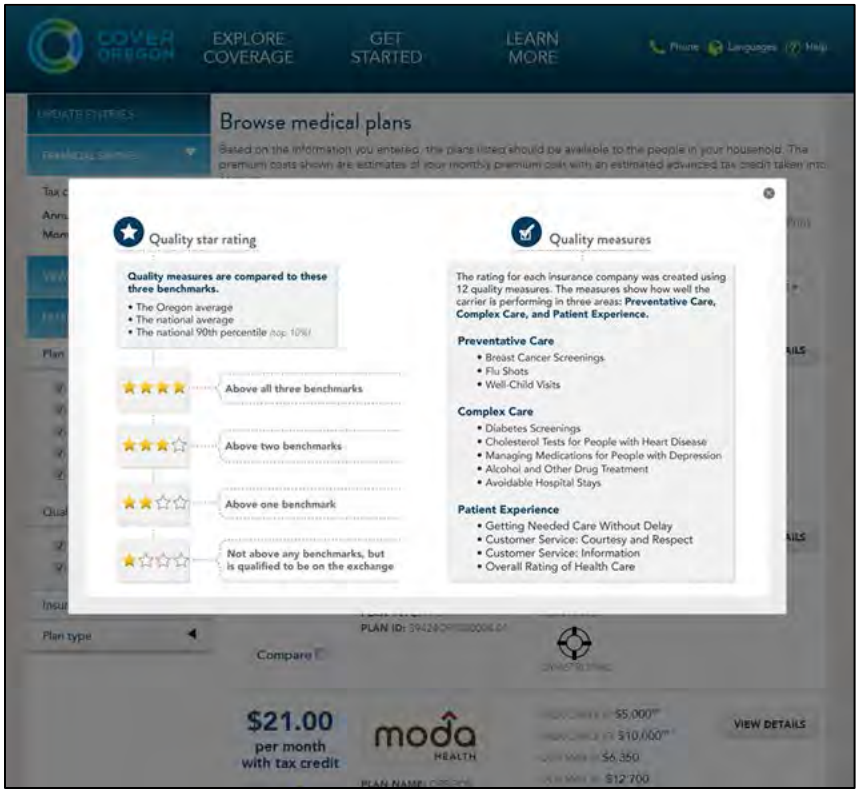
Figure 5.5. Maryland: Health Insurance Terms and their Definitions Best Practice



Decision Tools: Quality Ratings (1.3.2.5)

Quality ratings were common throughout the exchanges, with 10 of the 13 analyzed exchanges possessing them. These quality ratings function similar to any quality rating function from Amazon.com product quality ratings to IMDB.com movie quality ratings. Oregon, while one of the lowest scoring exchanges, did have an exemplary demonstration of quality ratings (element 1.3.2.5 under Decision Tools in sense of being well-informed). Figure 5.6 is a screenshot of Oregon's quality ratings. This popup (the white box) is created upon the user clicking on the quality star ratings on Cover Oregon. This informational tab explains the rating system, both in what it means and how it was created, and all while browsing the QHPs. The seamless integration of quality star explanations is a recommend practice to the exchanges.

Figure 5.6. Oregon: Quality Ratings Best Practice

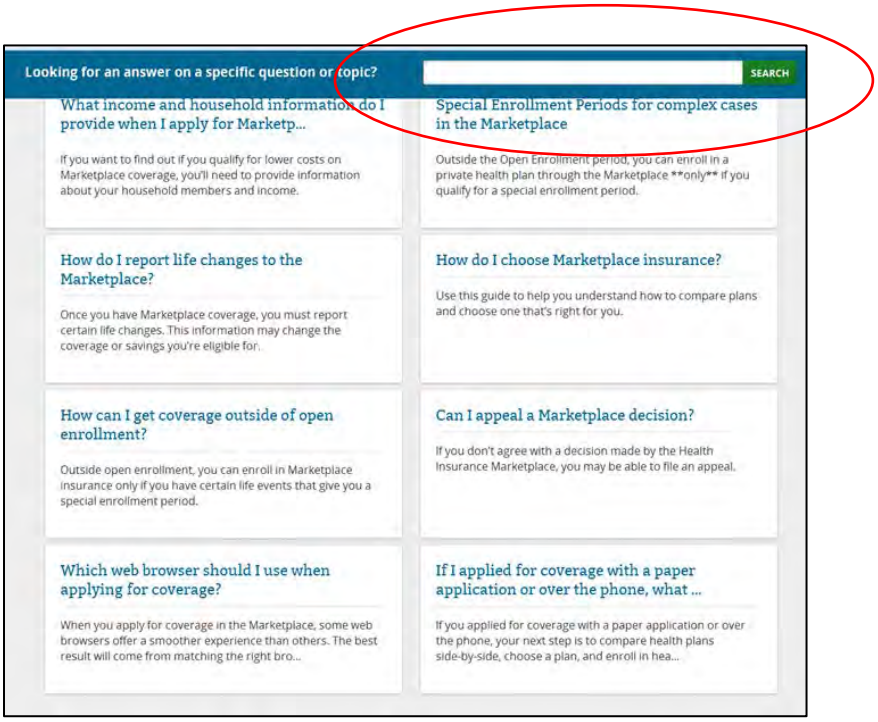


Navigability: Search function (2.1.3)

Navigability was a key area the exchange web sites struggled to provide, in particular with half the exchanges are missing a search function (2.1.3). The best practice for a search function, in Figure 5.7, comes from Healthcare.gov. Circled in red is the search function bar at the top of the cropped screenshot. At first glance this may not seem too different from any other search function, but this search bar is actually one that travels with you as you scroll down the page. Healcare.gov not only has a search function at the top of every webpage, but a search function pops up at the top of your screen and moves with you. Individuals do not have to scroll up to access the search function, but can simply look up any information he/she wants as they

come across it. The seamless integration of the search function into the web site is a recommended best practice to the exchange web sites.

Figure 5.7. Healthcare.gov: Search function Best Practice

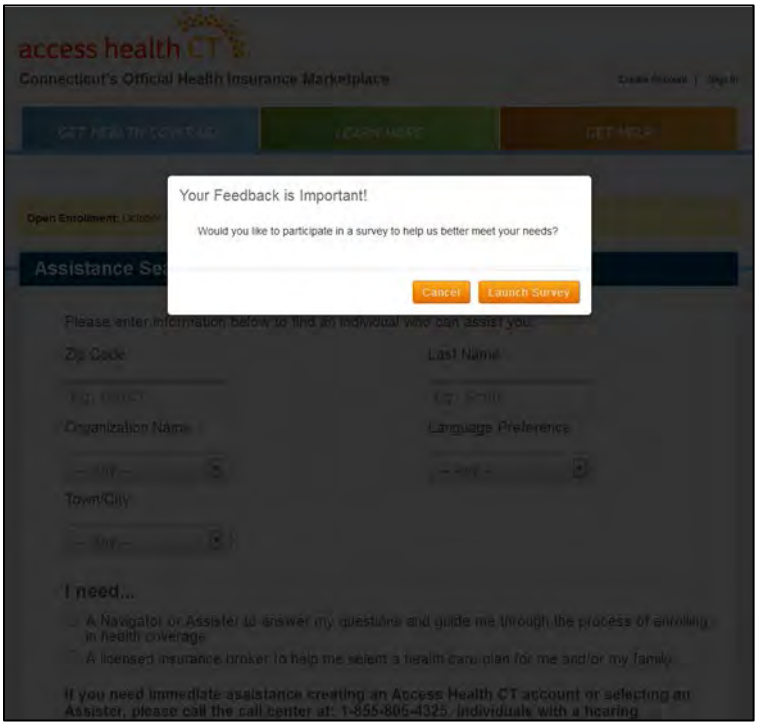


Feedback: Intra-Process User Satisfaction Survey (3.1.1 & 3.1.2.2)

The exchange web sites do not consistently offer feedback mechanisms, with only three exchanges offering user survey forms and only seven offering intra-process feedback mechanisms. Access Health CT, Connecticut's exchange web site, combined both comprehensive and timely feedback together elegantly; earning them a best practice recommendation. Figure 5.8 demonstrates the feedback combination Connecticut makes available to its users. The white popup appeared to the researcher while running the model; it offers the user to mid-process provide comprehensive feedback. For exchanges that missed one

or both elements in the Feedback sub-category, Connecticut's integration of both elements into a single function is a recommended best practice.

Figure 5.8. Connecticut: Feedback combination Best Practice



These recommended best practices offer relevant authorities actionable and concrete examples on how to improve the consumer experience offered by their web sites. These examples augment the content analysis by providing detailed examples of how coded elements can be implemented in a manner above and beyond to ensure a quality consumer experience.

Recommendations for Future Research

All research is limited in scope, and this study is no different. This research study is limited in two primary ways. First, this study does not capture survey data of user experiences after purchasing insurance on the exchange web sites. Second, this research study does not

examine the technical quality of the exchange websites. Technical problems, of course, are the area where the majority of issues with the exchange web sites have occurred. The gap between this study and the technical problems that have plagued the ACA exchange web sites is demonstrated by the fact that this study's best scoring web site, Maryland, is the same exchange that recently announced it is completely retooling its exchange with the help of Connecticut because of recurring technical problems (Johnson & Flaherty, 2014). Future researchers can augment the model developed in this study with survey data and technical data to improve the exchange web sites.

Future researchers may likewise wish to retool the model slightly with lessons learned from this study. Not a single exchange offered medical-loss ratio information for the insurance companies despite suggestions for such from the literature. Future researchers may wish to remove this element from the model regardless of recommendations from the literature. Additionally only the Federal exchange, Healthcare.gov, offered contact information for the Consumer Assistant Programs of the ACA. Perhaps these programs are outside the scope of the exchanges despite, once again, recommendations to the contrary from the literature. The model could also be strengthened by conducting manual accessibility tests that may capture problems outside the automated tests.

Finally future researchers may wish to solve the tension between reliability and validity in social researcher by other means than content analysis. Content analysis offered this researcher an economical and reliable methodology with which to judge the exchange web sites; but other study designs are possible. Future researchers may wish to gauge the experiences of participants while they explore the exchange web sites; this design would reveal nuances missed

by content analysis. This will be far more practical now that millions of Americans have purchased health insurance through the exchange web sites. This provides a large pool from which to gather a sample that was not available during this study's research during the early spring of 2014.

Bibliography

Allen, Jessica D.H. "A Way Forward: Establishing Financially Self-Sustaining Health-Insurance Exchanges under the Patient Protection and Affordable Care Act." *Iowa Law Review 98* no. 2 (2013): 773-808.

Alter, Jonathan. "Failure to Launch: How Obama Fumbled Health.gov." *Foreign Affairs 93*, no 2 (Mar/Apr 2014): 39-50.

American Community Surveys Reports. "Language Use in the United States: 2011." United States Census Bureau. Available at: http://www.census.gov/prod/2013pubs/acs-22.pdf (Accessed November 11, 2013).

Babbie, Earl. *The Practice of Social Research*. 12th ed. Belmont, CA: Wadsworth, Cengage Learning, 2010. (PDF available at: http://bib.convdocs.org/docs/41/40473/conv_1/file1.pdf)

Baker, David L. "Advancing E-Government performance in the United States through enhanced usability benchmarks." *Government Information Quarterly 26*, no 1 (2009): 82-88.

Bauer, Hans H., Tomas Falk and Maik Hammerschmidt. "eTransQual: A transaction process-based approach for capturing service quality in online shopping." *Journal of Business Research 59*, no 7 (2006): 866-875.

Blumenthal, David and James A. Morone. *The Heart of Power*. Berkeley: University of California Press, 2010.

Bolkan, San, Alan K. Goodboy and John A. Daly. "Consumer Satisfaction and Repatronage Intentions Following a Business Failure: The Importance of Perceived Control with an Organizational Complaint." *Communications Reports* 23, no. 1 (2010): 14-25.

Centers for Medicare and Medicaid Services. “Guidance for Exchange and Medicaid Information Technology (IT) Systems Version 2.0.” Department of Health and Human Services. Available at: http://cciio.cms.gov/resources/files/exchange_medicaid_it_guidance_05312011.pdf (Accessed April 8, 2013).

Cochrane, Zara Risoldi, Philip Gregory and Amy Wilson. “Readability of Consumer Health Information on the Internet: A Comparison of U.S. Government-funded and Commercially funded Websites.” *Journal of Health Communication 17*, no 9 (Oct. 2012): 1003-1010

Commonwealth Fund, The. “State Action to Establish Health Insurance Marketplaces.” http://www.commonwealthfund.org/Maps-and-Data/State-Exchange-Map.aspx (Accessed February 2, 2014).

Corlette, Sabrina, David Downs, Christine H. Monahan and Barbara Yondor. “State Insurance Exchanges Face Challenges In Offering Standardized Choices Alongside Innovative Value-Based Insurance.” *Health Affairs* 32, no.2 (2013): 418-426.

Echeverri, Per and Per Skålén. “Co-creation and co-destruction: A practice-theory based study of interactive value formation.” *Marketing Theory* 11, no. 3 (2011): 351-373.

Elling, Sanne, Leo Lentz, Menno de Jong and Huub Van den Bergh. “Measuring the Quality of Governmental Websites in a Controlled versus an Online Setting with the 'Website Evaluation Questionnaire.'” *Government Information Quarterly 29*, no 3 (2012): 383-393.

----------. "Exchange Establishment Standards and Other Related Standards under the Affordable Care Act." *Code of Federal Regulations* Title 45, 155, 2013 ed.

Friedman, Daniela. and Tanner, Andrea. "Reading difficulty level of medical resources on television web sites: Recommendations for a social practices approach to consumer health literacy." *Journal of Consumer Health on the Internet* 11, no 4. (2007), 43-60.

Grimsley, Mike and Anthony Meehan. "e-Government information systems: Evaluation-led design for public value and client trust." *European Journal of Information Systems* 16, no. 2 (2007): 134-148.

Grob, Rachel, Mark Schlesinger, Sarah Davis, Deborah Cohen and Joshua Lapps. "The Affordable Care Act's Plan For Consumer Assistance With Insurance Moves States Forward But Remains A Work In Progress." *Health Affairs 32*, no.2 (2013): 347-356.

Harder, Carolyn T. and Meagan Jordan. "The Transparency of County Websites: A Content Analysis." *Public Administration Quarterly* 37, no. 1 (2013): 103-128.

Health Insurance Literacy Expert Roundtable. "Measuring Health Insurance Literacy: A Call to Action." Consumers Union. http://www.consumersunion.org/research/measuring-health-insurance-literacy-a-call-to-action/ (Accessed April 8, 2013).

Hibbard, Judith H., Paul Slovic and Jacquelyn J. Jewett. "Informing Consumer Decisions in Health Care: Implications from Decision-Making Research." *The Milbank Quarterly* 77, no. 3 (1997): 395-414.

Johnson, Jenna and Mary Flaherty. "Maryland gears up for health exchange redo." *The Washington Post*, March 30, 2014.

Levey, Noam N. "Obamacare has led to health coverage for millions more people." *Los Angeles Times*, March 30, 2014. Available at: http://www.latimes.com/nation/la-na-obamacare-uninsured-national-20140331,0,5472960.story#axzz2xWoPlD7e

McCray, Alexa T. "Promoting Health Literacy." *Journal of the American Medical Informatics Association* 12, no. 2 (2005): 152-63.

McInnes, Nicholas and Bo J.A. Haglund. "Readability of online health information: implications for health literacy." *Informatics for Health & Social Care* 36, no. 4 (2011): 173-189.

National Physicians Committee for the Extension of Medical Service. "Message from the National Physicians Committee, May 31, 1947." Truman Papers, National Health Insurance File, Truman Library.

Organization Economic Co-operation and Development, "OECD Skills Outlook 2013: First Results from the Survey of Adult Skills," OECD Publishing (2013). Available at: http://dx.doi.org/10.1787/9789264204256-en

Olalere, Abiodun and Jonathan Lazar. "Accessibility of the U.S. Federal government home pages: Section 508 compliance and site accessibility statements." *Government Information Quarterly 28*, no 3 (2011): 303-309.

Section508.gov. "Section 508 Of The Rehabilitation Act." United States Access Board. http://www.section508.gov/Section-508-Of-The-Rehabilitation-Act (Accessed November 11, 2013).

Shields, Patricia. "Pragmatism as a philosophy of science: A tool for public administration." *Research in Public Administration*. 4 (1998): 1956-225.

Shields, Patricia and Hassan Tajalli. "Intermediate theory: The missing link in successful student scholarship. Journal of Public Affairs Education. 12 (2006): 313-334.

Shields, Patricia and Nandhini Rangarajan. *A Playbook for Research Methods: Integrating Conceptual Frameworks and Project Management.* 2013. Stillwater, OK: New Forums Press

Sinaiko, Anna D., Dennis Ross-Degnan, Stephan B. Soumerai, Tracy Lieu and Alison Galbraith. "The Experience of Massachusetts Shows That Consumers Will Need Help In Navigating Insurance Exchanges." *Health Affairs 32*, no. 1 (2013): 78-86.

State Health Facts. "State Decisions For Creating Health Insurance Exchanges, as of April 1, 2013." Kaiser Family Foundation. http://www.statehealthfacts.org/comparemaptable.jsp?ind=962&cat=17 (Accessed April 15, 2013).

Tan, Chee-Wee, Izak Benbasat and Ronald T. Centefelli. "IT- Mediated Customer Service Content Delivery in Electronic Governments: An Empirical Investigation of the Antecedents of Service Quality." *MIS Quarterly 37*, no 1 (2013): 77-109.

United States Congress. *The Patient Protection and Affordable Care Act*. 111th Congress, 2010. H.R. 3590.

Appendix A. The Coding Sheet

| | Sense of Being Well-Informed | | |

Appendix B. Master Score card

	Sense of being Well-Informed			Sense of Personal Control			Sense of Influence	
	Accessibility	Readability	Decision Tools	Navigability	Information Architecture	Privacy	Feedback	User-help	Total
Healthcare.gov	2	3	5	2	2	2	3	5	24
Covered California	1	3	6	2	3	2	1	3	21
Connect for Health Colorado	1	4	6	4	3	2	1	4	25
Access Health CT	3	1	6	2	3	2	3	4	24
DC Health Link	1	4	7	2	2	2	2	4	24
Hawai'i Health Connector	1	3	0*	3	1*	2	1*	4	15*
kynect	1	3	6	2	1	2	1	4	20
Maryland Health Connection	2	3	8	4	3	2	3	4	29
Massachusetts Health Connector	2	4	5	3	3	2	2	3	24
MNSure	1	3	6	4	3	2	1	4	24
Silver State Health Insurance Exchange	2	3	6	2	2	2	1	4	22
NYState of Health	3	2	0*	3	1*	2	0*	4	15*
Cover Oregon	1	1	6	2	3	2	1	4	20
HealthSource RI	3	4	6	2	3	2	2	4	26
Vermont Health Connect	0	4	0*	2	1*	2	0*	4	13*
Washington Healthplanfinder	1	2	7	2	2	2	2	4	22
								Average	23