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Asya Besova Cooley

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Who does it best? Towards understanding virtual accountability practices
in public, nonprofit and private organizations

By

Asya Besova Cooley

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Public Policy and Administration
in the Department of Political Science and Public Administration

Mississippi State, Mississippi

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The primary purpose of this dissertation is to comparatively review virtual accountability practices in public, private and nonprofit organizations, using the hospital industry as a case of analysis. Through the quantitative assessment of organizational websites, this study provides empirical evidence that there are statistically significant differences in how organizations conduct their virtual accountability practices. Nonprofits are leading the way in their overall virtual accountability practices. They are more likely to score higher on engagement, performance and mission dimensions of virtual accountability practices. Private organizations have the lowest scores on every dimension, except for accessibility. Public organizations have the strongest scores within the governance dimension.

The secondary purpose of this dissertation is to determine which organizational characteristics contribute to greater organizational accountability in virtual space. My findings suggest that the two best predictors for overall virtual accountability practices are the private sector ownership and the hospital volume, measured through the number of annual admissions.

DEDICATION

This dissertation is dedicated to my father, Andrey Valentinovich Besov. His endurance, determination, and grit were my inspiration to pursue my doctoral degree.

This is for him.

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LIST OF ABBREVIATIONS

AA	Accountability as Answerability
AHA	American Hospital Association
AHD	American Hospital Directory
AME	Accountability as Managing Expectations
CAH	Critical Access Hospitals
CBSA	Core-Based Statistical Area
CHNA	Community Health Needs Assessment
CMS	Centers for Medicare & Medicaid Services
CPOE	Computerized Provider Order Entry Capabilities
CRM	Client Relationship Management
CSR	Corporate Social Responsibility
GRI	Global Reporting Initiative
EHR	Electronic Health Records
EMR	Electronic Medical Records
HIS	Hospital Information System
HIT	Health Information Technology
IA	Index of Accountability
ICT	Information and Communication Technology

IFR	Internet Financial Reporting
NCPP	National Center for Public Performance
NHCAA	National Health Care Anti-Fraud Association
NGO	Nongovernment Organizations
NPO	Nonprofit Organizations
NPVAI	Nonprofit Virtual Accountability Index
OCR	Office of Civil Rights
OECD	Organization for Economic Co-operation and Development
ONC	Office of the National Coordinator for Health IT
PR	Public Relations
RDT	Resource Dependence Theory
SEAR	Social and Environmental Accounting and Reporting
VA	Virtual Accountability
VAP	Virtual Accountability Practices

CHAPTER I

INTRODUCTION

A philosopher and political activist Thomas Paine once said, “A body of men holding themselves accountable to nobody ought not to be trusted by anybody.” But who are we accountable to? What are we accountable for? How do we become accountable? And what is the definition of accountability? These are the questions that occupied the minds of theorists and researchers for many years. Accountability can take several forms: personal or organizational form. In Paine’s quote, “a body of men” is most closely related to organizational form, which makes us ponder on the importance of organizational accountability.

Organizational accountability has been a topic of scholarly studies for quite some time now. We learn that a large number of empirical studies focus on organizational accountability, providing various typologies and diagnoses, revealing considerable variation in organizational interest, investment, maintenance and intensity of accountability relationships. Much of the discussion focuses on addressing accountability in three sectors: public sector accountability (Mulgan, 2000; B. Romzek & Dubnick, 1987), nonprofit sector accountability (Candler & Dumont, 2010; Dumont, 2010, 2013a, 2013b; Ebrahim, 2005; Ebrahim & Weisband, 2007; Kilby, 2006; Murtaza, 2012; Najam, 1996; Townsend, Porter, & Mawdsley, 2002) and private (or for-profit) sector accountability, which is often referred to as social accountability, corporate

accountability and shareholder accountability in for-profit literature (Messner, 2009; Moyle, Bec, & Moyle, 2017; J. Roberts & Scapens, 1985; Spence & Gray, 2007; Unerman & O'Dwyer, 2007). These studies provide us with a good understanding on what accountability looks like in each sector, but they do not give us comparative results, because accountability has not been assessed among all three sectors at once.

Little is known about how organizations address accountability in online space. Virtual accountability (VA), via the use of information communication technologies (ICT), becomes an important facet of organization's accountability efforts. It is not a new type of accountability, but rather is one of the dimensions of the broader accountability sphere (Dumont, 2010). Virtual accountability practices have been studied within private sector (Cho & Roberts, 2010; Esrock & Leichty, 1998; R. Gray, Javad, Power, & Sinclair, 2001; Hooghiemstra, 2000) and nonprofit sector (Dainelli, Manetti, & Sibilio, 2013; Dumont, 2010, 2013a; Gandía, 2011; Saxton & Guo, 2011; Tremblay-Boire & Prakash, 2015). However, we do not find any comparative studies in all three sectors.

Purpose statement

The primary purpose of this dissertation is to comparatively examine virtual accountability practices in organizations belonging to three sectors: public, private and nonprofit. The secondary purpose of this dissertation is to determine which organizational characteristics contribute to greater organizational accountability in virtual space. Virtual accountability practices will be assessed through the coding of organizational websites. Specifically, I will look at five dimensions that construct virtual accountability practices, following Dumont's (2013a) work: accessibility, engagement, performance, governance, and mission. Dumont's virtual accountability framework provides a viable comparative

model across all three sectors. It gives us a robust understanding of where organizations are in ICT adoption and possibly identify several important factors associated with the adoption.

This comparative study of inter-sector differences will utilize hospitals as a case of analysis because we can find organizations of all three types (public, private and nonprofit) within the hospital industry. The hospital industry is unique in this sense since organizations in all three sectors somewhat equally compete for market share.

Significance of the study

Accountability is important for every organization, whether it is public, private or nonprofit, because it provides legitimacy for an organization. For public entities, for example, we talk about an important issue - public trust in government. It has been noted by various scholars that public trust in government is fragile, and is has been decreasing with time (Bovens, 2010; Dalton, 2004). This places an event greater emphasis on accountability, in the sense of transparent, responsive and responsible government, because it is able to assure public confidence in government (Bovens, 2010) and because it has an ability to bridge the gap between the government and the governed (Aucoin & Heintzman, 2000).

This study aspires to add to existing literature on accountability and provide clarity in defining accountability. My literature review shows that there is a lot of ambiguity in defining and assessing accountability. This turns to be problematic for organizations, because the lack of specificity regarding the meaning of accountability can undermine an organization's performance (Koppell, 2005). Specifically, two extremes can happen. An organization may attempt to be accountable in the wrong sense; and an

organization may attempt to be accountable in every sense (and hence becoming dysfunctional while trying to meet conflicting expectations) (Koppell, 2005). This study will attempt to add to clarity in assessing accountability that will be useful for organizations and policy-makers. The instrument used here may be used as a tool in assessing accountability in organizations of all types: public, nonprofit and private organizations.

Further, my review of scholarly works leads to the public sentiment that nonprofit organizations are more cost-effective and efficient than public sector in providing basic social services, are better equipped at reaching disadvantaged populations and are key players in democratization process (Edwards & Hulme, 1996; Mackintosh, 1992). Interestingly, these notions are not supported with empirical evidence in academic research. Conducting an inter-sector accountability project will help add to our understanding of the roots of these sentiments.

Studying accountability in healthcare setting is of great importance for a number of reasons. First, there is a growing dissatisfaction with health system performance that focuses on costs, quality, accessibility and availability of services, equitable distribution of services, abuses of power, financial mismanagement, corruption, and lack of leadership responsiveness (Brinkerhoff, 2004). Second, healthcare costs account as a major budgetary expenditure in all countries, and proper usage of these funds is of high priority (Brinkerhoff, 2004). Studying differences in ownership of hospitals, for example, is certainly of practical value since there is a conceivable relationship to health outcomes and resources invested in these organizations. Specifically, public hospitals are directly subsidized by governments, while nonprofit hospitals receive tax exemptions that serve

as indirect subsidies from governments. Without accountability, there is no guarantee that public and nonprofit organizations are being responsible stewards of taxpayer funds; and private organizations are delivering the appropriate services (Cleare, 2011).

A special emphasis will be given to organizational characteristics, as they relate to virtual accountability. For example, a location of an organization is of interest.

Specifically, I will address the problem of rurality of hospitals in this study. Rural hospitals are an important part of American healthcare, since they constitute almost 33% of all U.S. hospitals (American Hospital Association, 2017). They serve over seventy-two million Americans, living in rural areas; and they are more likely to serve underprivileged groups, such as uninsured population, lower income population and aging population. Rural hospitals are also typically the largest or second largest employer in rural communities, contributing to economic wellbeing of rural communities and offering highly-skilled jobs. Experts estimate that about 673 rural hospitals across 42 states are now vulnerable or at risk for closures, which might lead to a potential loss of 99,000 healthcare jobs and 137,000 community jobs, and which might result in 11.7 million patients to be underserved (“Rural hospital closures predicted to escalate,” 2016).

In addition, rural hospitals do not operate in the same health care landscape as urban hospitals, and research studies are needed to address such specifics as resource deficiency for rural providers and low-volume environment of service delivery (Calico, Dillard, Moscovice, & Wakefield, 2003). In addition, common characteristics of rural health facilities include: a small and different mix of personnel, inadequate information systems and the absence of large employers who are able to leverage purchasing power (Calico et al., 2003). Studying ICT in rural hospitals might help in reducing the cost of

disseminating information and assisting in building relationships and trust with patients and community members.

Organization of the dissertation

This dissertation has the following organization. Chapter 2 reviews literature relevant to the discussion. I start with examining sector differences in three distinct comparative narratives. Review of comparative studies in public and private sectors is done through the lenses of three approaches of study: the generic approach, the core approach and the dimensional approach. Next, a comparison of nonprofit and public sectors is presented through research on similarities and differences. Then, I review nonprofit and private sectors through three dimensions of organizational behavior: access to output; costs and the use of resources; and quality of output.

The next section of literature review focuses on theory. This dissertation is guided by two organizational theories: systems theory and resource dependence theory, coupled with an established communications framework of Grunig and Hunt. The systems theory opens our conversation, which leads into research on RDT and resource dependence patterns. Since organizational behavior might be better explained through juxtaposing the RDT with other theories and frameworks, I discuss in detail Grunig and Hunt's four communication models. Further, I provide several definitions of information communication technology and highlight relevant recent research studies in each sector: public, nonprofit and private.

Then, this dissertation addresses accountability literature. It is apparent that there are many definitions of accountability, and some of them are presented in the next section. Definitions of accountability are grounded in the seminal exchange of ideas

between Carl Friedrich and Herman Finer in the later 1930s and early 1940s. This seminal debate in the field of public administration reviews public servants' reliance on professionalism and sense of personal morality on one hand (Friedrich, 1940) and dependence on instructions from political structures on the other (Finer, 1941). This debate is most often being referred to as internal-external drivers of accountability. I review both positions in depth, before moving to dimensions of organizational accountability. Here, I present the Global Accountability Framework, developed by One World Trust; Koppell's (2005) conceptions of accountability, Behn's (2001) accountability typology, and other prominent scholarship in the field. This section concludes with relevant studies assessing accountability in public, nonprofit and private organizations.

Next, my discussion addresses virtual accountability, which is also sometimes referred to as online accountability or web-based accountability. I give several definitions of virtual accountability and highlight recent studies assessing virtual accountability in organizations (Cho & Roberts, 2010; Dainelli et al., 2013; Dumont, 2010, 2013a, 2013b; Gandía, 2011; Hooghiemstra, 2000; Saxton & Guo, 2011; Tremblay-Boire & Prakash, 2015).

My literature review will not be complete without giving an overview of the hospital industry. I focus on hospital characteristics, such as ownership (sector), location (rural, metro and micro), size (as measured by a number of hospital beds), revenue, volume (as measured by a number of total admissions per year), patient days, and financial health, such as net income (or loss). I conclude chapter 2 by summarizing all hypotheses and research questions for this study.

Chapter 3 presents the methodology for this study. It outlines data sampling and data gathering techniques, instrumentation and variable measurements. Data for this study was gathered from three sources: American Hospital Association (AHA) data, American Hospital Directory (AHD) data, and coding of organizational websites. AHA database provided data for such organizational characteristics as sector, total admissions, number of beds, location and system affiliation. AHD databases supplied data for the following organizational characteristics: total revenue, total patient days, and net income (or loss). The coding of websites was done according to a modified instrument developed by Dumont (2013), which included five Virtual Accountability Practices (VAP) dimensions: accessibility, engagement, performance, governance and mission. This chapter concludes with the results of intercoder reliability and an overview of data analyses to be performed.

Results of data analyses are written in chapter 4. First, I present descriptive statistics for organizational characteristics and virtual accountability measures, including the internal consistency (reliability) analysis of my instrument. Then, I move to inferential statistics. I present my results, according to two foci of the dissertation. The first focus is on sectoral differences; the second focus is on organizational characteristics. Chapter 4 concludes with the summary of results.

Chapter 5 constitutes the discussion of my findings: interpretation of the results in relation to the literature and the inferences drawn from the results I obtained. The discussion is divided into two parts, according to two foci of this dissertation. The first part addresses sectoral differences. I discuss my findings on overall virtual accountability practices, and then I look deeper into five dimensions of virtual accountability practices,

as it relates to three sectors in my study: accessibility, engagement, performance, governance and mission. The second part of the chapter includes a discussion on organizational characteristics that were hypothesized to serve as determinants of virtual accountability practices. While my model does not exhaust all possible predictors, it is significant, and it has predictive value. Several organizational characteristics are further reviewed: volume, organizational size, rurality, system-membership, and financial health. The discussion is guided by several theoretical frameworks: the resource dependence theory, Grunig and Hunt's communication models, the legitimacy theory, and organizational isomorphism.

The last chapter of this dissertation includes policy and management implications, limitations of this study, recommendations for future research and drawn conclusions.

CHAPTER II

LITERATURE REVIEW

Comparative review of three sectors

Three sectors in my study - public, private and nonprofit - are distinctly different in their mission, approach and organization. These differences are a subject of research, discussion and observation of theorists, researchers and practitioners in the fields of business, public administration, communications, and political science. Some researchers describe the private sector as full of innovation, flexibility and constant change; while the public sector is labeled as hierarchical, inflexible and inefficient (Baldwin, 1990; O'Toole & Meier, 1999; Petroff, 2015; Rainey & Steinbauer, 1999; Trottier, Van Wart, & Wang, 2008; Wilson, 1887). The nonprofit sector is positioned somewhat in the middle, often receiving government funding and tax benefits, yet still having expectations of being creative in delivering services and bringing funding in order to meet the public's needs (Morris, Coombes, Schindehutte, & Allen, 2007; Petroff, 2015).

This chapter will outline the differences among sectors in three distinct comparative narratives. First, I will review comparative studies of public and private sectors through the lens of three approaches of study: the generic approach, the core approach and the dimensional approach. Next, my comparison of nonprofit and public sectors will be presented through literature review on similarities and differences. Finally, the last section will review nonprofit and private sectors via three dimensions of

organizational behavior: access to output; costs and the use of resources; and quality of output.

Public and private sectors: three approaches of study

Researchers have conducted numerous empirical comparisons between public and private organizations in the past several decades, addressing issues of managerial strategies, modes of organization, methods of operation, ways of dealing with key publics, etc. (Scott & Falcone, 1998). Many of these differences fall under one of three underlying conceptual frameworks of study: *the generic approach*, *the core approach* and *the dimensional approach* (Bozeman & Bretschneider, 1994; Moulton, 2009; Scott & Falcone, 1998). I will review each approach in detail.

The *generic approach* argues for little to no differences between public and private organizations. Managerial functions, organizational processes and managerial values are virtually the same across the two sectors (Lau, Newman, & Broedling, 1980). Both types of organizations engage in decision-making processes that are very similar, with only one difference: private sector's focus is on economic efficiency and monetary profit, compared to public's sector focus on bargaining, compromise, uncertainty, and accommodation of political interests (Murray, 1975). The generic approach assumes that these distinctions are not important in the analysis, because it is not the ends that are important, but rather the means of achieving them, which are very similar in private and public sectors (Murray, 1975). To me, the analysis of the ends is an important factor to consider. It is the distinction that one cannot (and should not) easily dismiss. Public sector exists to supply collective goods and create public benefit, while the private

sector's primary focus is to generate profit for shareholders. The weakness of the generic approach is in its inability to account for differences in this very assumption of why these two sectors are considered to be separate entities.

The *core approach* to understanding public and private organizations highlights this fundamental assumption - "organizations can be distinguished by virtue of their formal, legal status" (Scott & Falcone, 1998, p. 128). Researchers further argue that major distinctions lie in organization's presence or absence of market structures, externalities and ownership transferability (Alchian & Demsetz, 1972; Buchanan & Tullock, 1999). Public organizations are constrained by the courts, legislatures, executive oversight agencies and constituent groups, which directly leads to their lessened autonomy, reduced managerial authority and higher levels of formalization, red tape and bureaucratization (Scott & Falcone, 1998). Private organizations do not have the same constraints.

The last approach to comparative analysis of public and private organizations is called the *dimensional or "publicness" approach*. It is based on the notion of the source of control, such as political and economic control, rather than on the notion of ownership (or core organizational form) (Moulton, 2009). This approach suggests that there are several levels, or dimensions of "publicness," and these dimensions are independent of the organization's formal or legal status (Bozeman, 2004; Scott & Falcone, 1998). These dimensions are diversity of mission, composition of output, resource acquisition, environmental transactions, etc. (Bozeman & Bretschneider, 1994). Essentially, organizations are rated on these dimensions of "publicness," based on their political and economic constraints. Some are considered as more public along some dimensions, and

more private along other dimensions (Scott & Falcone, 1998). Interestingly, researchers argue that organizations that have a similar mix of political and economic authority are more likely to be similar in their demonstrated behaviors, regardless of the sector they belong too (Scott & Falcone, 1998). This is an interesting observation, and this study will attempt to test the similarities between sectors in demonstrating their accountability in virtual environment. Another interesting observation is Moulton's (2009) claim that private organizations are increasingly charged with carrying out "public" purposes and are linked with their publics through the external "social control" (Moulton, 2009). In my view, this is where the corporate social responsibilities research enters the conversation. I will review this line of research in more detail under private accountability literature section.

Publicness can take a form "normative publicness," "descriptive publicness," and "realized publicness" (Moulton, 2009). While "normative publicness" is concerned with what the organization ought to do, "descriptive publicness" assess what it is actually doing. Moulton (2009) introduces the third concept of "realized publicness" to integrate empirically testable "descriptive publicness" with value-based "normative publicness."

Nonprofit and public sectors: similarities and differences

Next, I move to discuss comparative review of nonprofit and public organizations. I will present both *similarities* and *differences*. Word and Park (2009) argue that public and nonprofit sectors have a lot in common. They list five general *similarities* between the two sectors. First, and most important, public and nonprofit sectors supply collective goods and create public benefit. Unlike the private sector, which main goal is to generate

profit for shareholders, both public and nonprofit sectors are owned and created collectively, and thus do not aspire to use revenue for individual gains (DiMaggio & Anheier, 1990).

The second similarity lies in the operating environment: both public and nonprofit organizations operate in less competitive environments, compared to organizations in the for-profit sector (Word & Park, 2009). Although, one may argue that nonprofit organizations, due to their recent growth in numbers, are becoming more and more competitive. Similarly, public organizations, due to increasingly more common practice of privatization, are facing more competition to bid for delivery of public services with private organizations (Martin, 1999).

Another similarity between public and nonprofit sector lies in goal and structure ambiguity (Chen, 2012; Word & Park, 2009). Due to the environmental complexity (various stakeholders' interest) and organizational permeability, public and nonprofit organizations sometimes find it difficult to outline clear goals for their organizations (Chen, 2012). In addition, organizational structures are often very convoluted. For example, while exploring structure-effectiveness relationships in nonprofit arts organizations, researchers identified a large number of overlapping committees (Kushner & Poole, 1996). These committees were responsible for a wide range of functions, such as marketing, programming, fundraising, planning, performing financial management functions, allocating resources, implementing policy, etc. (Kushner & Poole, 1996). Similarly, public agencies are burdened with overlapping layers of legislation and multiple stakeholders, and are often having difficulty defining their mission and focus (Word & Park, 2009).

Goal and structure ambiguity is also closely related with difficulty to measure performance of public and nonprofit organizations. Delivery of public service goods is often difficult to measure. For example, Guy, Newman and Mastracci (2008) argue for presence of emotional labor in public work. According to researchers, public servants engage in emotional labor which includes analysis and decision making in terms of the expression of emotion, which often cannot be quantified on performance reviews and job postings (Guy et al., 2008). One can extend this argument to nonprofit organizations as well since many of nonprofit employees engage in similar emotional labor on the daily basis.

Last but not least, there is a similarity in motivation of public and nonprofit employees, as suggested by Word and Park (2009). Scholars agree that nonmonetary rewards, such as perceived social meaningfulness, are more important for employees in public and nonprofit sectors (A. C. Brooks, 2002). Indeed, the theory of psychological contract posits that mutual beliefs, understandings and unofficial obligations among nonprofit employees are often based on “ideological currency,” which is a shared commitment to pursue a meaningful cause (J. A. Thompson & Bunderson, 2003). In addition, the theory of public service motivation finds a great commitment to social justice, civic duty, public interest and self-sacrifice among public sector managers (Perry, 1996, 2000).

Despite many similarities between public and nonprofit sectors, there are tangible *differences* that need to be reviewed and addressed here. The first difference is in the way of establishment and funding of organizations (Word & Park, 2009). Public organizations are established by law; they receive public funding and are obligated to carry out

mandated activities and policies that are assigned by elected or appointed officials (Word & Park, 2009). There are certain restrictions that exist in public personnel management, such as rules and procedures related to hiring, disciplining, firing and rewarding of employees (Moynihan & Pandey, 2007). In contrast, nonprofit organizations enjoy a wide flexibility in their operations due to the way of establishment and funding. Nonprofits are formed by individuals or small groups sharing a common goal of fulfilling particular unmet needs within their community or society (Lohmann, 1989). They also define their own goals and the ways to achieve those goals, independent from the public opinion and legislature pressures (Word & Park, 2009). The only restriction placed on nonprofits is to serve some public or collective benefit, if the organization is to qualify for tax relief granted by federal government (B. A. Weisbrod, 1988).

Brooks (2002) points to another critical difference between public and nonprofit sector – in management approach. He argues that public sector has a very rigid administrative hierarchy, while in the nonprofit sector, some of the management lines are blurred (A. C. Brooks, 2002). Nonprofit board trustees, who are ultimate superiors in a nonprofit sector, have responsibility of high-level oversight of their organizations (similar to for-profit companies), but also frequently perform non-managerial functions, like fundraising and volunteering (Oster, 1995).

Another difference between public and nonprofit sector lies in work activity (Feeney & Bozeman, 2009). Researchers found that nonprofit managers are more likely to work longer hours, compared to public managers. Also, nonprofit work hours are mitigated by external organizational ties, perceptions, and work histories (Feeney & Bozeman, 2009). On a related note, Chen (2012) argues that public sectors are less likely

to attract employees who desire for responsibility. Since public policies are carried out by multiple agencies, different levels of governments and sometimes even private and nonprofit contractors, public managers are often discouraged to take such responsibilities. In addition, bureaucratic controls, political controls and legal controls are added to the list of things public managers are dealing with (Chen, 2012). Nonprofit managers do not share this burden.

Chen (2012) argues that public and nonprofit sector differ in regards to job security and benefits. While public employees enjoy various paid and unpaid fringe benefits, paid vacation days, routine pension increases, and earlier retirement; nonprofit employees do not share these benefits (Cox & Brunelli, 1994).

Finally, there is a difference in work attitudes between public and nonprofit employees (Chen, 2012). While analyzing job satisfaction, job involvement and organizational commitment, Chen (2012) found that public employees are less likely to feel involved in their job, satisfied with their job, and committed to their organizations, compared to nonprofit employees. In addition, public managers perceive a higher level of general red tape and more difficulties in removing a poor performer and rewarding a good employee with higher pay. Moreover, public employees have a higher likelihood to work for job security, pension and retirement plans, and benefits (Chen, 2012).

In summary, public and nonprofit sector share a myriad of commonalities: (a) they both supply collective goods and create public benefit; (b) they operate in less competitive environments; (c) their distinguishing feature is goal and structure ambiguity; (d) it is difficult to measure outcomes of public and nonprofit work; and (e) they share similarities in employee motivation strategies. However, there are certain differences

between the two sectors as well. Specifically, researchers point out that public and nonprofit organizations differ (a) in the way of establishment and funding; (b) in management approach; (c) in work activity; (d) in job security and benefits; and (e) in work attitudes.

Nonprofit and private sectors: three dimensions of organizational behavior

The basic organizational distinction between nonprofit and private organizations lies within the legal nondistribution constraint: nonprofit organizations cannot distribute profits; there are no owners (Heinrich, 2000). In return, nonprofit organizations are exempt from corporate income taxes and property taxes, due to their charitable purposes.

Nonprofit and private organizations have been compared in several empirical studies, including healthcare. For example, Weisbrod (1989) identified differences in three dimensions of behavior: *access to output*; *costs and the use of resources*; and *quality of output*. When we discuss *access to output*, we observe that private hospitals are less likely to provide “uncompensated care” than nonprofit hospitals (B. H. Gray & Mcnerney, 1986). It is unclear, however, if there are differences in the extent of the uncompensated care, because some hospitals make little differentiation between ‘caring for the poor’ and ‘bad debt’ (B. Weisbrod, 1989). Another point of comparison, as it relates to access is the use of waitlists by hospitals. Nonprofit hospitals are more likely to have longer waitlists, compared to private hospitals (B. A. Weisbrod, 1988).

As far as the *cost and use of resources*, there are differences between nonprofit and private hospitals as well. I observe two main findings here: private hospitals tend to have higher expenses, compared to nonprofits; and private institutions have lower costs

per day, compared to nonprofit organizations (B. H. Gray & Mcnerney, 1986). From these findings, one might conclude that private institutions incur less costs when it is economically rewarding; for example, when prices are paid by insurers are fixed per day (B. Weisbrod, 1989).

Several studies examined differences between private organizations and nonprofit organizations in healthcare industry as it relates to the third dimension: *quality of output*. The larger question at stake here is whether nonprofits supply a higher quality of healthcare because private organizations are more likely to consider higher quality care as financially unrewarding. Results are mixed. One study did not find any differences between nonprofit and private organizations as far as the quality of healthcare (B. H. Gray & Mcnerney, 1986). Another study found no difference between private and nonprofit hospitals in the amount and accessibility of care provided to the uninsured (Herzlinger & Krasker, 1987). Yet, another study found significant differences between private and nonprofit institutions, when it comes down to amount of patient care staff, expenditures on food, complaints to state regulatory agencies and nonconformity with regulatory requirements (Vladeck, 1980).

Theoretical basis

This study will be guided by several theoretical frameworks. I will first review two organizational theories: systems theory and resource dependence theory (RDT), and then outline major components of Grunig and Hunt's communication models. I will continue my literature review with discussion on informational communication technologies and relevant studies in each sector.

Systems theory

I start our conversation on organizational communication with reviewing the systems theory. It was introduced in late 1960s in the field of organization and management by scholars Daniel Katz and Robert Kahn and their seminal book *The Social Psychology of Organizations* and James Thompson's *Organizations in Action*. Within this theoretical viewpoint, a *system* is referred to any organized assembly of parts, united by arranged interactions and designed to accomplish specific goals (Boulding, 1956). System theory views an organization as “a complex set of dynamically intertwined and interconnected elements, including its inputs, processes, outputs, and feedback loops, and the environment in which it operates and with which it continuously interacts” (Shafritz & Ott, 1996, p. 242). Katz & Kahn (1966) list several common characteristics of open systems. One of them is information input and feedback from the environment. They argue that “inputs are ... informative in character and furnish signals to the structure about the environment and about its own functioning in relations to the environment” (Katz & Kahn, 1966, p. 17).

Resource dependence theory

Another theory that is applicable in explaining organizational behavior and communications is the resource dependence theory (RDT) that was developed by Pfeffer and Salancik in 1978 in their landmark publication *The External Control of Organizations*. RDT is rooted in the Katz & Kahn's open systems framework; organizations must exchange information with their environment in order to obtain resources. RDT is “one of the most influential theories in organizational theory and strategic management” (Hillman, Withers, & Collins, 2009, p. 1404) and it helps us

explain and understand how organizations address their environments. In authors' words, "to understand the behavior of an organization you must understand the context of that behavior—that is, the ecology of the organization" (Pfeffer & Salancik, 1978, p. 1). According to the basic premises of this theory, organizations are fundamental units in understanding our society; they are not independent, but rather are constrained by networks of interdependencies with other organizations. These interdependencies lead to uncertainty for survival and successes, and organizational actions to manage these external interdependencies. These actions produce new patterns of dependence and interdependence, which are associated with interorganizational and intraorganizational powers (Pfeffer & Salancik, 1978).

One of the premises of RDT is that organizations actively seek legitimacy because they aspire to stabilize their relationships with external parties that provide resources (Oliver, 1991). It is rooted in organizational sociology literature, because it attempts to explain patterns of organizational responsiveness to external demands and expectations (Drees & Heugens, 2013). More legitimate organizations are able to attract resources of higher quality and at more favorable terms (Heugens & Lander, 2009).

Five dimensions of resource dependency patterns have been identified (Seo, 2011). *Resource dependency* relates to where resources are coming from (Lan, 1991). *Resource diversity* pertains to centralized or decentralized the resource inflow is (Lan, 1991; Pfeffer & Salancik, 1978). *Resource uncertainty* is linked to the predictability of the resources coming to the organization (Lan, 1991). *Resource abundance (or scarcity)*, as the name suggests, measures the degree of abundance or scarcity of organization's resources (Guo & Acar, 2005; Pfeffer & Salancik, 1978). Finally, *resource*

competitiveness relates to how competitive the environment is for an organization (Seo, 2011).

Hillman et al. (2009) suggest that organizational behavior might be better explained through juxtaposing the RDT with other theories and frameworks. They argue that integration of RDT with other complimentary perspectives may offer a more realistic perspective of organizational behavior. Thus, I will review several relevant theories of communication, which, coupled with RDT, will assist in understanding organizational behavior. These communication models that will help me understand the flow of information to and from an organization.

Grunig & Hunt communication models

Communication is critical in every organization, since it has been argued to “hold the key to improving organizational performance” (Pandey & Garnett, 2006, p. 44). As Chester Bernard had pronounced in his classic work *The Functions of the Executive*, “the first executive function is to develop and maintain a system of communication” (Bernard, 1973, p. 226). Despite its importance, there is not enough research in the field of organizational communication, and there is certainly not one overarching unitary paradigm that guides the body of research (Huseman & Miles, 1988; McPhee & Zaug, 2001; Pandey & Garnett, 2006).

In their seminal text *Managing Public Relations*, Grunig and Hunt identified four models that guide communication philosophy of organizations: (1) press agency/publicity model, (2) public information model, (3) two-way asymmetric model, and (4) two-way symmetric model (Grunig & Hunt, 1984). The first two are considered to be one-way communication models. A one-way communication model is linear in

nature; it features a straight line from a sender to a receiver with a purpose to inform, persuade or command (Grunig & Hunt, 1984). The primary purpose of the press agency/publicity model is propaganda; and the principal purpose of the public information model is dissemination of information (Grunig & Hunt, 1984).

Two-way communication models include a feedback from a receiver back to a sender. There are two models of communication that are two-way in nature, as identified by Grunig & Hunt: two-way asymmetric and two-way symmetric. In a two-way asymmetric model, the purpose of communication is scientific persuasion, and the effects of communication are imbalanced. In a two-way symmetric model, the purpose of communication is mutual understanding, and the effects are balanced (Grunig & Hunt, 1984).

Dumont (2010) argues that a two-way symmetrical communication model is an ideal model for an open system, discussed by Katz & Kahn (1966), because it allows an organization to acquire information from the public through the feedback loop, reframe an organization to position it better to meet stakeholders' needs, and, therefore, place it in a more favorable position to meeting external demands and facing external environments. One of distinguishing features of an open system is that it stresses the importance of organization's external environment (Katz & Kahn, 1966). Moreover, information from external environment is critical to the well-being of an organization in order to acquire negative entropy: "to survive, open systems must move to arrest the entropic process; they must acquire negative entropy. The entropic process is a universal law of nature in which all forms of organization move toward disorganization or death" (Katz & Kahn, 1966, p. 8). In light of available communication research, Dumont (2010) describes

organizational communication as “a bidirectional flow of information between the organization and its publics, providing information for consumption and being open to feedback to best understand what direction the organization needs to move to adjust to the needs of its publics” (Dumont, 2010, p. 34).

Research in the field of communication focuses on relationship management, and scholars are stressing the importance of adhering to symmetrical models in organizational communication. For example, some scholars developed dialogic communication as a theoretical framework to guide relationship building between organizations and publics, specifically focusing on dialogic capacity of the internet (Kent & Taylor, 1998). Others offered relationship cultivation strategies that stress trust, openness, communal relationships, exchange relationship and control mutuality (Hon & Grunig, 1999). In reality, one-sided communication often dominates the field and continues to play a significant role in organizational communications, especially in internet sphere (Waters & Jamal, 2011). This research project attempts to add to literature by assessing levels of engagement of three types of organizations with the publics in online sphere.

Information communication technology

Organizations use information communication technology for various purposes, including dissemination of information and communication with various publics. Before I get to reviewing ICT in three sectors, I need to provide a formal definition of ICT as “any artifact whose underlying technological base is comprised of computer or communications hardware and software” (Cooper & Zmud, 1990, p. 123). Researchers argue that ICT is a very comprehensive term, but it can be conceptually divided into three broad groups: (1) technologies that transmit and communicate information (the

movement of information through space); (2) technologies that store information (the movement of information through time); and (3) technologies that compute information (the transformation of information) (Hilbert, 2011; Hilbert & López, 2011). The first group is a focus of my analysis.

ICT in an organization can take various forms: e-mail, telephones, teleconferencing, databases, intranets, websites, and various social media tools, such as online communities, wikis, blogs and micro-blogs. With adopting more technologically advanced ICT, organizations are able to decrease the cost of providing information and increase the scope of information they provide (Dumont, 2010; Lee, Chen, & Zhang, 2001; Von Haldenwang, 2004; Waters, 2007). One quote is especially fitting in highlighting the importance and necessity in using information communication technology in organizational communications:

The phrase "new technology" conjures up all kinds of visions for people, depending on how technically oriented they view themselves. PR professionals pride themselves on the personal touch--the relationships between clients, the media and the practitioners--the perfected "human contact." As off-putting as a technological revolution might be in such a press-the-flesh environment, meaningful technological advances can be integrated to your benefit rather painlessly The trick is to realize the technology, at hand and forthcoming, must be used to keep in touch and not to distance ourselves--from clients, peers, the media. (Capps, 1993, p. 24)

Next, I will review relevant studies on ICT adoption within three sectors.

ICT in public organizations

ICT in public sector is aimed at addressing issues of social inclusion, transparency, decentralized delivery of public services, public accountability and governance (Sandeep & Ravishankar, 2014; Smith, Noorman, & Martin, 2010; Walsham, 1993). ICT in public sector has been called e-government (Smith et al., 2010), a term that is also closely connected to e-governance. I believe it is important to define both. Thus, I will review these concepts in detail, as well as provide distinction between the two.

The World Bank defines e-government as:

... the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government.

These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.

(“Definition of E-government,” 2007)

Grant & Chau (2005) present another definition of e-government, stressing its technological functions:

A broad-based transformation initiative, enabled by leveraging the capabilities of information and communication technology: (1) to develop and deliver high quality, seamless, and integrated public services; (2) to enable effective

constituent relationship management; and (3) to support the economic and social development goals of citizens, business, and civil society at local, state, national and international levels. (Grant & Chau, 2005, p. 9)

In their definitions, academics stress the development aspects of e-government, pointing to a need for good governance, sometimes referred to as e-governance. In other words, e-government is merely designed to be a technological solution for good governance. Some academics draw a distinction among e-government, e-governance and e-democracy. Riley (2001) looks at three terms as evolutions stages, following from e-government to e-governance and, eventually, to e-democracy. The last two stages, e-governance and e-democracy, have also been labeled as the entrepreneurial approach and the participatory approach, respectively (Mossberger, Tolbert, & Gilbert, 2006).

The first stage (e-government) is merely a presence of public administration on the Internet, often associated with the government starting to have a presence online in the nascent stage (Riley, 2001). The second stage (or e-governance) is focusing on providing services - “a flexible and convenient interface with government around the clock and experience ‘one-stop shopping’ for information and services”(Tolbert & Mossberger, 2006, p. 357). The third stage (or e-democracy) is defined by active citizen participation. Researchers argue that the e-democracy stage “allows citizens to become more knowledgeable about government and political issues, and the interactivity of the medium allows for new forms of communication with elected officials and between citizens –through chat rooms, listservs, e-mail, and bulletin board systems” (Tolbert & Mossberger, 2006, p. 357).

Several researchers attempted to define roles that e-government plays. Specifically, McHenry & Borisov (2006) stated that e-government plays three roles: fostering good governance, electoral accountability, and public participation. Researchers also argue that e-government provides technological solutions that generate cost reductions (Gallego-Álvarez, Rodríguez-Domínguez, & García-Sánchez, 2010), promote the use of new and more efficient technologies (“A Cross-national Analysis of Global E-government,” 2007), foster the rationalization of processes (Torres, Pina, & Royo, 2005) and improvement in image (Gallego-Álvarez et al., 2010).

Public organizations are unique, when it comes to ICT adoption and usage. One distinct feature of public sector is that it is presumed to be more uniform than private and nonprofit sector. For example, Corder (2001) argues that public sector agencies are subject to similar accounting principles, similar budget reviews, and similar purchasing instructions. Thus, it is safe to presume that public sector organizations are more likely to have technology choices that are homogenous in nature (Corder, 2001). Certain agencies are permitted discretion in purchasing technologies, while others are restricted as to what they can acquire and implement (Corder, 2001). Researchers found that public agencies that are dependent on outside contracts or other agencies for funding, specifications and technical support are less likely to be innovative in ICTs (Corder, 2001). Using examples of schools, Chubb (1990) concluded that the higher the autonomy at the lowest levels of decision-making hierarchy, the more innovative schools tend to be.

ICT in nonprofit organizations

It is universally accepted that nonprofits need to strive for better, more innovative ICT in order to accomplish their goals and missions. As Ticher et al. (2002) articulated it:

An organization that has efficient systems will be able to respond more quickly and efficiently to its clients and its funders. Better statistics, less duplication of effort, a faster, more appropriate response: the right technology can deliver all of these, cost-effectively and often quite simply (Ticher et al., 2002, p. 1)

The literature on ICT in nonprofit sector primarily focuses on adoption and uses topics. Specifically, researchers identified three sets of influences on ICT adoption and use: organizational characteristics, environmental characteristics, and pressure to establish legitimacy (Zorn, Flanagin, & Shoham, 2011). I will review each in detail.

The first set of influences on nonprofit ICT adoption are concerned with organizational characteristics: its size, budgets and ICT support. One recent study found positive relationships between the budget and size of nonprofit organization and ICT-related training and procedures designed to promote ICT adoption (Finn, Maher, & Forster, 2006). Schneider (2003) focused on small nonprofits in the African American and Latino communities, and concluded that small nonprofits who lack resources for new technologies fall even further behind in their mission to support and improve their programs. The author suggests that the key to success is most often not access to technology, but rather time available for smaller nonprofits to make the best use of available technology (Schneider, 2003). Another study, on the other hand, concludes that budget size and proportion of funding from the government were not significantly related to ICT adoption among nonprofit organizations (Corder, 2001). This research project will potentially add to existing literature on the subject of organizational characteristics and ICT adoption.

The second set of influences on nonprofit ICT adoption are connected to environmental factors, such as heightened scrutiny and competition for resources (Corder, 2001; Schneider, 2003; Ticher et al., 2002). Burt & Taylor (2003) described it best in their study: “Heightened competition for both funding and volunteers, accompanied by acute pressures to deliver performance and improvements, bring strong imperatives for organizational transformation” (E. Burt & Taylor, 2003, p. 115).

These environmental factors are well described in Lee, Chen, & Zhang's (2001) article, utilizing value chain analysis. The value chain analysis, borrowed from private sector research, is a series of independent activities that connect an organization's product or service to the customer. Researchers identified the following activities within the value chain that assist nonprofits in utilizing ICT: administration, human resource management, technology development, procurement, inbound logistics, operations, outbound logistics, marketing, and service (Lee et al., 2001).

The third set of influences on nonprofit ICT adoption and uses is focused on establishing legitimacy. As Zorn, Flanagin, & Shoham (2011) put it, “NPOs must be concerned about their organizational reputations in the eyes of stakeholders and adopt and use ICTs in part to appear legitimate” (Zorn et al., 2011, p. 5). As a consequence, effective and innovative usage of ICTs by nonprofits leads to future resource allocations (Noir & Walsham, 2007). Some even suggest that the most successful nonprofits are being singled out by state agencies as ‘examples’ and ‘best practices,’ and thus signal organization's status and merit support (Thatcher, Brower, & Mason, 2006; Zorn et al., 2011). Unsurprisingly, nonprofits that could not effectively use ICTs were found to loose

on funding because they failed meeting funder's expectations for proposal quality and record-keeping systems (Schneider, 2003).

Recent research on nonprofit ICT includes studies focusing on adoption of websites (Clerkin & Grønbjerg, 2007; Manzo & Pitken, 2007) and other types of information technology (Hackler & Saxton, 2007; Wolpert & Seley, 2007), use of social media (Curtis et al., 2010; Guo & Saxton, 2014; Lovejoy & Saxton, 2012; Maxwell & Carboni, 2016; Nah & Saxton, 2013; Waters, Burnett, Lamm, & Lucas, 2009) and online fundraising (Bennett, 2009; C. D. Burt & Gibbons, 2011; Read, 2013; Shier, Michael, L. and Handy, 2012).

One particular area of ICT that is a focus of my review is nonprofit websites. Websites are now an essential part of nonprofit ICT because of increases in Internet penetration and availability of accessible, low-cost website building tools (McPherson, 2007). Website traffic (both visits and donations) to nonprofit organizations continue to rise, as they are reaching a larger number of people more frequently and in more places, and are reporting increases in online revenues ("M+R Benchmarks: Online metrics for nonprofits," 2017). Nonprofits utilize this ICT to accomplish several goals: establish their online presence, reach new audiences, develop a community, build their brand, increase their revenue, recruit and manage volunteers and communicate with stakeholders (Kirk & Abrahams, 2017).

Our conversation on ICT adoption of nonprofit organizations is not complete without highlighting sector differences. First, it comes to no surprise that nonprofit organizations have traditionally invested fewer resources (per capita) into ICT than private organizations (Sheh, 1993) and public organizations (Corder, 2001). This has

been attributed, mostly, to the lack of resources (Te'eni & Speltz, 1993). Other factors that have been identified to impact nonprofit investments into ICT are workforce size, management discretion, management demographic characteristics, technology expertise, government funding, and donor commitment (Corder, 2001). Further, Corder (2001) explains that large one time investments in ICT is difficult for nonprofits. In comparison, large private organizations are able to finance investments in technology, and are not bound to some constraints that nonprofit sector has to adhere.

Another distinction is evident in the area of quality of workforce. While private and public organizations have professionally trained personnel to handle ICT, nonprofits often rely on volunteers to do the job. These volunteers are often not adequately trained to use ICT effectively. In addition, if a nonprofit organization employs a large number of volunteers, it will be less likely to invest in new ICT because of a learning curve for these volunteers (Corder, 2001). Taking into account research on sectoral differences of ICT usage, I propose the following hypothesis:

H1: Nonprofit organizations will have less accessible ICT than private and public organizations.

There is another critical distinction for nonprofit organizations. Traditionally, they have been considered more engaged in two-way communications with their publics. For example, researchers argue that nonprofits “excelled in facilitation transactions and creating relationships based on their information-related advantages, precisely where government and business fall short” (Te'eni & Young, 2003, p. 398). Examples include situations where nonprofits perform a special role in alleviating information asymmetry

where consumers with limited information are disadvantaged; or situations where nonprofits are mobilizing resources for public goods where information on citizen preferences is not relevant (Te'eni & Young, 2003). Researchers also argue that ICT represent a unique opportunity for nonprofit organizations to advance their missions through civic engagement (Suárez, 2009). Based on this line of thinking, one would hypothesize that nonprofits will demonstrated higher engagement levels:

H2: Nonprofit organizations will be more engaged with their public, compared to public and private organizations.

Perhaps, one of the most distinct features of nonprofit organizations is their use of ICT for fundraising purposes. Online giving is just one of ICT vehicles to raise money, and we see the largest growth within this venue (Nonprofit Research Collaborative, 2011). Other ICT uses for fundraising are board giving, special events and foundation grants (Reddick & Ponomariov, 2013). I hypothesize that nonprofit organizations will be more likely to engage in online fundraising practices than private and public organizations.

H3: Nonprofit organizations will be more likely to utilize ICT for fundraising purposes, compared to public and private organizations.

ICT in private organizations

In private sector literature, reliance on advanced information and communication technology is often referred to as *information economy* or *network economy*.

Undoubtedly, information economy is transforming how private organizations are

conducting business, and what constitutes effective organizations (Kanter, 2001; Porter, 2001; Te'eni & Young, 2003). Information economy implications in private sector include macroeconomic effects (for example, faster increases in productivity and greater dependency on technological skills) and microeconomic effects (for example, decline of mass production and of intermediaries between producers and customers) (Te'eni & Young, 2003). It also becomes clear that any organization can no longer deny implications of information economy on the social and economic forms of organization and behavior (J. S. Brown & Duguid, 2000). I will follow my literature review of ICT in private sector through three constructs of information flow, suggested by Te'eni & Young (2003): reach, richness and affiliation.

Reach refers to the number of people to whom the information is accessible (Te'eni & Young, 2003). More advanced ICT make information accessible to huge number of consumers, but it is not uniform across populations, and therefore, 'digital divide' emerges (Barbet & Coutinet, 2001). Moreover, as individual consumers become overloaded with information, the need for intermediaries (sometimes referred to as 'infomediaries') arises (Te'eni & Young, 2003). These intermediaries assist in collecting, filtering, evaluating and organizing the presentation of data from the sources; and consumers are able to make educated decisions about goods and services available for purchase and use (Grover & Teng, 2001).

Richness assumes richer information about goods and suppliers, available to consumers (Te'eni & Young, 2003). For example, consumers expect that a product be described in great detail, visualized and even shown in reference to customer's personal measurements. In addition to traditional set of facts, consumers expect to find valued

opinions within communities of practice that share information and recommendations (Te'eni & Young, 2003). This is closely connected with the third construct, affiliation.

Affiliation refers to customers seeking information sources whose affiliations reflect consumer rather than supplier loyalties (Te'eni & Young, 2003). In other words, customers are seeking information they can trust. It is particularly important, according to Te'eni & Young (2003), when stakes are very high (for example, in cases of searching information on the quality of health providers) or when stakes are heavily value laden (for example, advocacy on public policy issues).

The quality of communication within ICT is determined by channel capacity to transmit rich information, level of interactivity and ability to personalize the message to the receiver (Te'eni, 2001). Recent ICT advances had increased all attributes: high channel capacity, interactivity and personalization, and had contributed to further reach, greater richness and support of affiliation (Te'eni & Young, 2003). Some even argue that ICT serves as a primary medium for creating seller-buyer interactions, and, even further, it might be the only medium for creating corporate identities that contribute to driving consumer action and sustaining consumer relationships (Flores, 1998).

Accountability

Defining accountability

I will start this section on accountability by tracing its origins and various definitions. It is not an easy task, as the term itself has been labeled as complex and 'chameleon-like' (Mulgan, 2000) and 'fundamental but underdeveloped' (B. Romzek & Dubnick, 1987). Some even argue that it has changed over time, lost its

‘straightforwardness’, and requires ongoing clarification and categorization (Mulgan, 2000; Sinclair, 1995). Various researchers use the term ‘accountability’ as a synonym for many loosely defined political desiderata, such as good governance, transparency, equity, democracy, efficiency, responsiveness, responsibility, and integrity (Bovens, 2010).

According to Dubnick (2005), the initial concept of accountability first appeared in late Middle Ages and served as a traditional anchor for the modern state. It was an imperative component of transitioning from monarchical rule into representative government and popular rule (Bendix, 1978). Some scholars argue that although the term existed, it was mostly used within the sphere of financial accounting, and it only gained wider application within the New Public Management reform (Erkkilä, 2007; Mulgan, 2003). Next, I will review several definitions of accountability, relevant to my research.

Mulgan defines accountability as a “process of being called to account to some authority for one’s actions” (Mulgan, 2000, p. 555). He emphasizes the ‘core sense’ in accountability, which is characterized by “externality, social interaction and exchange and rights of authority” (Mulgan, 2000, p. 555). There are several parts that construct accountability, according to Mulgan. First, accountability is external because “the account is given to some other person or body outside the person or body being held accountable” (Mulgan, 2000, p. 555). Next, it involves some sort of social interactions and exchanges, “one side, that calling for the account, seeks answers and rectification while the other side, that being held accountable, responds and accepts sanctions” (Mulgan, 2000, p. 555). Further, it implies rights of authority, since “those calling for an account are asserting rights of superior authority over those who are accountable, including the rights to demand answers and to impose sanctions” (Mulgan, 2000, p. 555).

It is important to mention that inclusion of sanctions in the core understanding of the term accountability might be a contestable practice, because accountability implies ‘giving an account’ and not ‘calling to account’ (Mulgan, 2000). This distinction will be of particular value in my research, as I move towards understanding accountability not just in public sector, but also nonprofit sector and private sector.

Some researchers lean toward a more narrow and passive dimension of accountability, while giving their definition. To explain, they posit that actors are held to account by a forum, ex post facto, for their actions (Bovens, 2010). Thus, accountability is “a relationship between an actor and a forum, in which the actor has an obligation to explain and to justify his or her conduct, the forum can pose questions and pass judgement, and the actor may face consequences” (Bovens, 2007, p. 450).

Another definition is an attempt to operationalize accountability as a virtue within the Global Accountability Framework. This definition was developed by One World Trust, a nonprofit organization which conducts research on how to make international organizations and governments more responsive to the people they affect:

First and foremost accountability is about engaging with, and being responsive to, stakeholders; taking into consideration their needs and views in decision making and providing an explanation as to why they were or were not taken on board. In this way, accountability is less a mechanism of control and more a process for learning. Being accountable is about being open with stakeholders, engaging with them in an ongoing dialogue and learning from the interaction. Accountability can generate ownership of decisions and projects and enhance the sustainability of

activities. Ultimately it provides a pathway to better performance (Blagescu, de Las Casas, & Lloyd, 2005, p. 11)

Friedrich –Finer debate

The literature review on accountability would be incomplete without reviewing the classic exchange of ideas between Carl Friedrich and Herman Finer in the later 1930s and early 1940s. This seminal debate in the field of public administration reviews public servants' reliance on professionalism and sense of personal morality on one hand (Friedrich, 1940) and dependence on instructions from political structures on the other (Finer, 1941). This debate is most often being referred to as internal-external drivers of accountability. Some scholars argue that this debate is grounded on a tension between accountability and responsibility (Jackson, 2009). I will review both positions in depth.

Carl Friedrich emphasized the inward responsibility of public servants to uphold the professional standards, values and morals (Friedrich, 1940). He writes, “a responsible person is one who is answerable for his acts to some other person or body, who has to give an account of his doings and therefore must be able to conduct himself rationally” (Friedrich, 1935, p. 30). Jackson calls this view of accountability as entrepreneurial and flexible idea of bureaucracy, because it “speaks of the discretion of administrators to adapt instruction to the hard ground of reality guided by a higher concept of the public interest or the common good that transcend the government of the day (Jackson, 2009, p. 74).

Friedrich's ideas have evolved into the concept of accountability as managing expectation (AME). AME approach implies that holding somebody accountable rests on

the prior expectation of certain performance (Acar, Chao Guo, & Kaifeng Yang, 2008; B. Romzek & Dubnick, 1987). Various relationships (such as hierarchical, legal, professional, commercial, community, political, etc.) warrant various accountability expectations: obedience to organizational directives, deference to professional judgment and individual expertise, compliance with external mandates, and responsiveness to key external stakeholders (Acar et al., 2008; M. J. Dubnick & Romzek, 1993; Klingner, Nalbandian, & Romzek, 2002; B. Romzek & Dubnick, 1987). These various exchanges of expectations are more realistic within the complex social context of humans in organizations (Cummings & Anton, 1990; Fry, 1995), since there is rarely simple principal-agent relationship. Rather, AME approach assumes multiple democratic principals. The critics of AME approach posit that managers get too much bureaucratic discretion (O'Loughlin, 1990).

In contrast to Friedrich's writing and AME approach, Herman Finer, was a vivid proponent of external control. He builds his argument on a notion that the government ought to carry out the will of people as conveyed through their elected representatives. Thus, an accountable government is such where people have "the authority and power to exercise an effect upon the course which the latter are to pursue, the power to exact obedience to orders" (Finer, 1941, p. 337). He draws the conclusion that responsibility involves "a relationship of obedience" to "an external controlling authority" (Finer, 1936, p. 580). Jackson refers to this view of accountability as a command and control concept of bureaucracy, because it places a near absolute priority on obedience to instruction (Jackson, 2009). It is argued that AME approach is aligned with outward conceptualization of accountability (Koppell, 2005), because this outward focus assumes

balance among various sources of democratic control (Dumont, 2013a) and “describes one agent with multiple principles” (Acar et al., 2008, p. 6).

Finer’s writing further developed into the concept of accountability as answerability (AA). The emphasis here is on the control aspect of accountability, and the principal-agent relationship lies in the center of many definitions and descriptions of AA approach (B. S. Romzek & Dubnick, 1998). O’Loughlin (1990) explains AA approach in the context of public organizations:

When we speak about bureaucratic accountability, the bottom line is that we are concerned about whether or not our government agencies are under some control and oversight by our representative institutions or us. We want them to be answerable and responsive to our goals and priorities. (p. 281)

AA approach has certain drawbacks, as suggested by various scholars. It may lead to negative consequences (R. D. Behn, 2001), it inevitably denies the opportunity for managers to create public value while conducting strategic management (Moore, 1995), it may lead to failure due to inadequate resources devoted to oversight (Dicke, 2002), and it may cause accountability paradoxes, as suggested by Roberts (2002):

If public servants are solely accountable to the achievement of purposes mandated by political authority, then as instruments of that authority they hold no personal responsibility for the products of their actions. If however, public servants participate in determining public purposes, then their accountability to higher authority is undermined. (p.659)

AME approach and Friedrich’s writings are more fitting to the topic of my discussion on virtual accountability practices, since it is aligned with the outward

conceptualization of accountability, or accountability to multiple actors. Hence, I will be building our discussion around this approach to accountability.

Dimensions of organizational accountability

The subject of my analysis is not individual accountability. Rather, I am to study organizational accountability in three sectors. Thus, I turn to organizational theory literature to determine various dimensions of organizational accountability.

Students of organizational theory view accountability concept through the lenses of institutional perspective, following James Thompson's lead, who argues that there are three levels of organizational responsibility and control: technical, managerial and institutional (J. D. Thompson, 1967). Within the technical level of responsibility, an organization ensures effective performance of specialized and detailed functions; within the managerial level of responsibility, an organization mediates between its technical components and outside entities (such as customers, suppliers, etc.); and within the institutional level of responsibility, an organization bears weight of the need to be a part of the "wider social system which is the source of the 'meaning,' legitimation, or higher-level support which makes implementation of the organization's goals possible" (J. D. Thompson, 1967, p. 11).

In one article, researchers characterized accountability relationships on two dimensions: "the source of control (whether it is internal or external to the agency) and the degree of control (whether it involves a high degree of control and close scrutiny or a low degree of control and minimal scrutiny)" (Radin & Romzek, 1996, p. 61). This

approach produced four models of accountability: hierarchical, legal, professional and political, which will be discussed later in details while reviewing accountability in public sector. Koppell (2005) criticizes this typology, because of its overreliance on control. He argues that this approach mixes together types of accountability that are substantively different (Koppell, 2005).

Another accountability typology was introduced by Behn (2001), focusing on the substantive issues at the heart of an organization's oversight. Researcher divides accountability into four categories: accountability for finances, accountability for fairness, accountability for abuse of power, and accountability for performance (R. D. Behn, 2001). He introduces an idea of "accountability bias:" it is easy to make an organization accountable on the basis of fairness or finances, because those holding others accountable get a better payoff when they find wrongdoings (R. D. Behn, 2001). In other words, if your performance depends on finding wrongdoings of others, you will be more likely to find them, whether they are legitimate or not.

The Global Accountability Framework, developed by One World Trust, identifies four core dimensions that make an organization more accountable to its stakeholders: transparency, participation, evaluation, and complaint and response mechanisms (Lloyd, Oatham, & Hammer, 2007). Transparency requires "the provision of accessible and timely information to stakeholders and the opening up of organisational procedures, structures, and processes to their assessments"; participation requires "the active engagement of both internal and external stakeholders in the decisions and activities that affect them"; evaluation requires the organisation to monitor and review "its progress against goals and objectives," feed "learning from this into future planning," and to report

“on the results of the process” and, finally, complaints and response handling requires “channels developed by organisations that enable stakeholders to file complaints on issues of non-compliance or against decisions and actions, and ensure such complaints are properly reviewed and acted upon” (Lloyd et al., 2007, p. 11).

Attempting to address problems originating from multiplicity in the usage of the term accountability, Koppell (2005) distinguishes among its five different dimensions: transparency, liability, controllability, responsibility, and responsiveness. These categories, according to the author, are not mutually exclusive. The first two kinds of accountability (transparency and liability) are referred to as “foundations, supporting notions that underpin accountability in all of its manifestations” (Koppell, 2005, p. 96). The latter three kinds of accountability, which Koppell calls substantive conceptions of accountability, have tensions between them. These five dimensions are presented in Table 1.

Table 1 Conceptions of accountability

Conception of Accountability	Key determination
Transparency	Did the organization reveal the facts of its performance?
Liability	Did the organization face consequences for its performance?
Controllability	Did the organization do what the principal (e.g., Congress, president) desired?
Responsibility	Did the organization follow the rules?
Responsiveness	Did the organization fulfill the substantive expectation (demand/need)?

Source: Koppell (2005)

Accountability in public organizations

Accountability has been studied extensively in public sector. I will start my review by defining the key accountability relationships in the context of a democratic state. As Mulgan (2000) argues, these are the relationships between the citizens and the holders of public office, relationships among holders of public office, and relationships between elected politicians and bureaucrats. Thus, public accountability issues, according to Mulgan (2000) include how voters make elected representatives answer for their political decisions and accept electoral repercussions; how legislators examine actions of public personnel; and how member of public can scrutinize actions of government agencies and officials.

There have been several attempts to formally define accountability in public sector. For example, Romzek and Dubnick (1987) provide their formal definition:

Accountability involves limited, direct, and mostly formalistic responses to demands generated by specific institutions or groups in the public agency's task environment. More broadly conceived, *public administration accountability involves the means by which public agencies and their workers manage the diverse expectations generated within and outside the organization* [emphasis in the original] (B. Romzek & Dubnick, 1987, p. 228)

While reviewing accountability literature in public organizations, some scholars make a distinction between two types: *accountability to* (various sources such as political and legal) and *accountability for* (various contents such as finance and performance) (Bardach & Lesser, 1996; Yang, 2012). This distinction is worth making, because as we move beyond principal-agent literature on accountability, we uncover more complex

internal structures such as “ a bureaucratic chain of command and a formal system of reporting and information collection” (Bardach & Lesser, 1996, p. 200).

Accountability to studies largely build on Romzek & Dubnick (1987) research. While studying the space shuttle Challenger explosion, the authors identifies four types of accountability systems in public sector: bureaucratic, legal, professional and political (B. Romzek & Dubnick, 1987). Within the bureaucratic accountability systems, the expectations of public administrators are managed through the emphasis paid to the priorities of those who are at the top of the bureaucratic hierarchy (B. Romzek & Dubnick, 1987). Legal accountability assumes control of the members of the organization or agency by the outside group or party, which is in a position to impose legal sanctions and enforce formal contractual agreements (B. Romzek & Dubnick, 1987). Professional accountability system relies on skilled and expert employees to provide appropriate solutions to deal with technically difficult and increasingly complex problems (B. Romzek & Dubnick, 1987). Finally, political accountability system is in focus within the democratic process imposed on American public administrators (B. Romzek & Dubnick, 1987). Researchers argue that within the first two types of accountability systems (bureaucratic and legal), there is a high degree of control over agency actions, while latter types of accountability systems (professional and political) have low degree of control over agency actions (B. Romzek & Dubnick, 1987). They bring another dimension into their analysis: internal versus external accountability, which originates from the Friedrich-Finer debate I discussed earlier. Bureaucratic and professional types of accountability systems represent Friedrich’s internal sources of agency control, while

legal and political systems are more closely aligned with Finer's external sources of control.

Accountability for studies address various contents such as finance and performance (Yang, 2012). In fact, some argue that financial accountability in public organizations is “a virtual synonym for the whole concept of accountability” (Bardach & Lesser, 1996, p. 197). One study that falls under the category of *accountability for* studies is Montondon's (1995) assessment of the use of internal auditors and audit committees in municipalities. Here, Montondon uses the following definition of operational accountability: “the demonstration of responsibility for the efficiency and effectiveness of resource conversion activities when measured against operating objectives” (Montondon, 1995, p. 59). The questions that the researcher attempts to answer pertain to financial aspects of accountability, or accountability for finances: “What guidelines and standards are available in structuring internal auditor and audit committee functions? Are these guidelines and standards being adhered to? Are municipalities obtaining the maximum value from their efforts in these areas?” (Montondon, 1995, p. 59).

Another study that reviewed *accountability for* dimension identified several “for what” outcomes: (a) accountability for results, (b) accountability for choosing priorities wisely, (c) accountability for targeting, and (d) accountability for system modification and redesign (Bardach & Lesser, 1996).

Since public sector consists of governments and all publicly controlled and/or publicly funded agencies, enterprises and other entities, I assume that public organizations will be more likely to share information on their governance structure. Public organizations are more likely to address both internal and external accountability

concerns, because there are transparency expectations that are not present for nonprofit and private organizations. Thus, I hypothesize:

H5: Public organizations will be more likely to provide their governance information than nonprofit and private organizations.

Accountability in nonprofit organizations

We find a growing interest among scholars on the topic of accountability of nonprofit organizations (Ebrahim, 2005; Ebrahim & Weisband, 2007; Kilby, 2006; Murtaza, 2012; Townsend et al., 2002). This section will review most prominent and relevant research on accountability in nonprofit sector. I start with Koppell's (2005) definition, who posits that “for nonprofits, accountability reflects the ideal relationship among leaders, contributors (living and dead), the community, and society” (Koppell, 2005, p. 95).

Nonprofit sector accountability research raises similar question as public sector: accountability to what, to whom and how (Raggio, 2014). Although it is concerned with a wide array of potential stakeholders in nonprofit sector including donors, beneficiaries, staff member, general public, governments, the main focus of literature is financial accountability and accountability to donors (Najam, 1996; Raggio, 2014). Donor-focused accountability often comes at the expense of clients and organizational goals and visions, and it is often done with a goal of securing further private support and sustaining nonprofit's growth. This narrow focus is detrimental to the nonprofit accountability scholarship, Najam argues, because it emphasizes short-term concepts of project evaluation and monitoring (Najam, 1996), rather than long-term strategic planning and

more meaningful discussions on the topic. In other words, by focusing predominantly on donors, nonprofit organizations might not be addressing expectations of other stakeholders. Najam proposes a framework that includes accountability to patrons, clients and themselves, in addition to accountability to donors. Researcher distinguishes between functional accountability, which is manifested as allocation and use of resources, and strategic accountability, which is manifested through the impact of a nonprofit organization's actions on others (Najam, 1996).

In his comparative study of nonprofits in economically poor areas and wealthy industrialized areas, Ebrahim presented four central observations that guided construction of his framework. First, he argues that accountability is relational in nature and is constructed through inter- and intra-organizational relationships (Ebrahim, 2003). This statement closely resembles the outlines of Thompson's (1967) institutional level of responsibility that I discussed earlier. Organizations do not operate in a vacuum; rather, they are interconnected with other organizations. Second, accountability is complicated by the dual role of nonprofits as both principals and agents in their relationships with other actors (Ebrahim, 2003). This statement distinguishes nonprofits from public and private organizations, and I will discuss it further while reviewing 'multiple accountabilities.' Third, Ebrahim (2003) argues that characteristics of accountability necessarily vary with the type of nonprofit organization being examined. It would be a mistake to lump all nonprofits in one category, as they can vary vastly by purpose, populations served, funding, size, designations, etc. For example, social and recreational clubs would operate differently than labor, agricultural or horticultural organizations, and they would have different expectations imposed on them. Finally, Ebrahim (2003)

declares that accountability operates through external as well as internal process. Hence, an emphasis on just external oversight and control would inadvertently miss other dimensions of accountability essential to nonprofit operations.

One can argue that nonprofit accountability is different from private and public organizational accountability in several ways. First, nonprofits rely heavily (sometimes exclusively) on private support, and accountability to donors is their highest priority in order to sustain their existence. Second, nonprofits have ‘multiple accountabilities,’ which might pose issues:

Crucially, [nonprofits] have multiple accountabilities – “downward” to their partners, beneficiaries, staff, and supporters; and “upward” to their trustees, donors, and host governments. Multiple accountability presents any organization with problems, particularly the possibilities of having to “over-account,” because each overseeing authority assumes that another authority is taking a close look at actions and results ... Equal accountability to all at all times in an impossibility. Many of the concerns expressed about the weak accountability of [nonprofits] relate to the difficulties they face in prioritizing and reconciling these multiple accountabilities (Edwards & Hulme, 1996, pp. 8–9)

Another position that separates nonprofit sector from other sectors lies in this view of nonprofits as ‘magic bullets’ (Edwards & Hulme, 1996; Najam, 1996). What we mean by a ‘magic bullet’ is the notion that nonprofits exist for a greater good, they are value-driven organizations, and they cannot be judged by the impact of the funds

provided, thus deflecting from a question of actual monitoring of their operations and assessment of their accomplishments (Edwards & Hulme, 1996; Najam, 1996).

One might suggest that increased oversight and accountability will address this problem. However, some researchers admonish this solution because of a danger of ‘too much accountability’ (Ebrahim, 2003). Specifically, innovation and experimentation in nonprofits might be stifled by excessive regulation and oversight by two external parties: funders and regulators (Ebrahim, 2003). Funders (or donors) have an ability to “punish NGOs by threatening to cut funds, impose conditions, or tarnish their reputations in cases where NGOs fail to deliver quick results in their projects” (Ebrahim, 2003, p. 192). In addition, regulators have an ability to impose strong unified accountability and, as a result, decrease efforts if diversity and innovation (Ebrahim, 2003). As Young et. al. (1996) writes, “there is a delicate balance between enough regulation to protect legitimate social interests in preventing diversion of charitable assets to private pockets ... and enough regulation to squelch the qualities our society has most valued in the charitable sector” (Young, Bania, & Bailey, 1996, p. 348).

Taking into consideration research findings on nonprofit over-accountability and particular emphasis on performance in order to secure further funding, one might assume that nonprofits might be inclined to provide *too much* information as it relates to accountability, in order to avoid undue scrutiny and excessive questioning from funders and external oversight agencies. Thus, I hypothesize:

H4: Nonprofit organizations will be more likely to provide their performance information than public and private organizations.

Accountability in private organizations

Researchers argue that there has been a recent push for greater corporate accountability both in academic literature and public discussions (Messner, 2009). Specifically, researchers identify concern for shareholders and public accountability. The term ‘public accountability’ might get a little unclear here, and I believe it is important for us to make a clarification. When we talk about public accountability within corporate accountability literature, we don’t mean accountability of public organizations, but rather accountability of a private organization to public. In this sense, public accountability has been framed to include stakeholders such as employees, customers and future generations (Messner, 2009). For distinction purposes, I will use the term *social accountability* (rather than public accountability) to refer to public accountability of private organizations, to avoid any confusion. Gray (2002) uses the term *social accounting* to cover all forms of accounts by private organizations other than economic. Thus, I will further review *shareholder accountability* and *social accountability* literature.

Accountability to shareholders takes various forms, such as profit and loss statements, earnings announcements and press statements by the CEO (Messner, 2009). We would mostly describe shareholder accountability as communicated management-related information or via a term ‘managerial accountability.’ Shareholder accountability has been studied mostly within accounting literature, hence focusing on financial and management accounting practices. The main premise of this literature is that it portrays human beings as “purely economic agents who relate to each other through their self-interests alone” (Messner, 2009, p. 919). As a consequence, this literature promotes “a

style of accountability that falls short of our mutual responsibilities and our identities as more than just economic subjects” (Messner, 2009, p. 919).

While discussing transparency as a dimension of accountability, Koppell (2005) argues that private sector organizations are subject to similar requirements as public and nonprofit organizations. In private sector, transparency takes a form of required reports, prospectuses and filings presented to stockholders, creditors, analysts, customers and regulators (Koppell, 2005). In essence, a critical question one is asking while evaluating organizational accountability along the transparency dimension is the following: “Did the organization reveal the facts of its performance?” (Koppell, 2005, p. 96). Liability is another dimension of accountability, discussed by Koppell. He argues that private organizations can be held liable for their activities, and he brings an example of Arthur Anderson accounting firm and its actions in relations to Enron (Koppell, 2005).

Social accountability, however, is closely entangled with such terms as morality and ethics. For example, Messner writes, “accountability is a morally significant practice, since to demand an account from someone is to ask this person to enact discursively the responsibility for her behavior” (Messner, 2009, p. 920). Some argue that this ethical dimension of accountability is not just a question of ‘what,’ but rather of ‘how.’ Messner continues, “the ethics of accountability is not only about the types of demands that the accountable self is subject to; it is also about the way in which, and the extent to which, such demands are raised” (Messner, 2009, p. 920).

Social accountability literature includes ethics questions and closely-related socio-political questions. While socio-political questions are more general and are focused on a larger issue of how social relationships should be organized; ethical questions arise in the

context of a particular situation in which one finds oneself in interaction with ‘concrete others’ (Messner, 2009, p. 920). One can identify two broad research branches while reviewing ethical and socio-political accountability literature in private sector. I will briefly review both.

The first branch focuses on social and environmental accountability issues that emerged in 1960s in response to increased concern for the social and ecological impacts of the capitalist economic system (Messner, 2009). It is closely related to socio-political questions and encompasses such topics as “social disclosures or environmental impact reports; the examination of particular innovations and experiments in social and environmental accounting; and the practical engagement with organizations to encourage the creation of new accountings” (Messner, 2009, p. 921). This branch of literature includes studies on social audits, corporate social reporting, corporate social responsibility (CSR) (Moyle et al., 2017; Unerman & O’Dwyer, 2007), and social and environmental accounting and reporting (SEAR) (R. Gray, 2002, 2006; Unerman & O’Dwyer, 2007). SEAR and CSR practices are voluntary practices and are meant to benefit various publics (or stakeholders). The key is alignment of social and environmental interests of stakeholders through CSR and SEAR with economic interests of shareholders. Therefore, the main focus, according to Spence & Gray (2007), is to enhance shareholder value.

The second branch of social accountability literature deals with sociological concern for the nature of accounting practice. It was well described by Roberts & Scapens (1985), who argued that the main focus is in “the intended and actual impact that the use of accounting information has in shaping and maintaining particular patterns of

accountability within organisations” (J. Roberts & Scapens, 1985, p. 448). To explain this further, accounting systems of private organizations are structured in such a way that they foster “more distanced forms of accountability” (J. Roberts & Scapens, 1985, p. 451), rather than face-to-face contact with the public. Images of organizations produced by accounting practices can only be a “partial, selective and potentially distorted reflection of the flow of events and practices that constitute organizational life” (J. Roberts & Scapens, 1985, p. 454). In other words, private organizations produce one-dimensional reports that are constructed as the only relevant reality.

Taking into consideration literature on social accountability, I make an assumption that private organizations would be more likely to share information that might be providing “more distanced forms of accountability” and will be more inclined to constructing one-dimensional reality. Hence, I hypothesize:

H6: Private organizations will be more likely to provide information on organizational mission than public and private organizations.

Virtual accountability practices

Defining virtual accountability

We learn that a large number of empirical studies focus on organizational accountability, providing various typologies and diagnoses, revealing considerable variation in organizational interest, investment, maintenance and intensity of accountability relationships. Less is known, however, about how organizations address accountability in online space. Virtual accountability, via the use of ICT, becomes an important facet of organization’s accountability efforts. ICT provides an organization

with an online presence, decrease the cost of providing information and increase the scope of information provided (Dumont, 2010; Lee et al., 2001; Von Haldenwang, 2004; Waters, 2007).

Next, I move further to define *virtual accountability*, also referred to as *online accountability* and *web-based accountability*. Virtual accountability is one of critical segments of accountability of an organization, which is defined as “how an organization accounts for and justifies its actions through the use of Internet technologies to its stakeholders through bidirectional communication” (Dumont, 2010, p. 30). Another study describes web-based accountability as “any online reporting, feedback, and/or stakeholder input and engagement mechanisms that serve to demonstrate or enhance accountability” (Saxton & Guo, 2011, p. 272).

Recent studies assessing virtual accountability

Online accountability has been studied within the private sector (Cho & Roberts, 2010; Esrock & Leichty, 1998; R. Gray et al., 2001; Hooghiemstra, 2000). As I have determined in my discussion on private sector accountability, we will be following how other researchers analyzed virtual accountability, mainly through the prism of corporate and social responsibility approaches (Tremblay-Boire & Prakash, 2015).

While analyzing a random sample of Fortune 500 companies, researchers asked three broad descriptive questions about the social responsibility content of corporate web pages, the communication modes that were used on the web, and whether the websites directly engaged in public advocacy on relevant issues (Esrock & Leichty, 1998). They found that more than half of the websites had items addressing community involvement,

environmental concerns, and education. Interestingly, only a few corporations used their web pages to monitor public opinion on issues or advocate policy positions (Esrock & Leichthy, 1998).

Other scholars employed a legitimacy theory as their theoretical foundation, which states that “social and environmental disclosures are responses to both public pressure and increased media attention resulting from major social incidents” (Hooghiemstra, 2000, p. 55). In her project, Hooghiemstra (2000) uses corporate communication as an overarching framework to study corporate social reporting in which “corporate image” and “corporate identity” are central.

Another project addressed social and environmental disclosures of corporations, assessing whether the disclosures are mandatory or voluntary and recording the areas of activity to which the disclosure relates, such as environmental, community, employee, etc. (R. Gray et al., 2001).

Cho & Roberts (2010) use Goffman's self-presentation theory to examine corporate website environmental disclosures from an organizational legitimacy perspective. They argue that corporations use Internet reporting and website platforms to project a more socially acceptable environmental management approach to public stakeholders. To test this notion, researchers employed a comprehensive disclosure evaluation metric to assess both the content and the presentation of various types of disclosures and utilize a firm's America's Toxic 100 toxic score, a newly developed measure based on the US Environmental Protection Agency's toxics release inventory data, to proxy for environmental performance (Cho & Roberts, 2010). Interestingly, main

findings suggest that worse environmental performers make available more extensive disclosures in terms of content and website presentation.

Several scholars studied virtual accountability within the nonprofit sector (Dainelli et al., 2013; Dumont, 2010, 2013a; Gandía, 2011; Saxton & Guo, 2011; Tremblay-Boire & Prakash, 2015). While reviewing websites of 117 U.S. community foundations, a recent study presented a conceptual framework that delineated two key dimensions of web-based (virtual) accountability: *disclosure* and *dialogue* (Saxton & Guo, 2011). According to authors, *disclosure* “concerns the transparent provision of key information on organizational finances and performance,” while *dialogue* “encompasses the solicitation of input from and interactive engagement with core stakeholders” (Saxton & Guo, 2011, p. 271).

Disclosure can be broken down further into two elements: financial disclosure and performance disclosure. Financial disclosure includes information on administrative fees for funds; fund investments; audited and unaudited financial reports; IRS 990 forms; investment philosophies; investment performance; asset growth; overhead costs; annual reports; codes of ethics and conflict-of-interest policies; and adherence to best practice standards (Saxton & Guo, 2011). Performance disclosure includes information on what an organization is trying to achieve (such as mission statement, history, vision, plans, values, and goals) and what it has achieved so far (Saxton & Guo, 2011). The second dimension of web-based accountability, as suggested by Saxton & Guo (2011), is dialogue. It contains two elements: solicitation of stakeholder input and interactive engagement. A theoretical model included four groups of factors: strategy, capacity,

governance, and environment. Researchers found that nonprofit organizations failed to maximize the opportunity to use the Web to engage stakeholders (Saxton & Guo, 2011).

Another study developed an Index of Accountability for nonprofit websites, based on the reporting guidelines from the Global Reporting Initiative (GRI) (Tremblay-Boire & Prakash, 2015). This Index of Accountability reflects multiple dimensions of accountability, such as responsibility to beneficiaries, employees, donors, the public, suppliers, and the environment, and assesses the level of disclosure. Assessment of 200 U.S. nonprofit websites revealed that virtual accountability continues to be a one-way flow of information, not a two-way interaction with stakeholders (Tremblay-Boire & Prakash, 2015).

Gandía (2011) determined three strategies of communication that nonprofits utilize: the ornamental Web presence, the informational web presence, and the relational Web presence. Based on these strategies, he constructed a model of information disclosure and a disclosure index, consisting of 78 items grouped into four sections: general information, governance and financial information, navigation and presentation, and relational Web. While reviewing 80 websites of Spanish nongovernmental organizations, researcher found that websites were:

primarily ornamental and that they should evolve toward an environment more informational and relational that allows the stakeholders to access relevant information ranging from the work being done and the use of the dispersed funds to the form in which the organization is governed (Gandía, 2011, p. 57)

Another study constructed a classical disclosure index to measure virtual accountability in the national museums in the major developed countries: Australia,

Canada, France, Germany, Italy, the United Kingdom, and the US (Dainelli et al., 2013). Scholars based their index on the stakeholder theory, which posits that “accountability systems depend on the strength and number of the stakeholders in question” (Dainelli et al., 2013, p. 661), and included three elements in their analysis: financial, performance and political accountability. Overall findings validated the stakeholder theory and suggested that “accountability in the absence of shareholders is driven by the number and power of different stakeholders” (Dainelli et al., 2013, p. 661).

A more comprehensive index was constructed by Dumont (2013) and called the Nonprofit Virtual Accountability Index (NPVAI). Built by utilizing an exploratory factor analysis, the NPVAI measures the extent to which nonprofits utilize websites to meet accountability expectations, and consists of five components: accessibility, engagement, performance, governance and mission. It was derived from National Center for Public Performance’s (NCPP) E-Governance Performance Index, and it was applied to nonprofits in Illinois to test its validity (Dumont, 2013a). This study will build on Dumont’s index in my assessment of virtual accountability practices.

While reviewing available literature on virtual accountability, I find that majority of studies assessing virtual accountability practices are done within one sector. To my knowledge, no studies have been conducted to comparatively analyze differences among private, public and nonprofit organizations as it relates to virtual accountability practices. It is reasonable to expect that these differences lie in reporting accessibility, engagement, performance, governance and mission. Thus, this study will attempt to fill the gap in existing literature by comparing virtual accountability practices of organizations in all three sectors. The following broad research questions will guide my study:

RQ1: Are there any differences in overall virtual accountability practices among public, private and nonprofit organizations?

Review of hospital industry

My second focus of this dissertation pertains to organizational characteristics that are associated with higher levels of virtual accountability practices. Since I chose hospitals as my cases for analysis, I will proceed with a broad overview of the hospital industry.

The healthcare industry in the United States is a large enterprise, including several sub-industries, such as pharmaceuticals, biotechnology, equipment, distribution, facilities, and managed health care (Ledesma, Yang, Mcculloh, Wieck, & Yang, 2014). The Organization for Economic Co-operation and Development (OECD) estimates that the U.S. healthcare spending accounted for 16.9 percent of GDP in 2016 (*OECD Health Statistics 2017 - OECD*, 2017). It exceeds \$3 trillion per year with growth rates projected to accelerate at an average rate of 5.6 percent in the next five years (“National Health Expenditure Projections 2016-2025,” 2016). The largest spending category is led by hospital care, accounting for \$1 trillion per year in 2016 (“National Health Expenditure Projections 2016-2025,” 2016). This fast growth is in response to the anticipated increases in growth in the use and intensity of hospital services by Medicare’s beneficiaries in the next few decades (“National Health Expenditure Projections 2016-2025,” 2016).

AHA reports that there are 5,534 registered hospitals in the U.S., including federal hospitals, psychiatric hospitals, long-term care hospitals, institutions for the mentally

disabled and alcohol and other chemical dependency rehabilitation hospitals (“Fast Facts on U.S. Hospitals, 2018 | AHA,” 2018). About 85 percent of these hospitals (n=4,840) are considered to be community hospitals. AHA defines community hospitals as “all nonfederal, short-term general, and other special hospitals... community hospitals include academic medical centers or other teaching hospitals if they are nonfederal short-term hospitals. Excluded are hospitals not accessible by the general public, such as prison hospitals or college infirmaries” (“Fast Facts on U.S. Hospitals, 2018 | AHA,” 2018). Many hospitals are vital players within their communities, not only as health providers, but also as employers, partners to other organizations, major purchasers, and community stakeholders.

Researchers use several descriptives for hospital characteristics, such as the size, ownership, volume, location, teaching status, affiliation with a system, financial health, etc. (Holmgren & Ford, 2018; Kahn, Ten Have, & Iwashyna, 2009; Needham et al., 2006; Rios-Diaz et al., 2017). I will review research available on these hospital characteristics in detail. The following broad research question will guide my analysis:

RQ2: What are the organizational characteristics that lead to higher levels of virtual accountability practices?

Ownership/sector

Hospitals can be distinguished by virtue of their formal and legal status. AHA provides the following classifications of hospitals, according to ownership: nonprofit community hospitals, for-profit community hospitals, state and local government hospitals, federal government hospitals, nonfederal psychiatric hospitals and other hospitals. As it is expected with other public organizations, public hospitals are governed

by state, local or federal government entities and are not considered to be profit maximizers. Nonprofit hospitals enjoy the legal and tax benefits (such as federal and state income tax exemption, property tax exemption, and tax-exempt debt financing) and may gain profits; however, these profits are not to be distributed to people who control them. Private hospitals may gain and distribute profits to owners/shareholders, but they do not enjoy the tax benefits. While private hospitals are more likely to offer relatively profitable medical services; public hospitals are more likely to offer unprofitable services; and nonprofit hospitals are positioned somewhat in the middle (Horwitz, 2005).

AHA reports that out of 4,840 U.S. community hospitals, about 60 percent (n=2,849) are nongovernment not-for-profit community hospitals, roughly 21 percent (n=1,035) are investor-owned (for-profit) community hospitals, and almost 20 percent (n=956) are state and local government community hospitals. In addition, a little over 4 percent (n=209) are federal government hospitals. (“Fast Facts on U.S. Hospitals, 2018 | AHA,” 2018).

Location

There are three classifications for hospital locations, as far as AHA reporting: hospitals located in metropolitan area, micropolitan area and rural area. This typology is based on the U.S. Census Bureau classification. Metropolitan areas are characterized by at least one urbanized area of 50,000 or more inhabitants. Micropolitan areas include at least one urban cluster of at least 10,000 but less than 50,000 population. Rural areas are defined as all population, housing, and territory not included within an urban area.

Hospitals in rural areas are a unique topic for research (See R. G. Brooks, Menachemi, Burke, & Clawson, 2005; Culler et al., 2006; Garrett et al., 2006; Holmes,

Pink, Friedman, & Howard, 2010; Menachemi, Burke, Clawson, & Brooks, 2005; Moscovice & Stensland, 2002; Rural Health Information Hub, 2015; Rural Health Research Center, 2009; The Dartmouth Atlas of Health Care, 1999). AHA reports that almost 38 percent of community hospitals are classified as rural hospitals and are considered to be serving rural communities. According to AHA, a hospital is defined as 'rural' if it meets at least one of the following criteria: has 100 or fewer beds, has 4,000 or fewer admissions or is located outside a metropolitan area (Health Research & Educational Trust, 2013). In 2017, a total of 1829 U.S. hospitals fall under this classification (American Hospital Association, 2017).

Rural hospitals serve unique groups of people. Rural residents tend to be older, lower income and uninsured. For example, AHA reports that almost 20% of rural residents are over age 65, compared to only 13% in metropolitan areas; and 17% of rural population is in poverty, compared to 14% of metropolitan populations (American Hospital Association, 2011). In addition, rural hospitals serve a higher percentage of individuals with chronic diseases, such as hypertension, emphysema, chronic bronchitis, cancer and diabetes, compared to hospitals in urban settings (American Hospital Association, 2011).

Majority of rural hospitals (almost 74%) are designated as Critical Access Hospitals (CAH) by the Centers for Medicare & Medicaid Services (CMS). CMS classifies Critical Access Hospitals as rural hospitals with no more than 25 beds, located more than 35 miles from another hospital, providing 24/7 emergency care services and maintaining an annual average length of stay of 96 hours or less for acute care patients (Rural Health Information Hub, 2015). CAH designation was created after the Balanced

Budget Act of 1997 in an effort to reduce the financial vulnerability of rural hospitals and expand access to healthcare by keeping essential services within rural communities.

Experts estimate that about 673 rural hospitals (almost 37% of all rural hospitals) across 42 states are now vulnerable or at risk for closures, which might lead to a potential loss of 99,000 healthcare jobs and 137,000 community jobs, and which might result in 11.7 million patients to be underserved (“Rural hospital closures predicted to escalate,” 2016).

In their 2011 report, AHA identified several challenges for rural hospitals, such as population demographics and health (serving aging population and population living in poverty), financial pressures (heavy reliance on Medicare and Medicaid and uninsured populations), inadequate infrastructure and data, for example a lag in use and adoption of ICT and Health Information Technology (HIT), and lack of scale and limited staffing (shortages of available health professionals and inability to meet certain quality standards) (American Hospital Association, 2011). It has been found that rural hospitals are less likely to adopt sophisticated ICT tools, such as electronic health records (EHR) with computerized provider order entry capabilities (CPOE), compared to their rural counterparts (Rural Health Research Center, 2009). More sophisticated ICT in hospitals can assist in achieving six aims for improved care, including safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity (Institute of Medicine, 2001).

In light of this information on rural hospitals’ lag in ICT and HIT, I propose the following hypotheses:

H7: Rural hospitals will present less accountability information in virtual environment than urban hospitals.

H9: Rural hospitals will have lower accessibility scores, compared to urban hospitals.

H11: Rural hospitals will have lower engagement scores, compared to urban hospitals.

Hospital size

Organizational size is often discussed in the context of organizational power (Kazley & Ozcan, 2007), since larger healthcare organizations have more financial resources and human resources (Lucas et al., 2005; Zinn, Proenca, & Rosko, 1997) to accomplish organizational goals. This organizational power, associated with the size of the hospitals, allows larger hospitals to more easily achieve economies of scale for services, and thus investments in infrastructure will likely be favorably negotiated with suppliers (Kazley & Ozcan, 2007).

A body of research indicates that larger hospitals are more likely to adopt Electronic Medical Records (EMR) (Kazley & Ozcan, 2007), adopt HIS (Lin, Lin, Roan, & Yeh, 2012), electronic signatures (Chang, Hwang, Hung, Lin, & Yen, 2007), and Client Relationship Management (CRM) systems (Hung, Hung, Tsai, & Jiang, 2010).

H13: There is a positive relationship between hospitals' size and their reporting of performance information online.

Hospital volume

Hospital volume is an important characteristic of a healthcare organization. It is often measured by a number of annual admissions. (Kahn et al., 2009; Needham et al., 2006). Researchers previously categorized volume into five groups: <100 admissions per year, 100–199 admissions per year, 200–299 admissions per year, 300–599 admissions per year, and ≥ 600 admissions per year (Kahn et al., 2009). I found no studies that attempted to find associations between hospital volume and accountability practices.

System affiliation

System affiliation is an important characteristic of hospitals, affecting how health organization conducts their operations (Bazzoli, Shortell, Dubbs, Chan, & Kralovec, 1999; Holmgren & Ford, 2018; Luke, 2006). Generally, scholars divide hospitals into two groups: system members and non-system members. Bazzoli et al. (1999) provided a system taxonomy classification and further divided system member hospitals into five types: centralized health system, centralized physician / insurance health system, moderately centralized health system, decentralized systems and independent systems.

The number of system-member hospitals has increased since 1990s, as we observe an accelerated number of mergers and consolidations, and the rapid rise of managed care in the U.S. (Cuellar & Gertler, 2003; Lesser & Ginsburg, 2000). Majority of hospitals that join systems (either through mergers or consolidations) belong to private or nonprofit sectors (Cuellar & Gertler, 2003). Researchers estimate that over a half of hospitals now belong to a health system (Cutler & Scott Morton, 2013).

A special report on hospitals, market share and consolidation summarized benefits and harms of hospital system-affiliation (Cutler & Scott Morton, 2013). Benefits of consolidation include quality improvements and cost savings, while harms constitute higher prices (market power to raise prices) and less innovation (no investment in new treatments, slow to adopt new surgical techniques, etc.) (Cutler & Scott Morton, 2013).

A body of research suggests that system member hospitals rely on a managing organization to make decisions on HIT (Kazley & Ozcan, 2007); are more likely to use IT systems (Hübner, Ammenwerth, Flemming, Schaubmayr, & Sellemann, 2010); are more likely to invest in high technology services (Henke et al., 2018); engage in interoperable data sharing (Holmgren & Ford, 2018); and have higher rates of EMR adoption (Kazley & Ozcan, 2007), HIS adoption (Ahmadi et al., 2018) and EHR adoption (Henke et al., 2018). However, some argue that system-member hospitals may not be as responsive as non-system-member hospitals; and they might not be as quick in implementing change (Henke et al., 2018).

In light of this research on system member affiliation, I propose the following three hypotheses:

H8: System member hospitals are more likely to have higher virtual accountability practice scores.

H10: System member hospitals are more likely to have higher engagement scores, compared to non-system member hospitals.

H14: System member hospitals are more likely to include mission information online, compared to non-system member hospitals.

Financial performance

A hospital's financial performance is not easy to measure. A quantitative meta-analytic study, comparing financial performance of U.S. hospitals in three sectors, revealed that scholars use various measures of financial performance outcomes: operating cost, profit margin, patient revenue and returns on assets, cost and technical inefficiency and others (Shen, Eggleston, Lau, & Schmid, 2005). Not surprisingly, scholars found that private hospitals generate more revenue and greater profits than non-profit hospitals, but with only modest economic significance (Shen et al., 2005). Researchers found little difference in revenue or profits between public and non-profit hospitals (Shen et al., 2005).

Financial resources have been found to be one of the most salient hospital characteristics as it relates to HIS innovation implementation (Chong & Chan, 2012; Deering, Tatnall, & Burgess, 2012) and IS innovation adoption (Iacovou, Benbasat, & Dexter, 1995; Kazley & Ozcan, 2007; Lian, Yen, & Wang, 2014). Financial stewardship, measured through the ratio of organization's current assets on the balance sheet by its current liabilities (Chabotar, 1989), was hypothesized to be "a direct determinant of an organization's willingness to invest in technology- enabled accountability practices" (Saxton & Guo, 2011, p. 277).

When we discuss financial performance of hospitals, it is important to point

differences in the financial disclosure requirements and accounting methods of private, nonprofit and public hospitals. While private hospitals are required to meet corporate accounting standards and SEC disclosure requirements; nonprofits are guided by fund accounting disclosure requirements for hospitals; and public hospitals are required to adhere to municipal accounting requirements (Sherman, 1986). While I could not find any studies that look at the association between financial performance and reporting of performance information online within healthcare industry, I found a study that demonstrated a positive link in non-healthcare setting. Pinto & Picoto (2016) reported a link between a firm's performance and Internet Financial Reporting (IFR). This brings me to my next hypothesis:

H12: There is a positive relationship between hospitals' financial performance and their reporting of performance information online.

Proposed hypotheses and research questions

The primary purpose of this dissertation is to comparatively examine virtual accountability practices in organizations belonging to three sectors: public, private and nonprofit. My first research question and hypotheses 1-6, presented in Table 2, attempt to address this focus. The secondary purpose of this dissertation is to determine which organizational characteristics contribute to greater organizational accountability practices in virtual space. The second research question, as well as hypotheses 7-14, address this focus.

Table 2 Summary of proposed hypotheses and research questions.

Focus: Sectoral Differences	VAP	RQ1	Are there any differences in overall virtual accountability practices among public, private and nonprofit organizations?
	Accessibility	H1	Nonprofit organizations will have less accessible ICT than private and public organizations.
	Engagement	H2	Nonprofit organizations will be more engaged with the public, compared to public and private organizations.
		H3	Nonprofit organizations will be more likely to utilize ICT for fundraising purposes, compared to public and private organizations.
	Performance	H4	Nonprofit organizations will be more likely to provide their performance information than public and private organizations.
	Governance	H5	Public organizations will be more likely to provide their governance information than nonprofit and private organizations.
	Mission	H6	Private organizations will be more likely to provide information on organizational mission than public and private organizations.

Table 2 (continued)

Focus: Organizational Characteristics	VAP	RQ2	What are the organizational characteristics that lead to higher levels of virtual accountability practices?
		H7	Rural hospitals will present less accountability information in virtual environment than urban hospitals.
		H8	System member hospitals are more likely to have higher virtual accountability practice scores.
	Accessibility	H9	Rural hospitals will have lower accessibility scores, compared to urban hospitals.
	Engagement	H10	System member hospitals are more likely to have higher engagement scores, compared to non-system member hospitals.
		H11	Rural hospitals will have lower engagement scores, compared to urban hospitals.
	Performance	H12	There is a positive relationship between hospitals' financial performance and their reporting of performance information online.
		H13	There is a positive relationship between hospitals' size and their reporting of performance information online.

Table 2 (continued)

	Governance		
	Mission	H14	System member hospitals are more likely to include mission information online, compared to non-system member hospitals.

CHAPTER III

METHODOLOGY

The focus of this chapter is methodology. I employed quantitative analysis in order to understand differences in virtual accountability practices among three sectors and determine organizational characteristics that are associated with higher levels of virtual accountability practices. Further, I will discuss data sampling, data gathering, instrument, variable measures and data analyses for this study.

Data sampling

Organizations were sampled from the 2016 AHA database. According to AHA dataset, there was a total of 5,534 U.S. registered hospitals. While it would be beneficial to assess the whole population of U.S. hospitals, there are pragmatic considerations that made it impossible to conduct coding of the full data set. Thus, I utilized a stratified random sampling technique in this study. This technique is the most applicable approach for my analysis, since it ensures that one sector is not over-represented. The stratification was defined by the sector: public, private and nonprofit. In May 2018, I randomly selected 80 organizations from each sector. My total sample for this study was 240 cases.

Data gathering

Data for this study included two secondary data sources and one primary data source. Secondary data came from AHA database and AHD database. Primary data

involved coding of organizational websites. The map of data sources is presented in Figure 1.

AHA is the national organization that represents and serves all U.S.-based hospitals, health care networks, their patients and communities. AHA conducts an annual survey of all U.S. hospitals, covering an array of data points, such as demographics, operations, service line, staffing, c-suite information, expenses, physician organization structures, beds, and utilization. I utilized the most current data - 2016 AHA survey - for my analysis. While pulling the data, AHA representatives used the most current information available, which included 2016 data. It is important to note that some hospitals added since the 2016 survey was completed will not have complete data. Additionally, some hospitals may have closed and have been removed from the data. From AHA data, I recorded the following variables: ownership, hospital ID, name, city, state, total admissions, hospital bed size, system affiliation, and location.

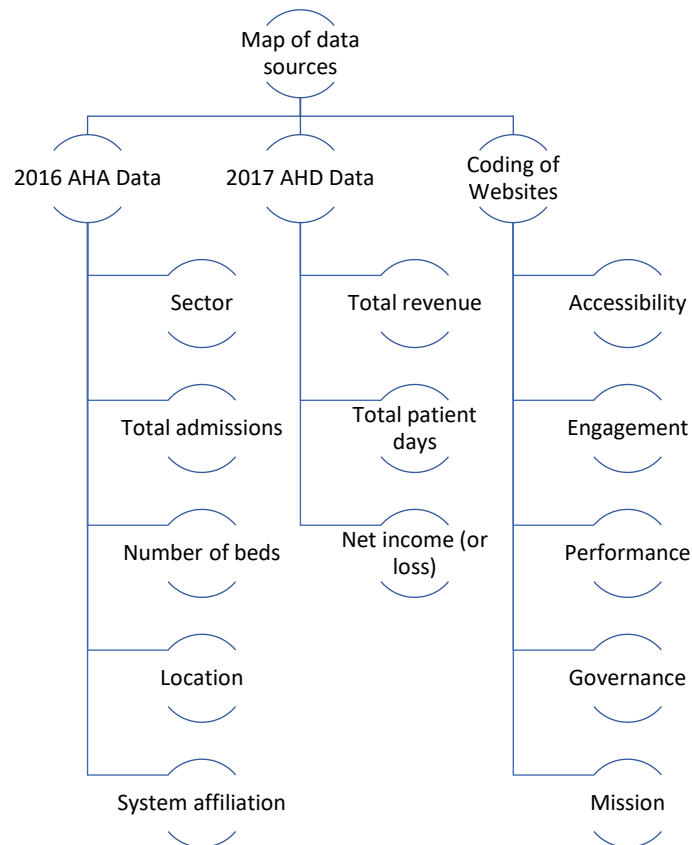


Figure 1 Map of data sources.

AHD provides data and statistics about U.S. hospitals nationwide. AHD data comes from public and private sources, such as Medicare claims data, hospital cost reports, and commercial licensors. AHD is not affiliated with the AHA and is not a source for AHA Data. According to AHD website, their data are evidence-based and derived from the most definitive sources. I accessed AHD free hospital profiles that included key characteristics, services provided, utilization statistics, accreditation status, financial information, and other information about each hospital selected for this study. From 2017 AHD dataset, I recorded hospital’s total revenue, total patient days, and net income (or loss).

Instrumentation

Primary data for this dissertation included coding of organizational websites, or content analysis. Content analysis is defined as a “research technique for the objective, systematic and quantitative description of the manifest content of communication” (Berelson, 1971, p. 489). The Virtual Accountability Practices (VAP) instrument was developed to assess virtual accountability practices of organizational website. The VAP instrument was heavily based on Dumont's (2013) VA Index, which is derived from the National Center for Public Performance’s (NCPP) E-Governance Performance Index. It is used to measure the level of technology adoption by state and municipal governments in the U.S.

I coded a total of 240 organizations’ websites, utilizing the VAP instrument, presented in this dissertation. I included 25 questions in this instrument. The VAP instrument included five key dimensions of virtual accountability: *accessibility*, *engagement*, *performance*, *governance*, and *mission*. I will further discuss each dimension and the multiple variables used to measure each dimension.

Variable measurements

Organizational characteristics

Sector

AHA divides all U.S. hospitals into four types, according to their organizational structure responsible for establishing policy for overall operation of the hospitals. These four types are: (1) nonfederal government hospitals (state, county, city, city-county, and hospital district or authority); (2) federal government hospitals (air force, army, navy,

public health service, veterans' affairs, PHS Indian service, department of justice, and deferral other than those mentioned); (3) private hospitals (individual, partnership, and corporation); and (4) nonprofit (church-operated, and other not-for-profit) hospitals. For the purposes of my study, I combined types (1) and (2) into one group: public hospitals. Thus, from AHA data, I recorded hospital's ownership: private, public or nonprofit.

Total admissions (log)

Total admissions, or hospital admissions volume, or simply hospital volume, is often used as one of the hospital characteristics measures (Auger et al., 2017; Kahn et al., 2009; Needham et al., 2006). I will use log-transformation for total admissions variable in order to deal with skewed data and stabilize the variance of the variable (Lütkepohl & Xu, 2012).

Hospital size

In healthcare research, the hospital size is primarily measured through the number of acute, inpatient, non-psychiatric beds (Carson, 2004; Manojlovich, Antonakos, & Ronis, 2010). Thus, the number of beds served as a measurement of the hospital size in my study. The information on the number of beds was taken from the AHA database.

System affiliation

System affiliation is a dichotomous variable, with 1 indicating that a hospital belongs to a system, and 0 indicating that it is a free-standing hospital, not a system-member.

Location

AHA classifies hospitals into three categories: (1) metropolitan area (area with at least one urbanized area of 50,000 or more inhabitants), (2) micropolitan area (area with at least one urban cluster of at least 10,000 but less than 50,000 population) and (3) rural area (defined as all population, housing, and territory not included within an urban area). I recoded AHA's location categorical variable into a dichotomous variable: rural (1) and non-rural, or urban (0).

Total revenue (log)

AHD reported the total revenue as the sum of gross patient revenue and non-patient revenue (both of these numbers are taken from a hospital's most recent Medicare Cost Report). Log of total revenue will be used in my data analyses in order to stabilize the variance.

Net income or loss (log)

The net income (or loss) serves as a measure of hospital's financial health in my study. The data on the net income (or loss) comes from the AHD database, which is recorded from a hospital's most recent Medicare Cost Report.

This variable was transformed into a log format to stabilize the variance. Since this variable had negative values, it could not be transformed directly into a log format. Instead, I first transformed it into a new variable with positive numbers, where 1 was the lowest number in the distribution. The following formula was used to execute this transformation: $(\text{Value} + \text{Maximum Negative value} + 1)$. Afterwards, this new variable was transformed into a log format.

Total patient days

Total patient days are also taken from a hospital's most recent Medicare Cost Report.

Virtual accountability practices measures

Accessibility measure

Accessibility measures the ease of navigation through the website. It includes four dichotomous questions on navigation bar format consistency, navigation bar content, font color and formatting, and font and size between titles and text. In addition, accessibility measure includes a question on the number of targeted audience links, with possible coding options of zero (no audience links or only one audience link), one (two audience links), two (three audience links) and three (four or more audience links). Table 3 provides a list of all VAP measures used in this study. The questions marked with an asterisk were added to Dumont's instrument.

Engagement measure

Engagement measure is related to the ease of connecting with the organization. Engagement measure contained four dichotomous variables (newsletter/community updates, use of other media to inform, link to foundation/giving, and search option) and two ordinal variables (last site update and the number of social media links). Social media links were coded according to the following scale: zero for no social media sites listed, 1 for 1-2 social media sites listed, 2 for 3-4 social media sites listed, and 3 for 5 or more social media sites listed. I also added two additional questions to the engagement

measure: instant connection option (dichotomous variable) and sharing option (dichotomous variable).

Performance measure

Performance measure includes four dichotomous variables, all related to sharing of the performance information: annual report, financial statement, performance results and accreditation/honors/awards. The last variable was added for this study.

Table 3 Virtual Accountability Practices Instrument

VAP Dimensions		<i>Raw Score**</i>	<i>Weighted Score</i>
Accessibility			20
	Navigation bar format consistency	0/3	
	Navigation bar content	0/3	
	Font color and formatting	0/3	
	Target audience links	0-3	
	Font color, and size between titles and text	0/3	
Engagement			20
	Last site update	0-3	
	Newsletter/community updates	0/3	
	Use of other media to inform	0/3	
	Online giving/link to foundation	0/3	
	Social media links	0-3	

Table 3 (continued)

	Search	0/3	
	* Instant connection	0-3	
	* Sharing option	0/3	
Performance			20
	Annual report	0/3	
	Financial statements	0/3	
	Performance results	0/3	
	* Accreditation/honors/awards	0/3	
Governance			20
	By-laws	0/3	
	Board of directors/leadership team	0/3	
	Board of directors' minutes/summaries	0/3	
Mission			20
	Strategic plan/goals	0/3	
	Employee directory	0/3	
	Performance measures	0/3	
	Mission	0/3	

Table 3 (continued)

	* Statement of values	0/3	
			100
<p>* Questions which did not appear in Dumont (2013) VAI instrument.</p> <p>** Dichotomous measures are either 0 or 3, while others range from 0 to 3. This will ensure that one measure is not given more weight than the others.</p>			

Governance measure

Governance measure contains three dichotomous variables: by-laws, board of directors/leadership team and board of directors' minutes/summaries.

Mission measure

The last VAP dimension is a measure of mission reporting. Mission includes five dichotomous variables: four are original to Dumont's instrument, and one is added in this study. Five variables include: strategic plan/goals, employee directory, performance measures, mission and statement of values.

VAP score

The VAP score was constructed, based on five virtual accountability dimensions: accessibility, engagement, performance, governance and mission. I first calculated the raw score for each dimension. Then, I weighted each dimension on a 20-point scale. This ensured that one accountability dimension was not dominating the overall VAP score. Thus, the VAP score could have a maximum of 100 points.

Intercoder reliability

Before proceeding with coding the full sample, I first conducted an intercoder reliability test in April 2018. Two coders coded 10% of the sample - a total of 24 websites. The target intercoder agreement was 70% or above. I ran Cohen's Kappa coefficient to determine intercoder reliability. The intercoder results were as follows: 89% agreement for accessibility measure; 76% agreement for engagement measure; 85% agreement for performance measure; 100% agreement for governance measure; and 77% agreement for mission measure. The overall intercoder reliability score was 85%. After the intercoder reliability test was conducted, I proceeded with coding the full sample in May and June 2018.

Data analyses

In order to test my hypotheses and answer research questions, I ran several ANOVAs, several OLS regressions, two correlations, several t-tests and a chi-square. The statistical software used in this study was SPSS Version 24. For a complete list of research questions, hypotheses, independent variables, dependent variables and statistical analysis, refer to Table 4.

Table 4 Variables and analysis by research questions and hypotheses.

			IV	DV	Data Analysis
Focus 1: Sectoral Differences	VAP	RQ1	Sector Groups	VAP	ANOVA
	Accessibility	H1	Sector Groups	Accessibility	ANOVA
	Engagement	H2	Sector Groups	Engagement	ANOVA
		H3	Sector Groups	Donations	Chi-Square
	Performance	H4	Sector Groups	Performance	ANOVA
	Governance	H5	Sector Groups	Governance	ANOVA
	Mission	H6	Sector Groups	Mission	ANOVA
Focus 2: Organizational Characteristics	VAP	RQ2	Nonprofit, public, private, admissions, size, system member, rural, total revenue, total patient days, net income (or loss)	VAP (plus each individual dimension)	Regressions (6)
		H7	Rural	VAP	t-test
		H8	System member	VAP	t-test
	Accessibility	H9	Rural	Accessibility	t-test
	Engagement	H10	System member	Engagement	t-test

Table 4 (continued)

		H11	Rural	Engagement	t-test
	Performance	H12	Net income (or loss)	Performance	Correlation
		H13	Hospital size	Performance	Correlation
	Governance				
	Mission	H14	System member	Mission	t-test

Analysis of Variance (ANOVA) is a parametric statistic that determines the variations of scores for two or more groups. I utilized ANOVA to determine if there are any significant differences in VAP scores, accessibility scores, engagement scores, performance scores, governance scores and mission scores among three sectors. Further, I used the Bonferroni post hoc test to determine which of the sectors were significantly different within the overall VAP score and each of the five dimensions.

Ordinary Least Squares (OLS) regression statistical analysis was used to determine which independent variables have the greatest impact on the dependent variable. I ran several multiple regressions to answer my second research question. In the first multiple regression, the VAP score was a dependent variable, and independent variables included nonprofit, public, private, admissions, size, system member, rural, total revenue, total patient days, net income (or loss). I also ran five other models, where each VAP dimension served as a dependent variable, and organizational characteristics served as independent variables. This allowed me to see more depth into which organizational characteristics contribute to which dimensions of virtual accountability.

I utilized several independent-group t-tests to test hypotheses 7-11 and 14. The t-test is used to “test for differences in means or to test a criterion measure between two groups of scores” (Witt & McGrain, 1985, p. 1730). The assumptions for the t-test are the following: (1) scores from each group are assumed to be normally distributed; and (2) the variance of the two groups of scores are assumed to be homogenous (Witt & McGrain, 1985). In hypotheses 7,9, and 11, my independent variable (rural/urban) is dichotomous. In hypotheses 8,10 and 14, my independent variable (system member/non-system member) is also dichotomous. Thus, an independent-group t-test was the most appropriate method for testing.

I utilized the Pearson’s, or product-moment, correlation to test hypotheses 12 and 13 and to show whether and how strong pairs of variables are related. The correlation coefficient, which ranges between 1 and -1, speaks of the strength of relationships between two variables.

A non-parametric test chi-square was used to test hypothesis 3. The chi-square is an appropriate method of analysis “for group differences when the dependent variable is measured at a nominal level” (McHugh, 2013, p. 143). My dependent variable is donations; and the independent variable is sector groups.

CHAPTER IV

RESULTS

I will start this chapter by presenting descriptive statistics used in my dissertation. The first section will include organizational characteristics, followed by descriptives of virtual accountability measures and internal consistency (reliability) analysis. Then, I will move to running inferential statistics. My results will be reported based on two foci of this dissertation: (1) sectoral differences as it relates to virtual accountability practices and (2) organizational characteristics that serve as predictors of higher virtual accountability practices.

Descriptive statistics

Organizational characteristics

A total of 240 websites were analyzed within the scope of this dissertation. The sample was split evenly among three sectors, so there were 80 websites for each sector. Means and standard deviations for each variable are presented in Table 5.

As far as location, majority of hospitals (63%) were situated in metropolitan areas, followed by rural areas (25%) and micropolitan areas (12%). Thus, non-rural (or urban) hospitals constituted 75% of the sample. Interestingly, public sector had the largest number of rural hospitals (40%), and private sector had the smallest number of rural hospitals (11%). Rural/urban percentages by sector are presented in Table 6.

Hospitals varied vastly as far as the number of admissions, from 19 annual admissions to 73,880 annual admissions. Nonprofits in my sample tended to have the highest number of annual admissions ($M = 3.47$), followed by private hospital admissions ($M = 3.25$) and public hospital admissions ($M = 2.93$). Means and standard deviations of variables by sector are presented in Table 7.

Table 5 Descriptive characteristics of all hospitals.

Sector	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
Nonprofit sector	240	0	1	0.33	0.5
Public sector	240	0	1	0.33	0.5
Private sector	240	0	1	0.33	0.5
Location					
Rural	238	0	1	0.25	0.4
Micro	238	0	1	0.12	0.3
Metro	238	0	1	0.63	0.5
Admissions	238	19	73,880	5,214.58	8,778.4
Admissions (log)	238	1.28	4.87	3.2164	.72797
Hospital size	240	6	1394	134.37	172.4
System member	240	0	1	0.67	0.5
Total revenue	239	\$0	\$9,472,275,328	\$510,567,138.10	1022204761.0
Total revenue (log)	230	3.22	9.98	8.1635	.78540
Total patient days	239	41	367,776	29,067.94	46,020.1

Table 5 (continued)

Total patient days (log)	239	1.613	5.566	4.001	.71486
Net income or loss	239	-			
Net income or loss (log)	239	\$564,307,704	\$1,746,579,763	\$12,399,658.47	126,749,320.4
Net income or loss (log)	239	.00	9.36	8.7221	.56869
Valid N (listwise)	237				

Table 6 Rural/urban hospitals by sector.

	Nonprofit		Public		Private	
	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>
Location	23%	77%	40%	60%	11%	89%

Table 7 Descriptive characteristics of hospitals by sector.

	Nonprofit		Public		Private	
	(N = 80)		(N = 80)		(N = 80)	
	<i>Frequency</i>	<i>Mean</i>	<i>Frequency</i>	<i>Mean</i>	<i>Frequency</i>	<i>Mean</i>
	(%)	(SD)	(%)	(SD)	(%)	(SD)
Location						
Rural	18 (22.5%)		32 (40.0%)		9 (11.3%)	
Micro	8 (10.0%)		13 (16.3%)		8 (10.0%)	
Metro	54 (67.5%)		35 (43.8%)		61 (76.3%)	
Admissions (log)		3.47 (.693)		2.93 (.715)		3.25 (.678)
Hospital size		167.05 (218.589)		127.07 (173.392)		108.99 (101.350)
System member						
Yes	63 (78.8%)		30 (37.5%)		67 (83.8%)	

Table 7 (continued)

	17	50	13
No	(21.3%)	(62.5%)	(16.3%)
Total revenue	8.40	7.96	8.12
(log)	(.706)	(.697)	(.879)
Total patient	4.13	3.93	3.95
days (log)	(.647)	(.757)	(.729)
Net income or	8.66	8.75	8.76
loss (log)	(.983)	(.029)	(.022)

Hospital size was measured by the number of beds. The smallest hospital in the sample had 6 beds, and the largest hospital had 1394 beds. The average size of the hospital (mean) is 134 beds. Nonprofits in my sample tended to have larger hospitals ($M = 167$), followed by public hospitals ($M = 127$), and private hospitals ($M = 109$).

Majority of hospitals in my sample (67%) were classified as members of a system. Nonprofits had more system member hospitals (80%), compared to non-member hospitals (21%). The same was the case with private hospitals. Over 80% of private hospitals were classified as system members. In contrast, majority of public hospitals (63%) were non-system members.

Total revenue varied significantly in my sample, with the lowest revenue listed at \$0 and highest revenue listed at \$9,472,275,328. Public hospitals in my sample had the lowest means for total revenue (log) ($M = 7.96$), followed by private hospitals ($M = 8.12$).

Interestingly, nonprofits total revenue (log) mean was the highest among the three sectors ($M = 8.40$).

Total patient days also varied significantly in my sample. The lowest reported number of patient days in my sample was 41, and the highest was 367,776. When looking at means of total patient day logs of three sectors, we observe that public hospitals ($M = 3.93$) and private hospitals ($M = 3.95$) had somewhat similar means. However, nonprofit hospital means for total patient days log was higher ($M = 4.13$).

The last variable included the hospital's net income (or loss). The lowest reported income in my sample was $-\$564,307,704$ and the highest was $\$1,746,579,763$. When looking at sector differences, public and private hospitals had roughly the same means for net income logs, with $M = 8.75$ and $M = 8.76$, respectively. Nonprofit hospital's mean for net income log was lower ($M = 8.66$).

Reviewing my sample, one might conclude that nonprofit hospitals tended to be system-members, larger in size and higher in volume. Public hospitals were more likely to be non-system members in rural locations. Private hospitals tended to be system members located in urban areas.

Table 8 Descriptive statistics of VAP score and its dimensions.

(N = 240)	<i>Min</i>	<i>Max</i>	<i>Raw</i>	<i>Raw</i>	<i>Weighted</i>	<i>Weighted</i>
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
VAP	21	97			47.32	14.157
Accessibility			13.00	1.923	17.28	2.388
Navigation bar format consistency	0	3	2.75	.831		
Navigation bar content	0	3	2.96	.334		
Font color and formatting	0	3	2.84	.680		
Target audience links	0	3	2.29	1.656		
Font color, and size between titles and text	0	3	2.98	.273		
Engagement			11.20	5.691	9.33	4.742
Last site update	0	3	1.84	1.259		
Newsletter/community updates	0	3	.61	1.212		
Use of other media to inform	0	3	1.64	1.494		
Online giving/link to foundation	0	3	1.28	1.486		
Social media links	0	3	2.72	2.134		
Search	0	3	2.34	1.247		
Instant connection	0	3	.93	1.388		
Sharing option	0	3	1.03	1.424		
Performance			3.43	3.254	5.71	5.423
Annual report	0	3	.94	1.393		

Table 8 (continued)

Financial statements	0	3	.16	.680		
Performance results	0	3	.60	1.203		
Accreditation/honors/awards	0	3	1.73	1.486		
Governance			2.32	1.777	5.17	3.949
By-laws	0	3	.06	.429		
Board of directors/leadership team	0	3	2.08	1.388		
Board of directors' minutes/summaries	0	3	.19	.729		
Mission			7.34	4.204	9.78	5.605
Strategic plan/goals	0	3	.99	1.413		
Employee directory	0	3	.93	1.388		
Performance measures	0	3	1.32	1.492		
Mission	0	3	2.34	1.247		
Statement of values	0	3	1.78	1.478		

Virtual accountability measures

I ran descriptive statistics for each question in my coding instrument. All data is presented in Table 8. Then, I calculated a raw score and a weighted score for each VAP dimension: the weighted score was converted to a 20-point scale. When looking at weighted scores, accessibility had the highest mean ($M = 17.28$), followed by mission ($M = 9.78$) and engagement ($M = 9.33$). Performance and governance dimensions had the

lowest means, $M=5.71$ and $M=5.17$, respectively. Further, I calculated the VAP score for each organization. The minimum VAP score was 21, and the maximum was 97. The mean VAP score was 47.33.

Internal consistency analysis

Before proceeding with running statistical analyses, I checked my instrument for internal consistency (reliability). “Internal consistency is the extent to which a group of items measure the same construct, as evidenced by how well they vary together, or intercorrelate” (“Internal Consistency Reliability,” n.d.). Internal consistency allows researchers to utilize the composite score and treat it as a measure of the construct (Henson, 2001). A Cronbach’s alpha was utilized to test for internal consistency. VAP’s alpha was .75. A Cronbach’s alpha score between 0.7 and 0.8 speaks to good reliability of the instrument (Field, 2009, pp. 670–675).

Inferential statistics

Focus 1: Sectoral differences

In order to answer my first research question and test hypotheses pertaining to sectoral differences, I utilized ANOVA statistical analysis.

RQ1: Are there any differences in overall virtual accountability practices among public, private and nonprofit organizations?

The statistics used in ANOVA analysis is the *F*-ratio, which is based on the between group and within group variance. The larger *F*-ratio indicates that the ratio of between group variance over within group variance is larger (Petroff, 2015). The ANOVA result for the overall VAP score was significant, $F(2, 239) = 32.565, p < .01$, as presented in Table 9.

Table 9 ANOVA results of VAP scores.

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
VAP Score	Between Groups	10326.344	2	5163.172	32.565	.000
	Within Groups	37576.250	237	158.550		
	Total	47902.594	239			

I further conducted the Bonferroni post hoc test to reveal where the differences are. I found that there is significance at the .05 level among all three sectors. Table 10 provides a summary of ANOVA and Bonferroni post hoc results, as it relates to the overall VAP scores. Nonprofit organizations had the highest VAP means ($M = 55.3$), followed by public organizations ($M = 47.4$) and private organizations ($M = 39.3$). Public organizations had the most variance in scores ($SD = 15.4$). Table 11 provides the summary.

Table 10 Summary of VAP sector significance with post hoc.

	ANOVA	Post hoc Nonprofit/Public	Post hoc Public/Private	Post hoc Nonprofit/Private
VAP Score	Significant	Significant	Significant	Significant

The mean difference is significant at the 0.05 level.

Table 11 Descriptive statistics of VAP score and its dimensions by sector.

	Nonprofit			Public			Private		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
VAP	80	55.3	11.7	80	47.4	15.4	80	39.3	10.0
Accessibility	80	17.2	2.8	80	17.2	3.0	80	17.6	1.8
Engagement	80	12.0	4.1	80	8.7	4.8	80	7.3	4.0
Performance	80	8.1	5.4	80	4.9	6.1	80	4.1	3.7
Governance	80	5.2	2.8	80	6.3	5.1	80	4.0	3.3
Mission	80	12.8	4.6	80	10.3	5.4	80	6.3	4.8

H1: Nonprofit organizations will have less accessible ICT than private and public organizations.

I ran another ANOVA test to determine if there are any differences among sectors as it related to the first VAP dimension - accessibility. I found no statistical significance among all three sectors. Thus, hypothesis 10 was not supported. Table 12 presents ANOVA results for each dimension.

H2: Nonprofit organizations will be more engaged with the public, compared to public and private organizations.

ANOVA for engagement dimension showed significance, $F(2, 239) = 25.629, p < .01$. The Bonferroni post hoc test revealed that there were significant differences between nonprofit and public organizations, and between nonprofit and private organizations (See Table 13). Looking at the means for each sector, I found that nonprofit's engagement score was a lot higher ($M = 12.0$), compared to public ($M = 8.7$) and private ($M = 7.3$) engagement scores (Table 11). This indicates support for hypothesis 2.

Table 12 ANOVA results of accountability dimension scores.

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Accessibility	Between Groups	7.600	2	3.800	.576	.563
	Within Groups	1563.956	237	6.599		
	Total	1571.556	239			
Engagement	Between Groups	955.833	2	477.917	25.629	.000
	Within Groups	4419.444	237	18.647		
	Total	5375.278	239			
Performance	Between Groups	723.333	2	361.667	13.592	.000
	Within Groups	6306.250	237	26.609		
	Total	7029.583	239			
Governance	Between Groups	217.778	2	108.889	7.355	.001
	Within Groups	3508.889	237	14.805		
	Total	3726.667	239			
Mission	Between Groups	1748.133	2	874.067	35.960	.000
	Within Groups	5760.600	237	24.306		
	Total	7508.733	239			

Table 13 Summary of dimensions sector significance with post hoc.

Dimension	ANOVA	Post hoc	
		Nonprofit/ Public	Public/Private Nonprofit/ Private
Accessibility	Not Significant	Not Significant	Not Significant
Engagement	Significant	Significant	Significant
Performance	Significant	Significant	Significant
Governance	Significant	Significant	Significant
Mission	Significant	Significant	Significant

The mean difference is significant at the 0.05 level.

H3: Nonprofit organizations will be more likely to utilize ICT for fundraising purposes, compared to public and private organizations.

To test this hypothesis, I utilized a chi-square test, since both my dependent variable (donations) and independent variable (sector groups) are nominal in nature. A chi-square test revealed that there is a significant relationship between sectors and donations, $X^2(2, N = 240) = 88.798, p < .01$. Majority of nonprofit websites (75%) included a link to make an online donation, compared to only a half of public websites. Private organizations, although many having foundations linked to their organizations,

were the least likely to have an online donation option. Only 2 organizations in my sample included it. Hypothesis 3, therefore, was supported. Table 14 presents counts and percentages within sector, by each sector.

Table 14 Crosstabulation of sectors and their use of websites for fundraising purposes.

	Nonprofit	Public	Private	Total
Donations				
Count	60	40	2	102
% within sector	75.0%	50.0%	2.5%	42.5%
No donations				
Count	20	40	78	138
% within sector	25.0%	50.0%	97.5%	57.5%
Total	80	80	80	240

H4: Nonprofit organizations will be more likely to provide their performance information than public and private organizations.

Performance score was the dependent variable in the next ANOVA I ran. I found another significant finding among sectors, $F(2, 239) = 13.592, p < .01$. Delving further into differences among sectors, I performed the post hoc test, which revealed differences in means between nonprofit and public organizations, and also between nonprofit and private organizations (See Table 13). Performance mean for nonprofits ($M = 8.1$) was

almost double of other sectors. These findings supported hypothesis 4. There was no significant difference in reporting performance information between public and private sectors. Public sector performance mean was 4.9, and private sector performance mean was 4.1 (See Table 11).

H5: Public organizations will be more likely to provide their governance information than nonprofit and private organizations.

Governance scores varied significantly among sectors, as suggested by the next ANOVA test I ran, $F(2, 239) = 7.355, p < .01$, where governance was a dependent variable and sector variable was an independent variable. The Bonferroni post hoc test revealed that the only significance at the .05 level was between public ($M = 6.3$) and private ($M = 4.0$) organizations. Nonprofit organization governance mean was somewhat in the middle ($M = 5.2$). Also, interestingly, nonprofit governance scores had the lowest within group variance ($SD = 2.8$). From these results, I inferred that hypothesis 5 was partially supported. Public organizations were statistically more likely to provide their governance information than private organizations; but not nonprofit organizations.

H6: Private organizations will be more likely to provide information on organizational mission than public and private organizations.

ANOVA for the mission dimension showed significance, $F(2, 239) = 35.960, p < .01$. The Bonferroni post hoc test indicated the significance among all three sectors at the .05 level. Nonprofit organizations had the highest mission scores ($M = 12.8$), followed by

public organizations ($M = 10.3$) and then private organizations ($M = 6.3$). Therefore, my hypothesis 6 was not supported by these findings.

A better presentation of statistically significant relationships is portrayed in Table 15.

Table 15 A summary of statistically significant differences for virtual accountability practices among three sectors

VAP	NGO > PUB > PRV
Engagement	NGO > PUB
	NGO > PRV
Performance	NGO > PUB
	NGO > PRV
Governance	PUB > PRV
Mission	NGO > PUB > PRV

NGO = nonprofit sector, PUB = public sector, PRV = private sector

Focus 2: Organizational characteristics

The second focus of this dissertation is on the organizational characteristics that contribute to higher levels of accountability to stakeholders in virtual space. To answer my second research question, I utilized several multiple regressions. To test hypotheses 7-11 and 14, I ran t-tests. Testing of hypotheses 12 and 13 involved correlations.

RQ2: What are the organizational characteristics that lead to higher levels of virtual accountability practices?

I first checked the variables for correlations and found that several independent variables had strong correlation (admissions and size; admissions and patient days; revenue and size; size and patient days; revenue and patient days) and very strong correlation (revenue and admissions). These positive relationships are expected since larger hospitals tend to have larger revenues, more admissions and more patient days. Interestingly, net income (or loss) was not correlated with the size of the hospitals. Correlations coefficients are included in Table 19 in Appendix.

A multiple regression statistical analysis was utilized to answer the second research question. The dependent variable in Model 1 was the VAP score, and independent variables were organizational characteristics: nonprofit sector dummy variable, public sector dummy variable, private sector dummy variable, log of admissions, size, system member dummy variable, rural dummy variable, total revenue log, total patient days log, and net income (or loss) log.

Table 16 shows Model 1, where organization's VAP scores were regressed against ten hypothesized predictors. Model 1 predicted 38% of the variance of VAP scores, $R^2 = .38$, $F(9,227) = 16.312$, $p < .001$. I found that two statistically significant predictors are private sector dummy variable ($\beta = -.502$, $p < .01$) and admissions variable ($\beta = .444$, $p < .01$). The more likely a hospital were to be a private facility, the lower was its predicted VAP score. Admissions variable had a positive relationship: the higher annual admissions, the higher the VAP score.

Table 16 Summary of regression analysis for variables predicting VAP score.

Model 1 (VAP)	<i>B</i>	<i>SE B</i>	β
<i>Nonprofit sector</i>			
<i>Public sector</i>	-1.971	2.038	-.065
<i>Private sector</i>	-15.971	1.848	-.502**
<i>Hospital size</i>	-.011	.006	-.134
<i>Admissions (log)</i>	8.597	2.118	.444**
<i>Total patient days (log)</i>	-.497	1.843	-.025
<i>System member</i>	.679	1.831	.023
<i>Rural</i>	-.554	2.084	-.017
<i>Total revenue (log)</i>	1.364	1.803	.076
<i>Net income or loss (log)</i>	7.579	16.076	.026
<i>N</i>		237	
<i>Adjusted R²</i>		0.38	

** $p < .01$; * $p < .05$.

I ran several follow up regressions to further investigate predictors of individual virtual accountability dimensions. Each dimension served as a dependent variable, and ten predictors as independent variables. Table 17 presents information for regression Models 2-6.

Model 2 assessed which organizational characteristics might serve as predictors of accessibility of organizational websites. I found that this model was not statistically

significant, $F(9,227) = .71, p > .05$. Individual variables in Model 2 were also not statistically significant.

Model 3 looked into engagement dimension. My results indicated that three variables served as predictors of higher engagement scores of websites: public sector dummy ($\beta = -0.15, p < .05$), private sector dummy ($\beta = -0.41, p < .01$) and admissions log ($\beta = 0.52, p < .01$). Public and private sectors were more likely to have lower engagement scores. Higher admissions scores indicated higher engagement scores. Model 3 explained 36% variance of engagement score; it was significant at 0.01 level, $F(9,227) = 13.623, p < .01$.

Further, I investigated predictors of performance scores of organizational websites. Model 4 presents these results. Regression showed overall model significance, $F(9,227) = 8.031, p < .01$, and Model 4 explained 25% of performance variance. Statistically significant variables were private sector ($\beta = -0.33, p < .01$), hospital size ($\beta = -0.20, p < .05$) and admissions log ($\beta = -0.28, p < .05$). Private hospitals, larger hospitals and hospitals with higher volumes were less likely to report performance scores.

Model 5 looked into predictors of governance scores. The explanatory value of this model was not great ($R^2 = .13$), but it was still statistically significant, $F(9,227) = 3.755, p < .01$. The variable that contributed to higher governance score is admissions log, $\beta = 0.26, p < .05$. And two variables that contributed to lower governance scores are private sector dummy ($\beta = -0.15, p < .01$) and hospital size ($\beta = -0.03, p < .05$).

Table 17 Summary of regression analyses for variables predicting VAP dimension scores

Variable	Model 2 (Accessibility)			Model 3 (Engagement)			Model 4 (Performance)			Model 5 (Governance)			Model 6 (Mission)				
	B	SE	B	B	SE	B	B	SE	B	B	SE	B	B	SE	B	SE	B
<i>Nonprofit sector</i>																	
<i>Public sector</i>	0.13	0.45	0.03	-1.50	0.71	-0.15*	-1.04	0.88	-0.09	2.20	0.68	0.26	-1.82	0.87	-0.15*		
<i>Private sector</i>	0.53	0.40	0.10	-4.15	0.65	-0.41**	-3.73	0.80	-0.33**	-1.24	0.62	0.15***	-6.38	0.79	-0.54**		
<i>Hospital size</i>	0.00	0.00	0.14	0.00	0.00	-0.01	-0.01	0.00	-0.20*	0.00	0.00	-0.03*	-0.01	0.00	-0.20*		
<i>Admissions (log)</i>	0.15	0.46	0.04	3.42	0.74	0.52**	2.11	0.92	0.28*	1.42	0.71	0.26*	1.75	0.91	0.23		
<i>Patient days (log)</i>	-0.36	0.40	-0.11	-0.80	0.65	-0.12	-0.61	0.80	-0.08	-0.46	0.62	-0.08	1.53	0.79	0.19		
<i>System member</i>	0.28	0.40	0.06	0.47	0.64	0.05	1.35	0.79	0.12	-0.34	0.61	-0.04	-0.93	0.79	-0.08		
<i>Rural</i>	.22	0.46	0.04	0.19	0.73	0.02	-0.83	0.90	-0.07	-0.56	0.70	-0.06	0.49	0.89	0.04		
<i>Total revenue (log)</i>	0.07	0.39	0.02	0.08	0.63	0.01	1.43	0.78	0.21	-0.21	0.60	-0.04	0.01	0.77	0.00		
<i>Net income (log)</i>	1.23	3.51	0.03	-0.62	5.63	-0.01	8.47	6.94	0.08	2.38	5.38	0.03	-1.76	6.90	-0.02		
<i>R²</i>		0.03			0.36			0.25			0.13			0.31			
<i>F</i>		0.71			13.62**			8.03**			3.76**			11.02**			

** $p < .01$; * $p < .05$.

The last model, Model 6, analyzed predictors of mission reporting. My results showed that public sector dummy ($\beta = -0.15, p < .05$), private sector dummy ($\beta = -0.54, p < .01$) and hospital size ($\beta = -0.20, p < .01$) were all negatively related to mission scores. The overall model was highly significant, $F(9,227) = 11.016, p < .01$; it explained 31% of variance of missions scores.

H7: Rural hospitals will present less accountability information in virtual environment than urban hospitals.

I performed the t-test analysis to see if there were differences in accountability reporting among rural and urban hospitals. My results showed that rural ($M = 45.28, SD = 11.996$) and urban ($M = 48.0, SD = 14.814$) hospitals did not differ significantly on virtual accountability reporting, $t(236) = 1.322, p = \text{n.s.}$ Hypothesis 7 was not supported with my findings.

H8: System member hospitals are more likely to have higher virtual accountability practice scores.

Another t-test determined that there were no statistical differences in virtual accountability practices between hospitals that are system members ($M = 47.99, SD = 13.197$) and non-system members ($M = 46.00, SD = 15.912$). T-test results, $t(238) = -1.024, p = \text{n.s.}$, did not support hypothesis 8.

H9: Rural hospitals will have lower accessibility scores, compared to urban hospitals.

Hypothesis 9 questioned differences between accessibility scores of rural and urban hospitals. T-test revealed no statistical differences between these two groups, $t(236) = 0.127, p = \text{n.s.}$, and, therefore, hypothesis 9 was not supported with these results. Means and standard deviations for each group were the following: rural ($M = 17.24, SD = 2.212$) and urban ($M = 17.46, SD = 2.460$).

H10: System member hospitals are more likely to have higher engagement scores, compared to non-system member hospitals.

I performed another t-test to determine any significance between engagement scores of system member hospitals and non-system member hospitals. The t-test showed statistical significance, $t(238) = -2.158, p < .05$. System member hospitals ($M = 9.80, SD = 4.424$) were more likely to have higher engagement scores, compared to non-system member hospitals ($M = 8.41, SD = 5.229$). Thus, hypothesis 10 was supported.

H11: Rural hospitals will have lower engagement scores, compared to urban hospitals.

Hypothesis 11 was not supported, because I found no statistical difference between rural and urban hospitals, as it relates to engagement scores, $t(236) = 1.64, p = \text{n.s.}$ Means and standard deviations for each groups were the following: rural ($M = 8.50, SD = 4.460$) and urban ($M = 9.67, SD = 4.803$).

H12: There is a positive relationship between hospitals' financial health and their reporting of performance information online.

Hypothesis 12 was supported with my findings, because I found a statistically significant correlation between financial health of hospitals, as measured by the net income (or loss), and performance dimension of virtual accountability practices, $r = 0.146$, $p < .05$. However, this correlation was very weak.

H13: There is a positive relationship between hospitals' size and their reporting of performance information online.

A correlation analysis showed that there is a statistically significant relationship between hospital size and the reporting of performance information in virtual space. These findings supported hypothesis 13. However, this relationship was also rather weak, $r = 0.159$, $p < .05$.

H14: System member hospitals are more likely to include mission information online, compared to non-system member hospitals.

A performed t-test indicated that there is no statistical significance between system member and non-system member hospitals as it relates to reporting mission information online, $t(238) = 1.21$, $p = n.s.$ Means and standard deviations for each groups were the following: non-system members ($M = 10.40$, $SD = 5.607$) and system members ($M = 9.48$, $SD = 5.596$). Hypothesis 14 was not supported with these results.

Chapter summary

This chapter provides results of descriptive and inferential statistics to address two foci: (1) the extent to which organizations in three sectors use virtual space to present

their accountability practices to stakeholders; and (2) organizational characteristics that are associated with higher levels of virtual accountability practices.

Descriptive statistics of my sample revealed that nonprofit hospitals tended to be system-members, larger in size and higher in volume. Public hospitals were more likely to be non-system members in rural locations. Private hospitals tended to be system-members located in urban areas.

My instrument passed the internal consistency analysis. Scores for dimensions of virtual accountability practices varied greatly, as is evident by descriptive statistics. The accessibility dimension had the highest overall weighted scores; and the performance and governance dimensions had the lowest overall weighted scores. The accessibility dimension also had the least variance within the measure.

Table 18 presents an overview of hypotheses tested within this dissertation. Inferential statistics revealed that there are statistically significant differences in how organizations conduct their virtual accountability practices. I found that nonprofits are leading the way in their virtual accountability practices, since they had statistically higher overall VAP scores. They were more likely to score higher on engagement, performance and mission dimensions. Private organizations had the lowest scores on every dimension, except for accessibility (however, not statistically significant). Public organizations had the strongest scores within the governance dimension.

Table 18 Summary of hypotheses.

Focus 1: Sectoral Differences	Accessibility	H1	Not supported
	Engagement	H2	Supported
		H3	Supported
	Performance	H4	Supported
	Governance	H5	Partially supported
	Mission	H6	Not supported

Focus 2: Organizational Characteristics	VAP	H7	Not supported
		H8	Not supported
	Accessibility	H9	Not supported
	Engagement	H10	Supported
		H11	Not supported
	Performance	H12	Supported
		H13	Supported
	Mission	H14	Not supported

When looking at organizational characteristics contributing to higher VAP scores, I found that private sector dummy variable and admissions (volume) were the two statistically significant predictors. If an organization were private, it was more likely to have a lower virtual accountability score. Organizations with higher volumes were statistically more likely to have higher VAP scores.

Looking further into dimensions of virtual accountability practices, I found absolutely no predictors for accessibility scores, and the regression model with accessibility scores as the dependent variable was not significant. As for the other four dimensions (engagement, performance, governance and missions), all four regression models were significant. A private dummy variable was negatively related to all four VAP dimensions. A hospital size variable was a significant predictor for performance, governance, and mission dimensions: larger hospitals were less accountable in these three areas. Hospital volume, as measured through total annual admissions, was a significant predictor of how hospitals present engagement, performance and governance online. These relationships were all positive: the higher hospital volume is, the more accountable an organization is as it relates to engagement, performance and governance dimensions.

When looking at just the rurality of organizations, I found that rural hospitals presented as much accountability information as urban hospitals. Analyzing the issue deeper, I found no statistical differences within dimensions of accessibility and engagement.

When separating hospitals based on system-membership, I found no differences as far as overall VAP scores and mission reporting. However, there was a statistical difference as it relates to engagement: system-member hospitals were more likely to have higher engagement scores, compared to non-system member hospitals.

As for the hospital size, I found that larger hospitals were more likely to report their performance information in online sphere. In addition, hospitals that were in a better financial health were more likely to report their performance online.

CHAPTER V

DISCUSSION

This chapter starts with the summary of the purpose of this dissertation, followed by the interpretation of the findings in relation to the literature and the inferences drawn from the results I obtained. The principal purpose of this research project was to comparatively examine virtual accountability practices among public, nonprofit and private organizations, utilizing hospital industry as a case of study. Five dimensions of virtual accountability practices were employed in my analysis, adding up to the overall VAP score. The second purpose of this dissertation was to determine which organizational characteristics are associated with higher levels of virtual accountability practices. The discussion section will address these two foci.

Focus 1: Sectoral differences

The primary focus of my dissertation was to determine sectoral differences as it relates to virtual accountability practices among three sectors. I used hospital industry for studying these sectoral differences. First, I will discuss my findings on overall virtual accountability practices, and, then, I will look deeper into the dimensions of VAP: accessibility, engagement, performance, governance and mission.

Overall virtual accountability

My results indicate that there are statistically significant differences in how organizations conduct their virtual accountability practices. My major finding is that nonprofits are leading the way in their virtual accountability practices, since they had statistically higher overall VAP scores. I can explain higher accountability scores of nonprofits through the prism of multiple accountabilities. Essentially, nonprofit structure dictates that they are both principals and agents in relationships with other actors (Ebrahim, 2003). They attempt to account “downward” to their partners, beneficiaries, staff and supporters; as well as “upward” to their trustees, donors and government (Edwards & Hulme, 1996). In order to satisfy expectations of multiple stakeholders, nonprofits are more likely to provide more information about their organizations in online sphere.

This finding is consistent with the RDT literature (Pfeffer & Salancik, 1978; Raggo, 2014; Seo, 2011). Nonprofit organizations, I would argue, are the most resource dependent among three sectors. They rely on private funding as well as government benefits that translate into financially-advantageous arrangements (such as tax benefits). In other words, they simply must engage in exchanges with their environment to obtain resources. Online space serves this purpose for exchange. It creates space for the two-way communication, consistent with Grunig and Hunt’s (1984) framework. I will explain it further.

On one hand, organizations have control of how they are presenting themselves to outside environments. They choose navigation tabs on the main page, provide targeted audience links, include (or exclude) the most recent organizational updates, portray

themselves as more open entities (such as more information on by-laws, meetings notes, background of leadership personnel, employee directory with contact information) or as closed entities (hardly any information on leadership, no contacts information for personnel, no recent updates, etc.).

On the other hand, an organization's website serves as a platform for a feedback process, assuming an organization is welcoming such feedback. In my study design, engagement dimension partly addressed this feedback process. Examples of this feedback include an option to instantly connect to an organization (either via an online chat room or via instant dialing), links to social media sites (where external publics can engage with an organization in a conversation), a link to make an online donation (which serves as a way of engaging with an organization), an option to share the content (which gives valuable information to the organization on which website content is relevant and desirable).

One needs to keep in mind that 'too much accountability' is not always good. Some scholars admonished against 'too much accountability' of nonprofits (Ebrahim, 2003), which my findings confirm, because it may stifle diversity and innovation. Others argue that there is a danger of accountability eventually drifting from its moralizing heuristics toward a technocratic practice (J. Roberts, 2009, p. 963). Practitioners also argue that many nonprofits struggle in addressing transparency and accountability issues because "concerns about having a realistic picture of internal operations, where money is going, and the effectiveness of the programs are countered by concerns of overburdened staff, increased administrative costs, and an invitation to singled-out and damaging criticism" (Chan, 2010).

As a possible solution, one scholar offered the neologism *accounterability* as a form of resistance to our assumptions and understandings of accountability, by inserting the word ‘counter’ into accountability term (Kamuf, 2007). Joannides (2012) further extends the term by bringing the practical solution: unattainable accountability needs to be transformed into tangible day-to-day practices that could differ from the perfect model. He argues that *accounterability* “becomes the mechanism whereby the higher principal’s identity and requirements, the roles and duties of its possible surrogates, as well as the rights of the moral and responsible self, are clarified in order to enable the giving of an account” (Joannides, 2012, p. 255).

Private organizations were the least likely to have robust virtual accountability practices. I can explain these results through the legitimacy theory, which is one of the most widely used frameworks to explain disclosure in the context of private organizations (Hooghiemstra, 2000). The legitimacy theory focuses on the concept of a social contract, assuming that a company’s survival and prosperity hinges upon the extent that the company operates “within the bounds and norms of the society” (N. Brown & Deegan, 1998, p. 22). A company needs to demonstrate that “its actions are legitimate and that it behaved as a good corporate citizen, usually by engaging in corporate social reporting” (Hooghiemstra, 2000, p. 56). I would argue that private companies, as evident in my results, do engage in virtual accountability practices, but they do so minimally, just to appease or satisfy (a term coined by Herbert Simon to merge two verbs ‘satisfy’ and ‘suffice’) various publics. I can connect it to Hooghiemstra’s description of “self-laudatory disclosures” (p. 56) with a purpose to reduce the “exposure of the company to the social and political environment” (Patten, 1992, p. 472).

My results indicate that private organizations had the lowest scores on every dimension, except for accessibility (however, not statistically significant). This resonates with research on ‘fuzzy transparency,’ where organizations make information accessible in online sphere, but not necessarily meaningful or reliable for evaluating organizational performance (Fox, 2007).

Accessibility accountability dimension

My research found no differences in accessibility dimension among sectors. As a reminder, accessibility pertains to how easy it is to navigate a website. For example, consistent navigation bar content and formatting; clearly specified audience links and consistent font formatting will make a website more accessible. This interesting finding can be explained through the process of institutional isomorphism, which means that organizations with similar operations, tasks and purposes may become homogenous (DiMaggio & Powell, 1983; Murphy, 2014). With time, scholars argue, organizations within the same field, will succumb to *normative*, *coercive*, and *mimetic* pressures, and as a result replicate activities, symbols, values of other organizations within the field (DiMaggio & Powell, 1983). I will further explain how each of these institutional isomorphism pressures play a role in accessibility of hospital websites.

Coercive isomorphism stems from political influence and the problem of legitimacy (DiMaggio & Powell, 1983). It results from both formal and informal pressures by other organizations. Various U.S. agencies serve as regulatory bodies that govern use of health ICT in hospitals, regardless of their ownership. For instance, the Department of Health and Human Services Office for Civil Rights (OCR) is in charge of HIPAA enforcement; while the Centers for Medicare and Medicaid Services (CMS) and

the Office of the National Coordinator for Health IT (ONC) both act as healthcare compliance resources. Organizations are thus directed towards more uniform uses of ICT, especially as it relates to accessibility. For example, organizations that do not engage in meaningful use of EHR technology, are penalized under the HITECH Act. Another example is FDA's regulation of mobile health applications, and hospitals' adherence to these regulations as it relates to their websites and accessibility of health applications.

Mimetic isomorphism also explains uniformity in accessibility dimension of organizations in three sectors. Mimetic isomorphism results from standard responses to uncertainty, and researchers use the term 'modeling' as a response to uncertainty (DiMaggio & Powell, 1983, p. 151). Modeling happens either unintentionally (for example, through employee transfers, turnover, etc.) or explicitly through the use of consulting firms or industry trade associations. This was apparent while coding organizational websites. Many websites used the same templates, very similar navigation bars, comparable audience links, etc. I can explain this accessibility homogeneity through the use of the same vendors for designing organizational websites.

Normative isomorphism stems primarily from professionalization. There is myriad of hospital accreditation organizations, each with its own set of guidelines, e.g. The Joint Commission, the Healthcare Facilities Accreditation Program, the Accreditation Association for Ambulatory Health Care, the Accreditation Commission for Health Care, the Community Health Accreditation Program, the Compliance Team, etc. The largest accreditation agency for hospitals is the Joint Commission, founded in 1951 as an independent organization that accredits and certifies healthcare organization

and programs in the U.S. In many states, the Joint Commission accreditation is a prerequisite for licensing and Medicaid reimbursement (SearchHealthIT, n.d.).

Engagement accountability dimension

Nonprofit organizations were more likely to have higher engagement scores, compared to public and private organizations. I will explain this finding through Grunig and Hunt's (1984) two-way communication model. Engagement dimension in my study is closely connected to the feedback component of the two-way communication model. Nonprofits had higher engagement scores, and I would argue they engaged in a two-way symmetric communication model, where the purpose of communication is mutual understanding, and the effects of communication are balanced (Grunig & Hunt, 1984).

Opposite to this model is a two-way asymmetric communication model, where the purpose of communication is persuasion, and the effects of communication are imbalanced (Grunig & Hunt, 1984). I would argue that public and private organizations were more likely to engage in the asymmetric exchange of information. They were more focused on providing information, rather than receiving feedback from the publics. Hence, their engagement scores were statistically lower, compared to nonprofit organizations.

Performance accountability dimension

It was not surprising that nonprofits were more likely to disclose their performance information, compared to private and public organizations. This finding serves as a confirmatory answer to Edwards & Hulme's (1996) hypothesis that nonprofits will be more likely to over-account. It is possible that nonprofits provide their

performance information because they fear funders and regulators and because they want to avoid undue scrutiny and excessive questioning. Funders can cut funding, impose conditions and even tarnish a nonprofit's reputation, while regulators might impose additional regulations (Ebrahim, 2003).

I would argue that nonprofits tend to 'over-account' because numerous professional nonprofit associations strongly encourage performance disclosure. For instance, The National Council of Nonprofits promotes public disclosure practices for financial information (such as annual tax information returns, IRS Form 990; and tax-exemption applications) in order to demonstrate a commitment to transparency ("Public Disclosure Requirements for Nonprofits | National Council of Nonprofits," n.d.). Another example is a 2008 The State of Nonprofit Transparency report published by the GuideStar, the world's largest source of information on nonprofit organizations. Within this report, the key recommendations are to post any audited financial statements on websites and to post the organization's IRS letter of determination on the website (*The State of Nonprofit Transparency, 2008 Voluntary Disclosure Practices*, 2008). Another example is the Independent Sector's (a coalition of nonprofits, foundations and corporate giving programs) Checklist for Accountability, which urges nonprofits to post their most recent audited financial statement, IRS Form 990 and 990-PF (with all parts and schedules), and Form 1023 (the organization's original application for recognition of tax-exempt status) on their websites (*Checklist for Accountability*, 2018). The last example is a watchdog organization Charity Navigator which rates nonprofit organizations based on their finances transparency, assigning them a rating from one to four stars.

Governance accountability dimension

Public organizations had the strongest scores within the governance dimension. To me, this was an expected finding. Since 1968 Minnowbrook Conference, under the patronage of Dwight Waldo, a need for new public administration was identified. Within this direction, we might expect more efforts towards the focus on public interest from public organizations. In addition, there is an emphasis on a more democratic and more responsive public service. I believe the fruits of these efforts in public administration can be seen nowadays; and the results of my comparative study of three sectors is an attestation of these visionary beginnings.

My major finding, as it relates to governance dimension, is that public organizations were more likely to include governance information, compared to private organizations. This finding is contrary to another study, which found no significant difference between corporate governance disclosure scores of public sector firms and private sector firms (Madhani, 2014). I can explain this discrepancy through international lenses. Madhani's study assessed governance disclosure practices of Indian firms across public and private sectors, and he explains his findings through the public sector reforms in India that had lessened the differences between the two sectors (Madhani, 2014).

From a statistical perspective, my study shows that public and nonprofit organizations did not differ as it relates to governance disclosure. However, both sectors differed from private organization's effort to report governance information. These results can be explained through Scott & Falcone's (1998) understanding of organizational 'publicness.' They argue that political authority is one crucial factor in how similar organizations will behave, regardless of the ownership (Scott & Falcone,

1998). Organizations can be rated on these dimensions of ‘publicness.’ I argue that the governance dimension is a great example of this point. Both public and nonprofit organizations are more likely to disclose their governance structure (by-laws, names of board members, leadership, meeting minutes) in order to demonstrate political authority in the public eye. Private organizations are less open to political influence (Jorgensen, Hansen, Antonsen, & Melander, 1998), and therefore do not feel the need to demonstrate the political authority, and, hence, they have the lowest governance scores among sectors.

I can also provide a more practical explanation. Public and nonprofit organizations are required to share certain information with the public, and they are encouraged to function transparently. For example, board meetings, meeting notes and minutes must be open and available to the public, if an organization is covered by state sunshine laws.

Mission accountability dimension

Nonprofit organizations were more likely to include mission information, compared to public and private organizations. As some put it, “for nonprofit organizations, mission is at the heart of accountability” (Saxton & Guo, 2011, p. 272) because it provides both “a verbal link between the presumably deeply held promises and the conduct of those representing the nonprofit” (Lawry, 1995, p. 14).

This finding can be explained through the *coercive isomorphism* (DiMaggio & Powell, 1983) of nonprofit organizations, which stems from formal pressures by the government. Nonprofits are required to conduct the Community Health Needs Assessment (CHNA) reports at least once every three years, under Section 9007 of the Patient Protection and Affordable Care Act, Public Law 111-148 (the "Affordable Care

Act"). It is also an obligation, according to 2014 IRS-implemented policy based on Public Law 111-148, to explicitly and publicly demonstrate community benefit through CHNA and to adopt an implementation strategy to meet the identifies community health needs. Thus, nonprofits were more likely to include CHNA on their websites, which contributed to higher scores for the mission dimension. It counted towards an organization's disclosure of performance measures, standards or benchmark (See Coding Guide in Appendix A; Question M3) and towards a listing of goals, strategic plan or implementation plan (Question M1).

Focus 2: Organizational characteristics

The second purpose of my dissertation was to determine organizational characteristics that are associated with higher levels of virtual accountability practices. In this section, I will discuss in detail the following organizational characteristics: organizational size, volume, rurality, system-membership, and financial health. It is important to note that my study certainly does not exhaust all possible determinants of virtual accountability practices. However, it presents empirical evidence for two major predictors (private sector ownership and hospital volume), and lays the groundwork for future research projects.

My findings suggest that the two best predictors for overall virtual accountability practices are the *private sector ownership* and the *hospital volume*. Looking further into dimensions of virtual accountability practices, I found absolutely no statistical predictors for accessibility scores. As for the other four dimensions (engagement, performance, governance and missions), a private sector dummy variable served as a strong

determinant in every model. If an organization were private, it was more likely to have a lower virtual accountability score. In the first part of my discussion chapter, I discussed extensively virtual accountability findings as it relates to the private sector. Therefore, I will not be discussing this predictor here. I will move straight to the discussion of hospital volume as a primary predictor of hospital's virtual accountability practices.

Volume

Hospital volume, as measured through the number of annual admissions, was unquestionably a statistical predictor of organization's virtual accountability practices. This is a fascinating finding. I was not able to find any other studies which looked at hospital volume as it relates to accountability practices. Thus, my research added to a void in accountability literature.

My results demonstrate that higher volume hospitals were statistically more likely to have higher virtual accountability practice scores. I can explain it through the RDT framework and the perceived need to account to a larger number of stakeholders. RDT suggests that organizations do not act randomly, rather they consciously and strategically behave in order to reduce dependencies and acquire resources (Kazley & Ozcan, 2007). For hospitals, regardless of their ownership, critical resources constitute patients and the revenue that is collected based on their service (Kazley & Ozcan, 2007). Thus, hospitals are more likely to adopt strategies that will make their critical publics (patients, family members and friends) satisfied. The more volume a hospital endures, the more people they need to satisfy. Thus, higher volume hospitals will attempt to offset monitoring problems arising from the increased attention and actual foot traffic to the organization. Patients, family members and friends access a hospital's website regularly. It was evident

from coding websites that these groups almost always had specific targeted audience links for them on the websites.

Looking further into dimensions of accountability, hospital volume was a significant predictor of how hospitals present engagement, performance and governance online. These relationships were all positive: the higher hospital volume is, the more accountable an organization is as it relates to engagement, performance and governance dimensions.

Organizational size

My results show that size is an important determinant of organization's willingness to devote resources to technology-enabled accountability practices. The size was a significant predictor for performance, governance, and mission dimensions of VAP: larger hospitals were less accountable in these three areas.

I would argue that the relationship between the organizational size and accountability is complicated. My results are contrary to previous findings that demonstrate a positive relationship between size and voluntary disclosure (B. Behn, DeVries, & Lin, 2007; Dumont, 2013a; Gordon, Fischer, Malone, & Tower, 2002; Saxton & Guo, 2011). One example is the examination of annual reports of private and public universities, where researchers found a strong positive relationship between the size and disclosure of financial information (Gordon et al., 2002). Another example is Saxton & Guo's (2011) study which used the size as a measure of capacity the organization has to undertake strategically driven initiatives. They hypothesized that the size will predict an organization's capacity to employ information technology for strategic functions, such as boosting accountability; and found a positive relationship

between the variables (Saxton & Guo, 2011). Their study, however, only assessed nonprofit organizations. When looking at all types of organizations collectively, the same statement does not apply, as is evident in my findings. This calls for potential future research exploring further links between organizational size and accountability practices in all sectors.

The discrepancies in findings can also be attributed to measurement issues. Organizational size, as an economic construct, can present difficulties in measuring (Gordon et al., 2002). On one hand, researchers use financial data for measuring organizational size. For example, Foster (1986) suggests listing total assets, sales and market capitalization as possible measurable surrogates. All three studies that found positive relationships between size and disclosure used gross assets of organizations as a proxy for the size. (B. K. Behn, Devries, & Lin, 2010; Gordon et al., 2002; Saxton & Guo, 2011). On the other hand, healthcare literature suggests using the number of beds in a hospital as a proxy for size (Carson, 2004; Manojlovich et al., 2010). Healthcare literature guided the construction of my methodology, and potentially contributed to these divergent findings.

My results, coupled with the discrepancies with previous studies and differences in measuring organizational size, might lead to an alternative explanation of the phenomenon: the size of the organization is not as important as the volume (or the number of stakeholders interacting with the organization). It is possible that by focusing on gross assets as a proxy for organizational size, researchers disregard the importance of the number of stakeholders an organization has. While it certainly adds practical challenges to measuring organizational volume (through the number of stakeholders),

there is a potential for interesting findings as it relates to organizational administration and communication.

Rurality

Rural hospitals are vital players in their communities, because they serve not just as major healthcare providers, but also as major employers and purchasers, and powerful community partners. Regardless of their ownership, they have vested interest in developing public policy initiatives that improve access to care and position them favorably within the community environment. Fitting this line of thinking into the RDT framework, one might argue that rural hospitals will be more dependent on their environments, compared to urban hospitals.

While analyzing associations between the rurality of organizations and virtual accountability practices, I found that rural hospitals presented just as much overall accountability information as urban hospitals. I will attempt to explain this finding through the lens of the RDT theory, and specifically two resource dependency patterns within the RDT: *resource uncertainty* and *resource abundance (or scarcity)*.

Resource abundance (or scarcity) measures the degree of abundance or scarcity of organization's resources (Guo & Acar, 2005; Pfeffer & Salancik, 1978). We expect that urban hospitals are more likely to have access to better technology, and therefore would be classified as more resource abundant. On the other hand, rural hospital will be aligned with relative resource scarcity. I hypothesized that urban hospitals will display higher levels of virtual accountability since they are likely to be more technologically-advanced. My findings show that this is not the case. This is where *resource uncertainty* pattern steps up to equalize the effects of resource scarcity.

Resource uncertainty is linked to the predictability of the resources coming to the organization (Lan, 1991). Organizations in areas of greater uncertainty are more likely to take action to secure resources than organizational in areas of less uncertainty (Kazley & Ozcan, 2007). Since rural hospitals have been identified as organizations operating in areas of greater uncertainty, we can apply this line of thinking: rural hospitals are more likely to take action than urban hospitals (areas of less uncertainty). Thus, rural hospitals will develop a strategy to appear as more accountable organizations in online environment, despite the lack of sophisticated ICT. In other words, even though urban hospitals have a larger capacity for high VAP scores, rural hospitals put more focus on being attuned with the communities and accountable to their stakeholders, utilizing the resources they have. Interestingly, looking deeper into dimensions of virtual accountability practices, I also found no statistical differences between urban and rural organizations.

My result do not correspond with the results of another study assessing virtual accountability in low density environment (Saxton & Guo, 2011). Organizational density is a related concept in organizational ecology literature. It is defined as the density of the population in which an organization operates (Saxton & Guo, 2011). Researchers tested whether virtual accountability will be negatively associated with the levels of organizational density, and found corroboration as it relates to financial disclosure and performance disclosure (Saxton & Guo, 2011). The difference in research results can be explained through the case selection: Saxton & Guo (2011) only looked at nonprofit organizations in their study, while I included organizations in all three sectors.

System-membership

When separating hospitals based on system-membership, I found no differences as far as overall VAP scores. This is an interesting finding. Our literature suggests that system-member hospitals have more robust ICT because they have larger resources to invest in technology and infrastructure (Cutler & Scott Morton, 2013; Henke et al., 2018). Thus, one would assume that they are not constrained by resources for their websites (they share the costs of building and maintaining the websites within the system). So, even though they have the technical tools to position themselves as more accountable organizations in online sphere, they do not choose to do so.

One of my hypotheses suggested that system-member hospitals will be more likely to include mission information on their website. This was not supported in my findings. One would assume that system-member organizations would have an overall mission direction from the managing organization. For example, they would have a unified mission, a vision, a values statement and a strategic plan; and they would present this information on their websites. In reality, system-member organizations were just as likely to include mission information as individual hospitals.

One statistical difference that I found as it relates to accountability among system-member and individual hospitals is within the engagement dimension. System-member hospitals were more likely to have higher engagement scores, compared to non-system member hospitals. This is consistent with the literature, since system-member hospitals are more likely to have more resources for sophisticated technology. Take, for example, instant connectivity, content sharing or online donations platforms: individual hospitals might not have resources to incorporate these technologies into their websites. Another

example is inclusion of other media and an option to subscribe to e-newsletters. System-member hospitals are most likely sharing the cost of communication professionals to produce regular newsletters and create enhanced media on their websites (such as videos, features home page stories and interactive sliders). In addition, higher engagement might also be a reaction from system-member hospitals that are reportedly out-of-touch or “may not be as responsive to local needs” (Henke et al., 2018, p. 65).

Essentially, one can describe system-member hospitals as creating an illusion of responsiveness to stakeholders through these sophisticated feedback tools, but basically providing the same overall accountability information. This would be consistent with the Grunig’s two-way asymmetric model, where the organization determines the views of constituency (through these feedback tools), but chooses to use this information only to achieve organization’s goals, rather than using this information to achieve both organization’s goals and the goals of the constituency (as in two-way symmetric model) (Doorley & Garcia, 2011).

Financial health

My findings show that financial performance of hospitals is associated with the reporting of performance on organizational websites. Specifically, hospitals that were in a better financial health were more likely to report their performance online. This is in line with previous literature that suggests that financial health is associated with more robust ICT (Chong & Chan, 2012; Deering et al., 2012; Iacovou et al., 1995; Kazley & Ozcan, 2007; Lian et al., 2014) and likelihood of online performance reporting (Pinto & Picoto, 2016).

This finding can also be explained through the RDT framework. As RDT suggests, organizations (regardless of sector affiliation) depend on external resources. These resources can take a form of assets, capabilities, organizational processes, information, and even knowledge (Barney, 1991; Daft, 2001). Organizations strive to obtain these resources; and behavior and actions that put an organization at a disadvantage will generally be avoided. Thus, organizations that are not financially sound will be reluctant to publicly broadcast their performance (for example, financial performance measurements and audited financial statements) in order to avoid undue scrutiny from the publics.

CHAPTER VI

CONCLUSIONS

The last chapter of my dissertation will discuss policy and management implications, limitations of this study, recommendations for future research and drawn conclusions.

Findings and implications

The results of this study indicate that public, private and nonprofit sectors differ in terms of how they address accountability in virtual environment. These results point to a number of implications for patients, families, hospital administration, healthcare professionals and policy-makers. These implications can be broadly divided into two groups: policy implications and management implications. Both will be discussed further. Policy implications pertain to national dialogue and inter-organizational deliberations of sector-wide policy to enrich accountability practices; while management implications are concerned with local, intra-organizational discussions among administrators and organizational leaders on formulating specific strategies and tactics (Kearns, 1994).

Policy implications

Organizational accountability issues have certain implications for policy processes, as governments work to provide healthcare to their citizens in an effective, efficient and equitable manner. Some argue that accountability is a “core element in

implementing health reforms and improving system performance” (Brinkerhoff, 2004, p. 371). This and other studies on virtual accountability practices may assist policy-makers with finding the right balance for regulations and accountability requirements for organizations in three separate sectors. As discussed earlier, there is a fine balance for organizations to reach the right level of accountability. Inadequate accountability pressures may lead to ‘fuzzy transparency,’ an unreliable and meaningless representation of an organization online. Excessive accountability pressures may lead to the lack of diversity and innovation, overburdened staff and high administrative costs.

Empirical assessments of accountability practices might be of use to policy-makers and policy advocates in tracking and analyzing developments in state and federal public policy; developing model legislation and commentary on community benefits; and providing tools and resource kits that community groups, advocates, and leaders can use in assessing the needs and strength of their communities (“Hospital Accountability Project | Community Catalyst,” n.d.).

This research might also be useful for developing virtual accountability best practices that will be of use in preventing healthcare fraud. The National Health Care Anti-Fraud Association (NHCAA), estimates that healthcare fraud accounts to \$60 billion per year (Musau & Vian, 2008). The most common types of healthcare fraud are (1) diversion of patient fee revenue at point of service; (2) diversion of accounts receivable, or checks submitted by patients or companies to pay debts owed on their accounts; and (3) collusion between hospital purchasing agents and suppliers (Musau & Vian, 2008). All these types of financial fraud are not without consequences to patients since they may lead to false diagnoses, treatments and medical histories; physical risk to

patients; and medical identity theft (“The Challenge of Health Care Fraud - The NHCAA,” n.d.). Well-established virtual accountability practices might help in detecting, prosecuting and eventually preventing healthcare fraud.

Management implications

There are certain management implications for this study. An organizational website, one might argue, is a face of the organization. It is often the first resource when job applicants are researching an organization. It is a platform where community members get the latest news about the organization. It is media’s first encounter with the organization. If an organization has accountability information online, it is more likely to be perceived as a transparent, a good corporate citizen, a legitimate organization. A coding guide utilized within this study might serve as an assessment instrument of how accountable an organization appears in online environment. It might even serve as a much-needed tool to enhance virtual accountability. As Kearns (1994) writes, “It would also be especially desirable if such [an accountability] framework [was] also useful to ... managers who are attempting to anticipate, define, and respond to accountability issues in their respective strategic environments” (Kearns, 1994, p. 187).

Limitations

While this study provided an insight on sectoral similarities and differences in addressing virtual accountability practices, it has several limitations: the study’s exclusive focus on virtual accountability, the generalizability of results, the problems with AHA data, the dynamic nature of the Internet, and the exclusion of other confounding variables. I will discuss each in more detail.

Most importantly, this study is limited through its sole focus on virtual accountability. The findings should not be interpreted as indicators of overall accountability of organizations in different sectors. Virtual accountability is only one aspect of accountability practices. In other words, there are many strategies that organizations employ to be more accountable to their stakeholders and the public, just not via online sphere. It is out of scope of this study to take these strategies into consideration.

This research project was designed to yield robust and generalizable results, yet there are limitations to my findings. Because of the nature of the study, I only included *hospital* websites in my analysis. This insured the comparability of results but decreased the generalizability to other areas.

Another possible limitation pertains to the AHA data. While analyzing the AHA data, I found some inconsistencies in their database. Specifically, several hospitals were listed as belonging to one sector, while they actually belonged to a different sector. After numerous communications with AHA representatives, the issue was still not resolved. I overcame this issue by checking each hospital against the AHD database and the Internet. Approximately, 5% of the sample was affected and corrected to reflect the appropriate ownership. While this was a known and corrected issue, one might question the integrity of the rest of the data. After all, AHA collects data from CMS and self-reported surveys.

Dynamic nature of the Internet is another limitation. Hospital websites were coded between April and June 2018. Hence, this study only assessed the snapshot at that particular timeframe. With rapid changes and developments in ICT, the findings of this

study might not be as applicable in the future. It is certainly a time-dated representation of virtual accountability practices.

Finally, this study certainly does not exhaust all possible determinants of virtual accountability practices. Due to the constraints of available data, I did not include several important *organizational factors*, such as hospitals' teaching designation and Medicare payer mix, as well as several *environmental factors*, such as competition, munificence (the availability of resources in the environment) and uncertainty.

Opportunities for future research

The results of this study suggest several opportunities for future research: qualitative assessment of virtual accountability practices, application of VAP instrument in other areas, and consideration of other influencing factors. Each line of future research will be discussed further in detail.

This study contributed to the quantitative assessment of virtual accountability practices. While these findings certainly have value, future research may focus on qualitative components. Survey and interviews with organizational leaders, administrators, communication professionals, patients, investors, community members, policy-makers and other stakeholders will provide additional insight into accountability practices. For example, confirmation from patients and community members on the need and desire to access accountability information online could be valuable for organizational leadership in maximizing their accountability practices. Additionally, in-depth interviews with organizations that demonstrate high virtual accountability scores will certainly add to literature on the subject. Findings of such studies might elicit the

obstacles organizations have to position themselves as more accountable organizations. Moreover, the results might inform other organizations on best practices.

This study focused on hospital industry as a case of analysis. Future studies might delve into other areas, such as education or financial institutions. In higher education, for example, you can find both public and private universities. In financial industry, one might replicate this study to include banks (private organizations) and credit unions (nonprofit organizations). Further, the results of these potential studies might be compared to these research findings. This might help explain whether the findings of this study are industry-specific or sector-specific. It is important to note that the instrument in this study was not industry-specific. It can be easily applied to other areas, without any special modifications.

In addition, future research projects might include other variables in the models for predictors of virtual accountability practices. For example, one might include additional organizational factors (such as hospital's teaching designation and Medicare payer mix) and several environmental factors (such as competition, munificence and uncertainty).

Conclusion

I started this dissertation with a quote by a philosopher and political activist Thomas Paine who once said, "A body of men holding themselves accountable to nobody ought not to be trusted by anybody." I asked expansive questions on who we ought to be accountable to; what we are accountable for and how we become more accountable. While I certainly didn't answer these grand questions, my hope is that this dissertation

contributed to the larger conversation on accountability and, to be specific, accountability of organizations in online environment.

Through the quantitative assessment of organizational websites, this study provided empirical evidence that nonprofits are leading the way in presenting themselves as accountable entities in online environment. Private organizations were the least accountable to their stakeholders, and public organizations were positioned somewhat in the middle. A constructed model predicting higher levels of virtual accountability revealed that organizational volume and private sector ownership are the best determinants.

The findings of this study may contribute and serve as a broad guide to policy making and strategic organizational planning. In addition, my hope is that this research can contribute to a larger conversation on accountability practices, engaging hospital leadership, policymakers, consumer advocates and public health leaders. Moreover, I hope it will add to the attainment of higher goals of removing barriers for effective and quality healthcare and building stronger and healthier communities.

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APPENDIX A
CODING GUIDE

Variables/Measures Scale

ACCESSIBILITY MEASURES		
A1	Are navigation bars consistent throughout the site?	(0=No; 3=Yes)
A2	It is clear that the navigation bars are " clickable ?"	(0=No; 3=Yes)
A3	Font color and formatting . Is it consistent throughout the site?	(0=No; 3=Yes)
A4	How many targeted audience links available on the homepage? (e.g. patients, employees, donors, visitors, members, etc.)	(0=No; 1= targeted audience links are divided into two categories; 2=targeted audience links are divided into three categories; 3= targeted audience links are divided into more than three categories)
A5	Is the font color, size and formatting differentiated between titles and detailed content ?	(0=No; 3=Yes)

ENGAGEMENT MEASURES		
E1	Does the site provide the date (month and year) of recent update of website? (Evaluators should compare month and year posted on the main homepage, recent date of press release, newsletter, or community updates. Then, choose and evaluate the most recent date of update. Obvious recent updates of event listings is okay)	0=No; 1= the date is more than three months old; 2= the date is more than one month and less than three months old;

		3= the date is one month or less old.
E2	Is there a subscribe option available for the e-newsletter, listserv, magazine, etc. ?	(0=No; 3=Yes)
E3	Does the site use other media (videos, sound files, home page stories, picture scrolls, etc) to help user understand more about what the org does or is about?	(0=No; 3=Yes)
E4	Does the site have a link for electronic donations ?	(0=No; 3=Yes)
E5	How many links to social media sites are there?	(0=No social media sites listed; 1= 1-2 social media sites listed; 2= 3-4 social media sites listed; 3= 5 or more social media sites listed)
E6	Does the site have a search function?	(0=No; 3=Yes)
E7*	Does the site include options to connect instantly to the organization with one click (for example live chat or call now button)?	(0=No; 3=Yes)
E8*	Does the site provide an option to share the content?	(0=No; 3=Yes)

	PERFORMANCE MEASURES	
P1	Does the site post the organization's annual report ?	(0=No; 3=Yes)

P2	Does the site provide audited financial statements online?	(0=No; 3=Yes)
P3	Are the results of performance measurement (financial) published on the website?	(0=No; 3=Yes)
P4*	Does the site include accreditation/honors/awards information?	(0=No; 3=Yes)

	GOVERNANCE MEASURES	
G1	Does the site have the organization's by-laws available?	(0=No; 3=Yes)
G2	Does the site list the names of the people who are on the Board of Directors/Board of Trustees/Leadership Team ?	(0=No; 3=Yes)
G3	Does the site publishes summary/minutes from the Board of Directors meetings?	(0=No; 3=Yes)

	MISSION MEASURES	
M1	Does the site list the organization's goals, strategic plan or implementation plan ?	(0=No; 3=Yes)
M2	Does the site offer an employee directory with contact information? (department contacts do not count)	(0=No; 3=Yes)
M3	Are performance measures, standards, or benchmarks published on the website? ("performance measures", "standards", or "benchmarks" mean output, efficiency, effectiveness or outcome indicators or index to achieve	(0=No; 3=Yes)

	administrative goals; community needs assessments reports count towards this)	
M4	Does the site contain mission statement for the organization?	(0=No; 3=Yes)
M5*	Does the site contain a statement of values ?	(0=No; 3=Yes)

APPENDIX B
CORRELATION MATRIX FOR ORGANIZATIONAL CHARACTERISTICS
VARIABLES

Table 19 Correlation matrix for organizational characteristics variables.

	Nonprofit sector	Public sector	Private sector	Admissions (log)	Hospital size	System member	Rural	Revenue (log)	Patient days (log)	Net income or loss (log)
Nonprofit sector	1									
Public sector	-.500**	1								
Private sector	-.500**	-.500**	1							
Admissions (log)	.252**	-.281**	0.029	1						
Hospital size	.134*	-0.03	-0.104	.636**	1					
System member	.181**	-.438**	.256**	.319**	.179**	1				
Rural	-0.038	.251**	-.214**	-.440**	-.330**	-.189**	1			
Revenue (log)	.217**	-.179**	-0.042	.837**	.646**	.220**	-.423**	1		
Patient days (log)	0.125	-0.07	-0.055	.696**	.697**	.274**	-.516**	.696**	1	
Net income or loss (log)	-0.078	0.032	0.046	-0.067	0.006	-0.036	0.031	.269**	-0.053	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).