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# EXPLORING THE FACTORS ASSOCIATED WITH ONLINE FINANCIAL AND PERFORMANCE DISCLOSURE IN NONPROFITS

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## ABSTRACT

Informed by theories of technological innovation, this paper develops and empirically tests a web disclosure adoption model. In order to test the model, a questionnaire was administered to a sample of 775 organizations in an eight-county regional area in the Northeastern United States. Results reveal that Chief Executive Officer (CEO) and organizational characteristics are related to web disclosure adoption. Specifically, there is more disclosure of performance information online when the CEO believes that the web is useful for promoting transparency and accountability, when the organization views the web as a communication or strategic tool, when more employees have technical expertise, and when the board of directors is more supportive of web technology. We found more web disclosure of financial information when the organization possesses the technological readiness for web disclosure. This paper contributes to research by identifying the main factors that facilitate web disclosure adoption in nonprofit contexts.

## Keywords

Web Disclosure, Innovation Theories, IS Adoption, Nonprofit Sector

## INTRODUCTION

Over the last decade, we have witnessed an erosion of public confidence and trust in organizations around the globe. Indeed, continued reports of high-profile public scandals, malfeasance, and fraud continue to dominate the international media. Voluntarily disclosing high quality financial and performance information on organizational websites has been touted as a malleable solution to the precipitous decline in public confidence and trust (Cormier et al. 2009; Lee and Joseph 2013).

Web disclosure, an emerging technological innovation, is defined as the extent to which an organization voluntarily discloses high quality financial and performance information on its own public website. Research suggests that web disclosure signals the underlying qualities of an organization such as efficiency, effectiveness, credibility, and accountability (Saxton and Guo 2011; Saxton et al. 2012). These qualities have been linked to positive organizational outcomes such as increased levels of public trust, improved donor decision making, and increased donations (Blouin and Lee 2014; Gandía 2011; Saxton and Guo 2011; Saxton et al. 2012; Saxton et al. 2014). However, many nonprofit organizations (NPOs) have been slow to adopt web disclosure practices (Lee and Joseph 2013; Lee et al. 2012).

The slow adoption rate of web disclosure is a key issue since NPOs are critical to the social, political, and economic well-being of society. These mediating institutions take a wide variety of forms and orientations including service delivery, social capital creation, community engagement and democratization, innovation, political advocacy, and individual expression (Moulton and Eckerd 2012). More importantly, NPOs exist in communities in which we all live, work, and play. However, the decline in public confidence and trust threatens their mere survival. Therefore, it becomes increasingly important to understand which factors play a significant role in the adoption of web disclosure.

Informed by theories of technological innovation (Kimberly and Evanisko 1981; Rogers 2003; Thong 1999; Tornatzky and Fleisher 1990), the aim of this study is to explore the combined effects of individual, technological, organizational, and environmental factors on the adoption of web discourse in nonprofit contexts. Data for this study was derived from an online questionnaire that was administered to a sample of 775 nonprofit

organizations in an eight-county area of the Northeastern United States, resulting in 101 responses. Sixty-five of these responses included sufficient data for use in this study. The results revealed that characteristics of the CEO and characteristics of the organizations are significantly related to both performance and financial web disclosure.

This paper contributes to the emerging literature on web disclosure in three ways. First, we identify additional factors that are associated with the adoption of web disclosure. Second, we examine web disclosure in a context that is underrepresented in IS and accounting research. Finally, this research lays the initial groundwork for future research on the contextual factors that influence or inhibit the adoption of web disclosure in nonprofit settings.

## **LITERATURE REVIEW**

### **Theories of Technological Innovation**

Researchers have identified several classes of contextual variables that explain why some organizations adopt technological innovations, while others do not. Several researchers identified characteristics of the innovation such as relative advantage, compatibility, and complexity as important attributes that influence the adoption of technological innovations (Rogers 2003; Tornatzky and Klein 1982).

In order to explain more of the variance, Kimberly and Evanisko (1981) identified three clusters that influence the adoption of administrative and technological innovations in hospitals: characteristics of organizational leaders, characteristics of organizations, and characteristics of the environmental context. The researchers found that hospitals with highly educated administrators, those larger in size, and those located in urban areas were more likely to adopt technological and administrative innovations. Similarly, Tornatzky and Fleisher (1990) conceptualized three clusters that influence technological innovation decisions: organizational contexts, technological contexts, and environmental contexts.

Thong (1999) integrated the literature on IS adoption and technological innovation in small business contexts, and identified four clusters of factors that influence technological innovation: characteristics of the Chief Executive Officer (CEO); characteristics of the technological innovation; characteristics of the organization; and characteristics of the environmental context in which the organization operates. The results revealed that CEO characteristics (CEO innovativeness and IS knowledge), IS characteristics (relative advantage, complexity, and characteristics), and organizational characteristics (size and employee knowledge) were significantly associated with IS adoption.

### **Web Disclosure Adoption Models**

Web disclosure is an innovative practice in which an organization voluntarily discloses high quality financial and performance information on its public website. Five empirical studies have sought to identify the factors that facilitate the adoption of web disclosure. In the first study, Behn, et al. (2010) conducted an exploratory examination of the factors that influenced leaders of the 300 largest NPOs in the U.S. to respond to mail requests for audited financial statements. The results revealed that organizations with higher debt, larger contribution ratios, larger size, NTEE classification of higher education, and those with higher executive compensation ratios were more likely to voluntarily share their audited financial statements.

In a more comprehensive study, Saxton and Guo (2011) conducted a web content analysis of 117 U.S. community foundations in order to identify the factors that influence an organization's adoption of web-based accountability practices. The results revealed that the capacity (i.e. asset size) and governance (i.e. board size) were significantly related to the adoption of web-based accountability practices. The third study consisted of a natural experiment of 40 Taiwanese not-for-profit medical institutions in order to identify the factors affecting the decision to voluntarily disclose financial information (Saxton et al. 2012). The study concluded that organizations that were smaller, had lower debt/asset ratios, and were run by larger boards with more inside members were more likely to voluntarily disclose financial information.

In the next study, Lee et al., (2012) conducted a web content analysis of 125 nonprofit organizational websites in order to identify the factors that influenced the implementation of online accountability. The results revealed that smaller and younger organizations exhibited higher levels of online accountability implementation efficiency than larger and older organizations.

The final study was conducted by Lee and Joseph (2013). Informed by the theoretical underpinnings of organizational ecology theory, the researchers examined the web disclosure practices of a stratified random sample of 653 NPOs. The results further suggest that organizational inertia – particularly resistance to change in organizational form – may play an important role in the decision to voluntarily adopt and implement innovative web disclosure practices.

Although technological innovation theories have been used to explain the variance in behavior across a wide range of technological innovations, virtually no studies on web disclosure have fully applied technological innovation theories. As a result, we still don't fully understand the causal factors that are more likely to lead to the adoption of web disclosure practices.

### **CONTINGENCY MODEL AND THEORY DEVELOPMENT**

Researchers contend that there are systematic differences in information technology (IT) innovativeness among private, public, and nonprofit organizations (Corder 2001; Thatcher et al. 2006). NPOs differ from their counterparts in the private and public sector based on their primary sources of revenue, public value created, and population served (Lee and Bhattacharjee 2011; Moore 2000). The primary sources of revenue in for many NPOs consist of charitable contributions in the form of money, volunteer time, and contributed materials. The public value created by NPOs consists of achievement of the social mission. Characteristics of the population served by many NPOs consist of those who are more likely to be technologically, sociologically, and economically disadvantaged. Based on these systematic differences, we contend that current theories of technological innovation developed in private, public, and large nonprofit settings are less likely to generalize to small NPOs in local communities.

Informed by theories of technological innovation (Kimberly and Evanisko 1981; Rogers 2003; Thong 1999; Tornatzky and Klein 1982), we propose that an NPO's implementation of web disclosure is influenced by four clusters of contextual variables: individual, technological, organizational, and environmental (see Figure 1). In the sections that follow, we develop hypotheses to support the theoretical model within nonprofit settings.

#### **Web Disclosure Adoption**

The dependent construct in our model is web disclosure adoption. We operationally define web disclosure adoption as the extent that organizational leaders indicate that their public website is currently being used to disclose financial and performance information. Financial disclosure is defined as the extent of financial information that an organization discloses on its public website; and performance disclosure is defined as the extent of goal- and outcome-oriented information that an organization discloses on its public website (Lee and Joseph 2013; Lee et al. 2012; Saxton and Guo 2011).

#### **CEO Characteristics**

The first category includes the characteristics of the CEO of the NPO. We use CEO to refer to the head of the NPO, even though various titles are used across the nonprofit sector.

##### *Educational Level*

Educational level refers to the CEO's highest level of education. Research has consistently found that the educational background of the CEO is related to the adoption of innovations (Brancheau and Wetherbe 1990; Kimberly and Evanisko 1981; Rogers and Shoemaker 1971). CEOs with higher levels of education are more likely to have been exposed to state-of-the-art technologies and possess the technology acumen required to influence technological innovation. For example, research has shown that CEOs with higher levels of education possessed more information necessary to reduce the perceived uncertainty during the adoption of spreadsheet software in finance and accounting departments (Brancheau and Wetherbe 1990). Therefore, we posit that NPOs in which the CEO has a higher level of education are more likely to adopt web discourse.

**Hypothesis 1:** The educational level of the CEO is positively related to web disclosure adoption

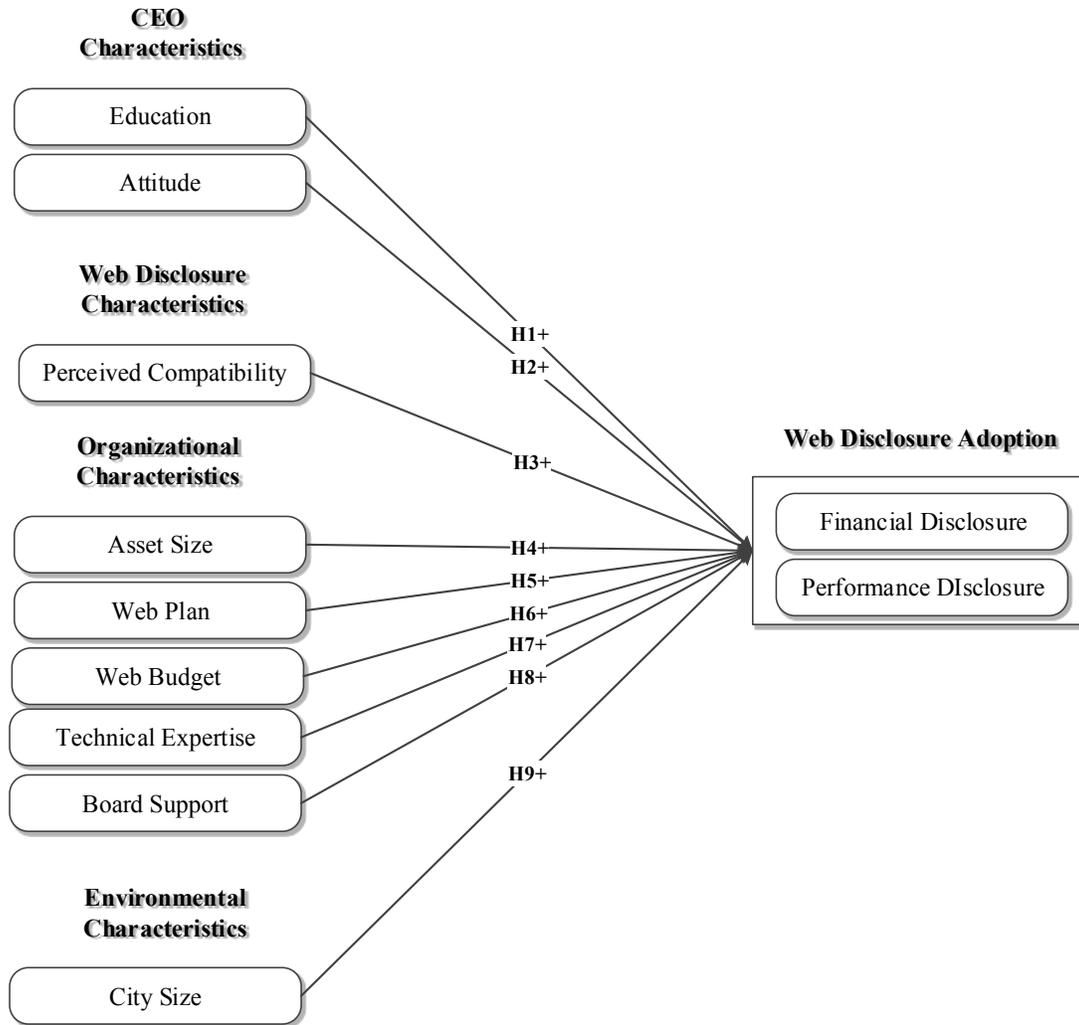


Figure 1: Web Disclosure Adoption

*Attitude*

Attitude refers to the extent that the CEO believes that investments in the web can facilitate greater transparency and accountability. During the persuasion stage of the adoption process, individuals form favorable or unfavorable attitudes towards an innovation (Rogers 2003). We posit that the more favorable the attitude towards investing in the web to facilitate greater transparency and accountability, the more likely the organization will adopt web disclosure.

**Hypothesis 2:** The attitude of the CEO about investments in the web for facilitating transparency and accountability is positively related to web disclosure adoption.

**IS Characteristics**

Studies have shown that relative advantage, complexity, and compatibility are core technological factors affecting the adoption of technological innovations (Bradford and Florin 2003; Tornatzky and Klein 1982). In this study, we examine the perceived compatibility of the organization’s web culture and web disclosure adoption.

*Perceived Compatibility*

Compatibility is defined as “the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters” (Rogers, 2003, p. 22). Web disclosure can be best characterized as a radical innovation that requires new disclosure practices. The departure from traditional disclosure practices is more likely to conflict with existing values and beliefs.

Values and beliefs are part of an organization’s culture. Prior research has identified the influence of an organization’s IT culture on the implementation and use of IT (Kvasny and Lee 2011; Leidner and Kayworth 2006). An organization’s IT culture provides a framework for understanding how stakeholders perceive and respond to IT-based change. Hackler and Saxton (2007) identified four views of a NPO’s web culture: (1) administrative tool; (2) technical tool; (3) communications tool; and (4) strategic tool. NPOs that view the web as a communications or strategic tool are more likely to use the web for external communication and information sharing. However, if the web is seen as an administrative or technical tool, it is less likely that it will be innovatively used to disclose financial and performance information. Therefore, we predict that NPOs that view the web as a communications or strategic tool are more likely to adopt web disclosure.

**Hypothesis 3:** Perceived compatibility, as reflected by the NPO’s web culture, is positively related to web disclosure adoption.

**Organizational Characteristics**

Studies have shown that size is the best predictor of technological innovation (Damanpour 1992; Kimberly and Evanisko 1981; Rogers 2003). However, we suggest that other organizational characteristics are necessary to explain the variance in innovation behaviors in nonprofit settings.

*Asset Size*

Asset size is an organizational characteristic that serves as a surrogate measure of total resources, slack resources, and technical expertise (Rogers 2003). Researchers have reported a positive relationship between asset size and the adoption of web disclosure practices (Saxton and Guo 2011). The accounting literature on financial disclosure also supports a positive relationship between size and disclosure (Healy and Palepu 2001). Lack of financial resources is commonly cited as a barrier to the adoption of technology in NPOs (Schneider 2003). Therefore, we posit that NPOs that have greater access to financial resources are more likely to adopt web disclosure.

**Hypothesis 4:** Asset size is positively related to web disclosure adoption.

*Written Web Plan*

A written technology plan refers to whether an organization has a written technology plan in place. A long-range technology strategy for technological innovation has been found to facilitate the adoption of radical innovations (Ettlie et al. 1984). Therefore, we posit that organizations that have a written technology plan are more likely to adopt web disclosure.

**Hypothesis 5:** The existence of a written web plan is positively related to web disclosure adoption.

*Designated Web Budget*

Designated web budget refers to the extent to which organizations specifically allocate financial resources to web-related expenses and purchases. The existence of a web budget reflects management’s commitment to strategically using the web to facilitate the mission and goals of the organization (Finn et al. 2006). Therefore, we posit that NPOs that have a dedicated web budget are more likely to adopt web disclosure.

**Hypothesis 6:** The size of the web budget is positively related to web disclosure adoption.

*Technical Expertise*

Access to technical expertise has also been cited as an important factor in the adoption of technology by NPOs (Berlinger and Te’eni 1999; Burt and Taylor 2000; MacKay et al. 2004). The inclusion of IT skills in job descriptions reflects management commitment to using technology (Finn et al. 2006); accordingly we

operationalize this construct as the percentage of full-time staff that have technology skills required as part of their job description. Lack of technical expertise is commonly cited as a barrier to the adoption of technology in NPOs (Schneider 2003). As such, we predict that NPOs that explicitly include IT skills in employee job descriptions are more likely to adopt web disclosure.

**Hypothesis 7:** The existence of technical expertise, as reflected in required IT job skills within the NPO, is positively related to web disclosure adoption

#### *Board Support*

Board support is a political variable that refers to the extent of board involvement and support. Sources of support and/or opposition have been found to influence the innovation process (Wolfe 1994). Every NPO is required to have a board of directors or trustees that provide oversight and develop internal controls to ensure accountability. Strong support from the board has been cited as one of the most important characteristics of NPOs that use technology well (Hackler and Saxton 2007). We posit that NPOs with boards that are involved in web planning and support web budget requests are more likely to implement web disclosure.

**Hypothesis 8:** Board support is positively related to web disclosure.

#### **Environmental Characteristics**

Community size indicates whether an organization is located in an urban or rural area (Kimberly and Evanisko 1981; Mohr 1969). The urban leadership hypothesis (Forman et al. 2005) suggests that urban organizations will be more likely to be able adopt technological innovations, based on a well-developed Internet infrastructure that includes broadband access. Alternatively, Internet providers have been less willing to lay down the infrastructure to support broadband connections in rural settings with low population densities. Therefore, we posit that NPOs in urban areas are more likely to adopt web disclosure.

**Hypothesis 9:** Community size is positively related to web disclosure adoption.

#### **RESEARCH METHODOLOGY**

This study employed the survey research methodology. A survey research methodology is a quantitative research strategy used to increase the coverage of the target population and accuracy of responses in order to generalize from a sample to a population (Babbie 1990; Creswell 2003). This methodology allows us to understand what nonprofit managers believe about web disclosure, rather than just extrapolating their beliefs based on observable disclosures.

#### **Research Sample**

The total initial sample consisted of a database of 1,352 501(c)(3) organizations located in an eight-county area of a state in the Northeastern United States that was purchased from GuideStar. The sample was reduced to 775 NPOs by removing those organizations that did not have a valid email address in order to maintain consistency in having all surveys delivered via email. Organizations from the population have been found to exhibit extremely low levels of web disclosure (Lee et al. 2012). As such, the target population represents a suitable sample to explore the problem of differential implementation of web disclosure in local communities.

#### **Survey Instrument**

The survey instrument, "Organizational Digital Divide," was motivated by the desire to understand the factors that inhibited the adoption and/or implementation of web-based technologies among NPOs. The instrument included sections on background, web strategy and planning, capacity, governance, strategic uses of the web, web culture, and web needs. We used specific questions from the survey to identify factors that influence web disclosure adoption.

We used Qualtrics software to distribute the questionnaire. Respondents were sent an email on December 19, 2011, informing them of the study and requesting their participation. As an incentive, organizations were given the option of being placed in a newly created service-learning directory. Respondents were informed that the purpose of the service-learning directory was to assist students in identifying service-learning projects.

In order to further increase the response rate, we sent an email reminder on January 4, 2012. This was followed by a second reminder on January 11, 2012, and a final reminder on January 18, 2012. Of the 775 organizations that received the survey invitation via email, 101 responded, which represents a 13% response rate. Of these, 65 answered all of the questions required to run the regressions in this study.

#### *Validity and Reliability of the Survey Instrument*

In order to establish content validity and reliability we conducted both a pretest and pilot test prior to administering the questionnaire (Creswell 2003; Straub 1989). The survey instrument was developed and pretested in collaboration with the Center for Survey Research located at the researchers' academic institution. Afterwards, the survey was sent to 8 organizational leaders in different NPOs on December 15, 2011. Seven of the leaders completed the questionnaire and provided feedback via email or telephone. Feedback from the pre- and pilot tests was used to make revisions to the questionnaire such as item phrasing, response options, and usability. Responses from the pilot-study were not included in the final sample.

#### **Operationalization and Measurement of Web Disclosure**

In order to measure web disclosure adoption, respondents were asked if their organization effectively uses the web to disclose financial (*FinDisc*) and performance (*PerfDisc*) information on a 5-point Likert scale ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree." Results were not substantially different when we coded two indicator variables equal to 1 if the organization indicated that they "agree" or "strongly agree" that their organization uses the web to disclose financial or performance information.

#### **Operationalization and Measurement of Independent Variables**

##### *CEO Characteristics*

Educational level refers to the level of education of the CEO. Respondents were asked to indicate the highest level of education for the head of their organization. Response options for *Education* ranged from 1 = "High School Diploma," to 4 = "J.D. or Ph.D."<sup>1</sup> The variable *Attitude* reflects the extent to which the head of their organization supports the belief that an investment in the web can be used to demonstrate transparency and accountability. A 5-point Likert scale ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree" was used for the responses.

##### *Innovation Characteristics*

Perceived compatibility was measured by asking respondents to identify the web culture that exists in their organization. Drawing on the work of Hackler and Saxton (2007), respondents were asked to identify whether their organization viewed the web as administrative tool, a technical tool, a communications tool, or a strategic tool. *WebCulture* is included in the regression as an indicator variable equal to 1 if the head of the organization views the web as a communications or strategic tool.

##### *Organizational Characteristics*

*TotalAssets* is the total end-of-year assets for the previous year. The response options were as follows: (1) Less than \$149,999; (2) \$150,000 – \$499,999; (3) \$500,000 – \$2,449,000; and (4) Greater than \$2,450,000. The next three items are considered technology-enhancing administrative innovations adopted from Finn et al.(2006). Respondents were asked if their organization has a written web plan. The response options were "Yes," "No," or "I Don't Know." If they answered yes, *WebPlan* was coded as a "1."

In order to assess the size of an organization's dedicated web budget, respondents were asked to indicate the annual budget for web-related expenses and purchases. *WebBudget* included the NPO's response to the question, ranging from 1 – 7. The response selections were as follows: (1) \$0; (2) \$1 – \$499; (3) \$500 – \$999; (4) \$1,000 – \$9,999; (5) \$10,000 – \$49,999; (6) \$50,000 – \$99,999; and (7) greater than \$100,000.

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<sup>1</sup> Results were not significantly different when indicator variables for each level of higher education were used in the model.

Technical expertise was assessed by asking respondents to indicate the percentage of full time staff required to have technology skills as part of their job descriptions. *ITJobSkills* included the NPO response to this question, ranging from 1 – 5. Response options were as follows: (1) 0%; (2) 1% – 24%; (3) 25% – 49%; (4) 50% – 74% ; and (5) 75% – 100%.

Board support was assessed by asking respondents the extent of board involvement in web strategic planning and management, and the extent of board support for web technology budget requests. A 5-point Likert scale ranging from 1 = “Strongly Disagree” to 5 = “Strongly Agree” was used to assess board support. The variable *BODSupport* was the total of these two responses with a possible range of 1 – 10.

*Environmental Characteristics*

Community size refers to whether the organization is located in an urban or rural community. Respondents were asked to select the county where their organization is headquartered. *UrbanLoc* was coded as a “1” if that county was defined as urban by the state legislature and “0” if it was defined as rural.

**Control Variable**

Characteristics that influence innovation in nonprofits vary systematically across the various types of agencies (Corder 2001). We used the agency type as a control variable. Respondents were asked to categorize their organizations. The response options provided were based on the National Taxonomy for Exempt Entities (NTEE). The NTEE is a classification systems used by the Internal Revenue Service and the National Center for Charitable Statistics (see Table 1).

**Regression Analysis**

To test our hypotheses, we ran two separate Ordinary Least Squares (OLS) regressions on the above variables to explain web performance and financial disclosure as follows:

$$\begin{aligned}
 \text{Disc} = & \beta_0 + \beta_1\text{Education} + \beta_2\text{Attitude} + \beta_3\text{WebCulture} + \beta_4\text{TotalAssets} \\
 & + \beta_5\text{WebPlan} + \beta_6\text{WebBudget} + \beta_7\text{ITJobSkills} + \beta_8\text{BODSupport} + \beta_9\text{UrbanLoc} \\
 & + \text{SectDum} + \varepsilon
 \end{aligned}$$

We expected each of the independent variables as defined to be positively associated with web performance and financial disclosure.

**RESULTS**

**Descriptive Statistics**

Table 1 presents descriptive statistics of the 65 NPOs with usable responses. The research sample included a range of agencies represented including Arts, Culture and Humanities, Education and Research, Health Services, Human Services, Public and Societal Benefit, and Religion. Our sample tended to consist of smaller organizations with 54% having 5 employees or less.

		Frequency	Percentage
Sector			
	Arts, Culture and Humanities	8	12%

	Education and Research	13	20%
	Health Services	10	15%
	Human Services	10	15%
	Public and Societal Benefit	14	22%
	Religion	3	5%
	Other	7	11%
Number of Full-Time Employees			
	0	6	9%
	1 – 5	29	45%
	6 – 10	7	11%
	11 – 15	7	11%
	16 – 20	4	6%
	21 – 50	3	5%
	51+	9	14%

**Table 1: Profile of Survey Respondents**

Table 2 presents data on the 2 dependent and 9 independent variables investigated in our study. The responses indicated that on average NPOs believe that they are using the web as a mechanism to disclose more performance information than financial information. CEO and organizational characteristics stood out as factors that influence web disclosure. For example, the majority of respondents reported that the CEO was well educated and had a favorable attitude toward investing in the web to facilitate transparency and accountability. As it related to organizational characteristics, the majority of respondents reported having more assets, IT job skills included in current job descriptions, and Board of Directors (BOD) support.

Table 3 presents a correlation matrix. Performance disclosure was significantly positively related to *Attitude*, *WebCulture*, and *ITJobSkills*. Financial Disclosure was significantly positively related to *ITJobSkills* and *WebBudget*. These univariate relations were later confirmed in our OLS regression results.

	Range	Minimum	Maximum	Mean	S.D.
<i>Independent Variables</i>					
CEO Characteristics					

	Education	3	1	4	2.69	0.79
	Attitude	2	3	5	4.20	0.73
IS Characteristics						
	Web Culture	1	0	1	0.95	0.21
Organizational Characteristics						
	Total Assets	3	1	4	2.85	0.94
	Web Plan	1	0	1	0.14	0.35
	Web Budget	5	2	7	3.78	1.35
	IT Job Skills	4	1	5	3.89	1.43
	BOD Support	8	2	10	6.40	1.49
Environmental Characteristics						
	Urban Location	1	0	1	0.66	0.48
<i>Dependent Variables</i>						
	Performance Disclosure	4	1	5	3.72	0.94
	Financial Disclosure	4	1	5	2.88	1.15

**Table 2: Descriptive Statistics**

	PerfDisc	FinDisc	Education	Attitude	WebCulture	Assets	WebPlan	WebBudget	ITJobSkills	BODSupport	UrbanLoc	
PerfDisc	1.000											
FinDisc	0.054	1.000										
Education	0.052	-0.042	1.000									
Attitude	0.443	**	0.067	1.000								
WebCulutre	0.248	*	-0.024	0.101	0.262	*	1.000					
Assets	0.057	0.098	-0.002	0.091	-0.036	1.000						
WebPlan	0.166	0.004	0.101	-0.049	0.088	-0.029	1.000					
WebBudget	-0.011	0.263	*	-0.019	0.170	-0.035	0.293	*	0.164	1.000		
ITJobSkills	0.302	*	0.267	*	-0.183	0.230	0.139	-0.083	0.156	0.053	1.000	
BODSupport	0.158	0.129	-0.093	0.069	-0.089	0.224	0.284	*	0.378	**	0.065	1.000
UrbanLoc	0.066	-0.191	-0.364	**	-0.072	-0.002	-0.013	0.004	-0.163	0.106	0.018	1.000

\*Correlation is significant at the .05 level (2-tailed)  
 \*\*Correlation is significant at the .01 level (2-tailed)

Table 3: Correlation Matrix

**OLS Regression Results: Performance Disclosure**

Our main regression results are presented in Table 4. For performance disclosure, we found support for H2, H3, H7, and H8. H2 and H3 predict a positive relationship between performance disclosure and the CEO's attitude toward the usefulness of web disclosure in promoting accountability and perceived compatibility of web disclosure. We found a significant positive relation at the 1% level between the belief that the web promotes transparency and accountability, and performance disclosure (H2). We found a significant positive relation at the 5% level between the belief that the web is a communication or strategic tool and performance disclosure (H3).

Variable	Predicted Sign	Performance Disclosure		Financial Disclosure	
<i>Intercept</i>	+	-1.758 (0.121)		2.307 (0.142)	
<i>Education (H1)</i>	+	0.207 (0.200)		-0.098 (0.659)	
<i>Attitude (H2)</i>	+	0.538 (0.002)	***	0.062 (0.784)	
<i>Web Culture (H3)</i>	+	1.046 (0.056)	*	-0.046 (0.586)	
<i>Total Assets (H4)</i>	+	-0.018 (0.881)		0.138 (0.411)	
<i>Web Plan (H5)</i>	+	0.095 (0.779)		-0.264 (0.573)	
<i>Web Budget (H6)</i>	+	-0.129 (0.154)		0.215 (0.089)	*
<i>IT Job Skills (H7)</i>	+	0.189 (0.030)	**	0.223 (0.063)	*
<i>BOD Support (H8)</i>	+	0.151 (0.078)	*	-0.078 (0.507)	
<i>Urban Location (H9)</i>	+	0.197 (0.422)		-0.422 (0.216)	
<i>Sector Dummies</i>		<i>Included</i>		<i>Included</i>	
<i>N</i>		65		65	
<i>Adj. R<sup>2</sup></i>		0.284		0.076	
***, **, and * indicate two-tailed statistical significance at the .01, .05, and .10 levels, respectively.					

**Table 4: OLS Regression Results**

Two organizational characteristics, IT job descriptions (*ITJobSkills*) and board involvement in web planning and support for the web technology budget (*BODSupport*), were also found to be positively associated with performance disclosure at the 5% and 10% levels, respectively. This suggests that NPOs are more likely to disclose performance information online when they have the technical expertise (H7) and board support (H8) to do so.

### OLS Regression Results: Financial Disclosure

Results for financial disclosure were slightly different, with support for H6 and H7. Similar to performance disclosure, financial disclosure was found to be positively associated with technical expertise as represented by a high percentage of job descriptions requiring IT skills (*ITJobSkills*). This suggests that having employees with the skills necessary to facilitate web disclosure is a positive factor in encouraging both performance and financial disclosure on the organization's website. Unlike performance disclosure, there was no association between financial disclosure and the CEO's beliefs about the usefulness of web disclosure and perceived compatibility of the innovation. This may reflect differing motivations for disclosing financial information online, such as fulfilling the IRS requirement that the Form 990 be made available to the public. However, web budget (*WebBudget*) was found to be positively associated with greater financial disclosure, suggesting that having more resources set aside specifically for web disclosure will facilitate more financial disclosure.

### DISCUSSION

This research provides support for using a four-factor model to explain the factors that influence the adoption of web disclosure in nonprofits. Results reveal that CEO and organizational characteristics are related to web disclosure. We found that NPOs that are more likely to disclose performance information have a CEO who believes that investments in the web can facilitate greater transparency and accountability. Our findings support prior research on innovation that suggests that a favorable attitude towards the innovation is more likely to influence adoption and/or implementation (Rogers 2003).

We also found that NPOs that are more likely to disclose performance information exhibit a culture that values the web as a communication or strategic tool, have more employees with technical expertise, and have a BOD that is more supportive of web technology.

Furthermore, we found that NPOs are more likely to disclose financial information possess the technological readiness for web disclosure in terms of employees with technical expertise and a dedicated web budget. These findings support prior research suggesting that the adoption of technology-enhancing administrative innovations such as the inclusion of IT job skills in employee job descriptions and a dedicated web budget facilitates the adoption of technological innovations (Finn et al. 2006). As a whole, these results offer significant insight into the factors that are more likely to facilitate broader adoption of web disclosure practices in the nonprofit sector.

### Implications for Research

Based on the results of the study, it is clear that the factors identified in the framework are not the only ones that influence the adoption of web disclosure. Therefore, additional factors such as perceived relative advantage, perceived complexity, perceived public pressure, and perceived social risks should be considered in future research.

Furthermore, since our results differed for performance and financial web disclosure, it would be useful to further consider how the costs and benefits of these two types of disclosure differ in ways that affect the propensity to disclose. The accounting literature on financial and nonfinancial disclosure (Cormier et al. 2009) may provide a useful framework to pick up where the technological innovation literature leaves off.

Finally, our study also opens the door for more empirical research on web disclosure. We were not able to link perceived effectiveness of financial and performance disclosure to the actual quality of disclosure in this anonymous survey. Therefore, future research should examine the relationship between the quality of web disclosure and the organizational outcomes such as public trust, improved donor decision making, and increased donations.

### Implications for Practice

This study also provides important insights for disclosure management. First, it is important for nonprofit managers and boards of directors to become well-versed on recommended principles and best practices of web disclosure (GuideStar 2009; IRS 2008; Panel on the Nonprofit Sector Sector 2007) in order to influence their attitude towards web disclosure. Finally, in order to facilitate broader implementation of web disclosure

practices, it is important for nonprofit managers to first adopt and implement technology-enhancing administrative procedures such as a web strategy and plan, web budget, and the inclusion of IT skills in employee job descriptions.

## CONCLUSION

The purpose of this paper is to gain a more comprehensive understanding of the factors that facilitate the adoption of web disclosure in nonprofit settings. We developed a contingency model of web disclosure adoption that was informed by theories of technological innovation. We used the model to explore the relationship between individual, technological, organizational, and environmental factors on the adoption of web disclosure. Our results revealed that CEO and organizational characteristics are significantly related to web discourse.

Although the results of our study are limited due to the small sample size, our findings contribute to the knowledge base on web disclosure in the following ways. First, identify the main factors that are associated with the adoption of web disclosure. Second, we explore web disclosure in a context that is underrepresented in mainstream IS and accounting research. Despite calls for more IS research in nonprofits (Zhang et al. 2010), very little IS research has focused on small and medium sized nonprofits. Finally, we adopt a broader view of web disclosure by drawing on technological innovation. Prior studies on web disclosure focused on the adoption of web disclosure without grounding in theories of technological innovation and diffusion of innovations.

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