

Assessing Nonprofit Websites: Developing an Evaluation Model

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Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

Doctor of Philosophy  
In  
Public and International Affairs

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April 9, 2018  
Blacksburg, VA

Keywords: nonprofit, charity, website, evaluation, assessment, stage model, adoption

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## ABSTRACT

Nonprofit organizations are pivotal actors in society, and their websites can play important roles in aiding organizations in their socially-beneficial missions by serving as a platform to present information, to interact with stakeholders and to perform online transactions. This dissertation analyzed nonprofit websites in the United States (U.S.) and in Thailand in a series of three articles. The first developed a website evaluative instrument, based on an e-commerce model, and applied it to nonprofit websites through a manual decoding process. That article's findings suggested that Thai websites are not considerably different than U.S. nonprofit websites, except more American websites offer online transactions. The second article analyzed two different types of nonprofits in Thailand using the same model to assess website development in an emerging market. That analysis suggested local Thai nonprofits' websites lagged significantly behind those of internationally connected nonprofit organizations in the country in the features they offered. The third article compared the adapted model employed in the second analysis, which used manual decoding for website examination, to a commercially available, automated evaluation service. That analysis highlighted the differences between the two assessment tools and found them to be complementary, but independently insufficient to ensure robust nonprofit website evaluation.

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## GENERAL AUDIENCE ABSTRACT

Nonprofit organizations, such as public charities, are integral in our society. With increased Internet access, members of the general public often visit nonprofit websites to learn about such institutions. Nonprofits, however, lack a systematic tool to analyze how well their websites are developing and whether they are successful in securing their aims. This dissertation developed and applied an evaluative model to examine nonprofit entity website features and efficacy in the United States and in Thailand. The analysis found U.S. and international nonprofits websites were better developed than local Thai organizations, but still evidenced significant design challenges. Comparing the results of the developed evaluation model to those produced by a commercial automated assessment tool, the author found neither to be sufficient alone for measuring the quality of nonprofit websites.

## DEDICATION

For T & S, my work

## ACKNOWLEDGEMENTS

My sincere thank you to my committee for working with me throughout these years. Each of you has a unique point of view, and your continual support has always been appreciated. A special thank you to Dr. Max Stephenson Jr. for his thoughtful support and thorough editing.

My deepest appreciation goes to Dr. Alan Abrahams for guiding me throughout the research and publication process. Your listening sessions and support, in addition to excitement regarding research and teaching, allowed me to follow my research direction. You are a resource to the university and to all the students who work with you.

Dr. Peter Ractham, your drive to expand research opportunities in Thailand is invaluable. Your support, as well as Siriporn Srisawas, was indispensable.

I also owe a debt of gratitude to all those that helped on the home front, allowing me to finish this course and look forward to new adventures.

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## LIST OF ABBREVIATIONS

Gross Domestic Product	GDP
Hypertext Markup Language	HTML
Information communication technology	ICT
Information technology	IT
Internal Revenue Service	IRS
National Center for Charitable Statistics	NCCS
National Statistics Office	NSO
Office of the National Economic and Social Development Board	ONESDB
Sitebeam	SB
Statistics of Income	SOI
Thai Revenue Department	TRD
Uniform Resource Locator	URL
United States	U.S.
World Wide Web Consortium	W3C

## ATTRIBUTIONS

Kristin Kirk developed the three articles included in this dissertation with Alan Abrahams, of the Department of Business Information Technology in the Pamplin College of Business at Virginia Tech, and two of the articles with Peter Ractham, of Thammasat University in Thailand. Abrahams provided guidance and advice, as well as editing, throughout the process. Students in Abraham's Business Analytics course undertook the website coding for the stage model analysis for extra credit, which was used in all three of the articles. Ractham had previously published research on the Stage Model (Rotchanakitumnuai, Kaewkitipong, and Ractham 2011) and provided guidance on that theory, in addition to advising on issues regarding Thailand and undertaking editing. Ractham's graduate assistants helped search for and verify the names of Thai nonprofit organizations to add to the sample used in Articles 1 and 2. Ractham also provided Thai speaking website coders. Kirk developed the coding instrument, analyzed the data and wrote the three articles as well as the introduction and conclusion.

## INTRODUCTION

Nonprofit charitable organizations exist to benefit society, and technology may aid those entities in their mission-driven work. During the past few decades, information communication technology (ICT) has changed how people live in the world. ICT costs have decreased and access to such technologies has increased, expanding the global information flow. The Internet has been at the forefront of the growth of new technologies that include, but are not limited to social media, crowdsourcing, smart phones, digital video recorders and more. Nonprofits can capitalize on the capacity of the Internet to share their aims and efforts with the public through their websites, social media and other online tools as they undertake a wide array of functions arising from their diverse missions. ICT can aid nonprofits in building online communities of constituents with similar interests (Leong et al. 2015; Lovejoy and Saxton 2012), increasing interaction among their constituencies (Eimhjellen 2014; Waters and Feneley 2013), cultivating relationships and stewardship with external stakeholders (Waters and Feneley 2013), sharing information (Eimhjellen 2014; Lovejoy and Saxton 2012; Lovejoy, Waters, and Saxton 2012), collecting revenue (Nielson 2011; Read 2013; Shier and Handy 2012), organizing people or events (Shirky 2008), recruiting volunteers (Emrich and Pierdzioch 2016; Harrison and Murray 2007; Nielson 2011), offering a platform for advocacy (Guo and Saxton 2014; Harrison-Walker and Williamson 2000; McNutt 2007; Merry 2013), improving fiscal and programmatic accountability (Dumont 2013; Saxton, Kuo, and Ho 2012; Tremblay-Boire and Prakash 2014) and calling targeted groups to action (Lovejoy and Saxton 2012). Nonprofit leaders may also employ ICT to improve their administrative functions, marketing and service delivery (Jaskyte 2012).

This dissertation adds to the body of knowledge on nonprofit organizations' use of ICT by exploring civil society institutions' website development in a series of three recently published articles originally developed for this work. The first analysis, "E-Progression of Nonprofit Organization Websites: U.S. versus Thai Charities," published by the *Journal of Computer Information Systems* in 2016, developed an evaluative framework using stage model theory and applied it to a sample of U.S. and Thai nonprofit websites to explore and compare nonprofit organizations' adoption of website features, such as social media and other uses, including disclosure and interactivity. A second comparative study, "Website Development by Nonprofit Organizations in an Emerging Market: A Case Study of Thai Websites," published by the *International Journal of Nonprofit and Voluntary Sector Marketing* in 2016, similarly evaluated nonprofit websites using a stage model, but also compared the features of those operated by international nonprofits in Thailand (those that have operating offices in Thailand and supporting offices in the developed world) to local Thai nonprofits. The third article, "Evaluating Public Charity Websites: Stage Model versus Automated Service," published by *Nonprofit Management and Leadership* in 2017, compared the results of a stage model analysis of a sample of U.S. nonprofit organization websites to the evaluative findings provided by a commercially available, automated quality assessment service. By developing the stage model framework for nonprofits and comparing its utility to a widely used commercial website evaluation framework, this research provides managers and scholars alike with a more precise sense of the strengths and weaknesses of each of these forms of evaluation and whether and how they can be helpful. The three articles appear below. This dissertation's conclusion highlights the central findings of the analyses and addresses lingering issues surrounding nonprofit website evaluation, while also outlining several opportunities for future inquiry.

This research is important for the civil society sector as websites are one of the most important platforms those organizations employ to interact with the public. Nonprofits target volunteers, media and donors more often via their websites than by means of social media (Waters and Feneley 2013). The public also prefers visiting a website to learn about a nonprofit organization, versus social media, where they expect to see success stories associated with that entity (Nielsen 2011). Websites are also becoming pivotal for fundraising, as online giving continues to rise (M+R 2017). Even nonprofit leaders' attempts to increase revenue via social media routinely have been related to their organizations' website reach, indicating an antecedent need for institutions to develop an online presence (Saxton and Wang 2014).

To date, however, research on nonprofit use of technology and websites, particularly, has been limited (Zhang, Gutierrez, and Mathieson 2010). Such inquiry as has occurred has primarily focused on technology adoption, such as websites or social media, by such organizations or their failure to do so (Clerkin and Gronbjerg 2007; Hackler and Saxton 2007; Nah and Saxton 2013; Tuckman, Chatterjee, and Muha 2004; Waters 2007; Waters et al. 2009; Wolpert and Seley 2007). A few studies have expanded website analyses beyond the question of whether nonprofits employed them by assessing how organizations used those platforms to ensure their accountability and responsiveness to stakeholders (Dumont 2013; Saxton and Guo 2011; Tremblay-Boire and Prakash 2014; Waters and Feneley 2013), by categorizing websites as static or dynamic (McMahon, Seaman, and Buckingham 2011) or by comparing how high-asset nonprofits and their less well-off counterparts have employed them (Waters 2007). Other research has utilized surveys of nonprofit executives and managers to examine those leaders' expectations of websites (Goatman and Lewis 2007; Jaskyte 2012). More recent analyses of ICT use by nonprofit organizations have focused on other specific areas, including social media

(Leong et al. 2015; Maxwell and Carboni 2016; Raman 2016), fundraising (Panic, Hudders, and Cauberghe 2016) or volunteering (Emrich and Pierdzioch 2016). Additionally, many nonprofits and commercial groups have begun conducting their own ICT research (M+R 2017; El Borno 2012). Scholars, however, have not, to date, fully evaluated how nonprofit organizations use websites; identified a comprehensive framework for their evaluation; examined a representative, generalizable sample of nonprofit websites; or assessed the website characteristics and functions of nonprofits based in a developing or emerging market nation.

Nonprofit organization website research needs to expand beyond questions of adoption and interactivity as these concerns are not sufficient for understanding the complexity of such platforms and their capacity or potential to aid these entities in their work. New, and often low-cost or free technologies, such as Drupal (a content management software) and social media (Google, Facebook and Instagram among others), allow nonprofit leaders to transform their organizations' websites from static or flat brochure-ware pages into dynamic and robust interactive platforms. Moreover, as most civil society institutions serve multiple stakeholders, the capacities and functions of their websites need to reflect the different expectations of those groups. Millennials and members of still younger generations particularly, care significantly about website functionality and design (Achieve 2013). Overall, user expectations of the characteristics and features of websites with which they interact have continued to rise as ICT capacities have grown and become more widely available (Waite, Harrison, and Hunter 2011).

Assessment tools offer managers mechanisms to understand better how well their websites are accomplishing the goals they have set for them. Nonprofit leaders can use such programs independently to evaluate their websites for effectiveness or as benchmarking tools to help them compare their Internet platform-related efforts to those of other civil society

organizations. That is, assessment tools permit nonprofit leaders and managers to identify the strengths and weaknesses of their organization websites, highlighting areas that need improvement. Many nonprofits, however, do not have developed evaluation frameworks to aid them in assessing the perceived utility and quality of their websites. In such cases, managers may ignore such issues, have someone with little technical training address them, hire expensive specialized consultants or utilize for-profit approaches to address them, such as third-party website developers, assessment tools or online marketing approaches.

Unlike the nonprofit sector, for-profit and public sector websites have been rigorously tested for quality and effectiveness against quantifiable goals, such as increased sales or number of visitors (Bertot, Jaeger, and Grimes 2010; Hong and Kim 2004; Loiacono 2000; Loiacono, Watson, and Goodhue 2007; Chiou, Lin, and Perng 2010; Shareef et al. 2011; United Nations 2010) for more than a decade. There are numerous frameworks and models, such as Webqual (Loiacono, Watson, and Goodhue 2007), in addition to expensive usability tests (Hasan, Morris, and Proberts 2013), that seek to measure the effectiveness of for-profit websites. Additionally, such organizations can employ web metrics, such as Google Analytics, which can be a less expensive option, but their use is complicated by incomplete data and unstandardized interpretations (Weischedel and Huizingh 2006). Alternatively, market organizations can purchase a fee-based service that will analyze their website features and functions to provide standardized scores based on relevant consumer research. These assessments typically focus on either information systems, which include the technical elements supporting a website, such as navigation, download time, etc., or marketing, which can include innovativeness, effective conveyance of information, visual appearance or imaging, among other possible characteristics (Chiou, Lin, and Perng 2010). Such inquiry has led the World Wide Web Consortium (W3C), to



specify and catalogue many technical metrics as standard for website creation, in order to ensure a specific user experience irrespective of organizational context. The third-party tools, consultants and developers that nonprofits often utilize for website development and evaluation rely on this body of work. As a general proposition, nonprofit organizations interested in website assessment strategies have typically employed evaluative strategies developed to test for-profit websites' quality and effectiveness in lieu of having a variety of such tools available that were developed specifically for their use (Hooper and Stobart 2003; Tremblay-Boire and Prakash 2014; Wenham, Stephens, and Hardy 2003).

Nonprofits, however, are not for-profit or public sector institutions, and ICT researchers need to explore and understand better their unique needs and create approaches designed to address those imperatives (Zhang, Gutierrez, and Mathieson 2010). A firm's website has the primary goal of creating profit for its shareholders by generating product or service sales. Identifying measures of success for nonprofit websites, however, is more difficult since their aims are generally more complex than those of companies (Glassman and Spahn 2012). Moreover, nonprofits must rely on multiple stakeholders, with differing expectations and goals, to secure support to advance their missions, often relying on intangibles, such as trust and values to galvanize that assistance. In addition, these organizations confront the complexity arising from addressing social, environmental and financial bottom lines simultaneously.

These issues are even more difficult for nonprofits in developing nations or emerging markets. Civil society organizations in such countries, such as Thailand for example, contribute to economic growth, help to mitigate spillover effects arising from development and are important architects of basic civic infrastructure in their countries (Anheier and Salamon 1998). Websites may be able to help these organizations maximize their overall community impact by

providing a wider array of information and services to established and potential stakeholders.

While Internet access is limited in many developing countries, research has shown that ICT innovations can occur rapidly in emerging economies (Xiao et al. 2013). Furthermore, studying early adopters, organizations that elect to employ a specific technology at, or soon after, its introduction, can subsequently aid in understanding how those following after are likely to employ that innovation (Rogers 2003).

While a few studies have analyzed for-profit e-commerce websites in developing nations (Hasan, Morris, and Proberts 2013; Rotchanakitumnuai and Speece 2007; Rotchanakitumnuai, Kaewkitipong, and Ractham 2011; Sambhanthan and Good 2013), little research to date has addressed how nonprofit organizations in such countries use ICT, including websites (Xiao et al. 2013). Previous inquiries have profiled small successful initiatives regarding specific situations, such as ICT use in disaster relief efforts (Gao, Barbier, and Goolsby 2011; Leong et al. 2015; Mwambui 2010). Evaluating nonprofit websites in an emerging market, such as Thailand, and comparing their functions and relative efficacy to a sample of U.S. and international nonprofits, will help analysts understand better how well these sites are progressing in their features and utility and may help nonprofits in other countries undergoing similar economic change chart how they may develop their own institutions' sites.

This dissertation, comprised, as noted above, of three articles, examines nonprofit website evaluation. The analyses develop and apply an assessment framework, the stage model, to nonprofit organization websites in the U.S. and in an emerging market, Thailand. Taken together these articles provide an initial understanding of how civil society organization web platforms are developing by exploring how such entities are currently employing their sites and what features they are using. Additionally, this dissertation explores the question of whether

nonprofits in an emerging market, Thailand, exhibit a similar pattern of website use and development to such entities in the U.S., or whether they are evolving differently along specific dimensions. Finally, the third article compares the findings of a stage model assessment tool to a commercially available evaluative one to attain a more robust understanding of what each framework investigates and captures and to open a discussion on evaluation mechanisms for nonprofit websites. The following paragraphs outline how each article included here contributes to these overall analytic aims.

The first analysis, “E-progression of Nonprofit Organization Websites: U.S. versus Thai Charities,” develops a tool for nonprofit website evaluation based on stage model theory, which had previously been used to analyze ICT adoption by for-profit and public-sector organizations but had not previously been applied to civil society organization online platforms. The stage model served as the foundation for this inquiry due to its relative simplicity, yet typically robust findings. The framework was also readily adaptable to nonprofits and had already been extended to a diverse array of for-profit industries (Rotchanakitumnuai, Kaewkitipong, and Ractham 2011; Sambhanthan and Good 2013) and public organizations (Shareef et al. 2011; United Nations 2008).

A stage model assessment inventories the presence or absence of various online features and services on a site and categorizes them into progressive levels, which build upon previous stages indicating online sophistication, starting with basic communication and extending toward an integrated online experience (Disney, Naim, and Potter 2004; Fitzgerald and Mendo 2005; Rao, Metts, and Monge 2003; Rotchanakitumnuai and Speece 2007; Rotchanakitumnuai, Kaewkitipong, and Ractham 2011; Willcocks and Sauer 2000) (See Appendix A). Websites situated on higher levels in this form of analysis not only offer their users more information, but

also represent adoption of more advanced technologies. In theory, each level reached reflects additional maturity in institutional use and ICT strategy and represents increased technological complexity and sophistication (Rao, Metts, and Monge 2003; United Nations 2008).

Traditional stage model theory suggests that organizations raise the sophistication of their websites in an ordered sequence of identifiable steps, and the higher the level attained, the greater the benefit to users and sponsoring entities (Fitzgerald and Mendo 2005). Organizational change, however, is complex and is typically the product of simultaneous, interacting drivers. The progression of website development is therefore dynamic and not strictly linear. Organizations may skip levels or regress. The stages in the model must therefore be regarded as broad indicators of website development. Additionally, by inventorying and analyzing observable differences that occur at each level, analysts employing the model can examine a number of components related to website function and, ultimately, to organizational strategy.

In addition to adapting the stage model to nonprofit websites, the first article also applied the resulting framework to a sample of nonprofit organizations in the U.S. and to nonprofits in an emerging market, Thailand. That comparative analysis highlighted the nonprofits' websites progression from the basic level of presenting information, to providing users opportunities for interaction with their organization, to offering e-transactions. The second article, "Website Development by Nonprofit Organizations in an Emerging Market: A Case Study of Thai Websites," employed the evaluative tool derived in the first paper to examine differences in how local Thai nonprofits have developed their web platforms compared to international nongovernmental organizations operating in Thailand. Both comparative analyses explored how civil society organizations, under differing circumstances, arising, for example, from path dependencies or social origins, may develop their websites differently. For example, these

analyses explored the question of whether, with less access to the Internet in Thailand, nonprofits in the U.S. would tend to have more interactivity options. Similarly, these articles examined whether internationally connected organizations, such as Care Thailand, would evidence more e-transaction capabilities than local Thai nongovernmental organizations on their web sites. The articles also investigated if and how culture affected website development.

The third article, “Evaluating Public Charity Websites” employed a different approach by comparing results derived from the stage model framework, adapted for nonprofits in the previous studies, to the findings of a commercially available, third party website assessment tool, Sitebeam (Silktide 2013). As noted above, third-party, automated evaluative instruments analyze websites based on their logs and HTML (Hypertext Markup Language) code. These tools retrieve specific data and examine it via proprietary algorithms, producing quality scores, such as website marketing and accessibility. The instrument utilized in this study, Sitebeam, is available online at relatively low-cost, offers immediate results and is increasingly being marketed to nonprofits, universities and commercial firms.

The comparative analysis of these assessment strategies in this article called into question the organizational stage model assumption that progressively reaching higher stage levels of functional applications is synonymous with increased website sophistication and technical quality. The article also questioned whether commercially available website evaluation instruments are sufficient to address the complex needs of nonprofit organizations. Instead of focusing on site features and development, as in the first two articles included in this dissertation, the third analysis specifically examined each assessment approach and whether the results they produced were useful to nonprofit managers.

Although not explicitly treated as a theme, taken together, the three articles highlight a central contemporary tension that nonprofits face throughout the world: pressure to adopt business-like strategies and practices to improve efficiency while nonetheless maintaining the organizational values that underlie their existence. Neo-liberalism and New Public Management have both co-created and legitimated a cultural shift away from a view that saw effectiveness, equity and efficiency as equally vital aims for nonprofits to a perspective that prizes efficiency as their primary organizational aspiration. This change has had resounding effects for the nonprofit sector. Along with persistent criticism that they are insufficiently market-like, nonprofits continue to face rising demands for their goods and services, often without sufficient revenue; a trend that has prompted many to seek to develop tools that demonstrate their success (Liket and Maas 2015). Many civil society organizations fear that adopting too many business-like strategies or tools, however, could lead to losing their existential purpose and values, while also resulting in declines in the quality of their services (Neff and Moss 2011; Ronalds 2010; Taylor and Soal 2010; Worth 2008).

Website technology and accompanying evaluative frameworks, which are addressed in this dissertation, are among the business strategies that many nonprofit leaders and managers have approached with skepticism and reluctance. In the 1990's, many civil society organizations were uncertain of the value of these technologies and therefore relatively slow to participate in their adoption. This was true for their development and use of websites. Similarly, initial attempts, and frequent efforts thereafter, at developing performance assessments or other evaluative measures to indicate impact often resulted from donor pressures and were ill-funded, redundant, time consuming or poorly conceived, thereby becoming a tool for manipulation during organizational power struggles rather than aiding the entities employing them (Guijt

2010; Ronalds 2010; Taylor and Soal 2010). In such an environment, an organizational culture averse to many business-like strategies, including hiring technical staff and adopting tools, such as ICT or website evaluative frameworks, emerged among many nonprofits (Ronalds 2010; Zhang, Gutierrez, and Mathieson 2010). In addition, nonprofit leaders and managers often believe that policy, and not technology, ultimately will drive their organizations' success (Hackler and Saxton 2007; Neff and Moss 2011; Schön, Sanyal, and Mitchell 1999).

More subtly, some nonprofit leaders today still fail to see how new technology or performance evaluations can aid their work, perceiving them as ancillary to their missions and often begrudging their costs in consequence. This perception affects the attention websites receive from civil society leaders (Goatman and Lewis 2007; Saxton, Guo, and Brown 2007), who may not fully comprehend the wide array of features and design possibilities available to their organizations. Robust evaluations, created in concert with nonprofits' goals and values, can potentially aid such organizations by providing insight into their operations, helping them to improve their performance by learning from and reflecting on the results and adapting accordingly (Cooper and Shumate 2016). If they are already attempting to use their websites for specific purposes, evaluation can aid in understanding the effectiveness of those efforts and may help them demonstrate their impacts.

Analyzing the quality of nonprofit websites in an emerging market also provides an opportunity to discuss the appropriateness of applying evaluative frameworks derived in the West to non-Western entities. Nonprofit organizations in developing nations often import U.S. or European models of management and assessment in attempts to improve their effectiveness (Lewis 2007), but past research has questioned the effectiveness and appropriateness of such transfers, due to their differing stakeholders and cultures (Jackson 2009). For example, some

analysts have illuminated a basic contradiction in stakeholder base for nonprofits in developing nations, as these organizations may focus on chasing potential funders, including international actors, due to a lack of resources (Gibb and Adhikary 2000), but still claim a comparative advantage arising from local responsiveness and cultural sensitivity (Lewis 2007). Additionally, past studies have yielded mixed findings on leaders' capacity to use management tools across different cultures (Holtbrügge 2013). This dissertation takes up the question of the applicability of cross-cultural evaluative frameworks, as culture can supersede ICT performance (Lewis and Madon 2004).

### **Research Design and Methodology Overview**

The three articles presented in this dissertation apply an evaluative instrument to two samples of nonprofit websites (see Appendix B). Details of the methodological process of developing that tool and the sampling procedures employed for the analysis appear below. In addition, each independently published article provides appropriate methodological documentation. The first sample was a random, nationally representative one of nonprofit public charities in the U.S., while the second sampled nonprofits in Thailand in a non-random, non-probability fashion. The study also included data from Sitebeam (Silktide 2013), an online automated service for website evaluation. The research for all three articles used publicly available data and did not involve human participants as interviewees or as targets for observation.



### *U.S. Nonprofit Sample*

The author obtained a random sample of U.S. nonprofits from the National Center for Charitable Statistics' (NCCS) database in the fall of 2013. The NCCS collects data from all U.S. nonprofits that submit Internal Revenue Service (IRS) 990 public financial information forms. The sample included nonprofits that filed such documents and were classified as charities under section 501c3 of the U.S. Code. Public charities constitute the majority of nonprofits in the U.S., accounting for about 1.1 million of the approximately 1.7 million nonprofits. The author randomly pulled organizations from asset groups from the NCCS data to match the population of nonprofits in the U.S. (see Article 3, Table 1, page 97, below) with an oversample of higher-asset organizations to ensure a large enough sample size to conduct further analysis of larger organizations, if needed. The author added post-stratified weights back into the sample to ensure representativeness. In addition to the names of the organizations, the NCCS database also provided each nonprofits' total assets, year of formation and address.

After retrieving the nonprofit name and location, the author began the process of matching nonprofits to their websites. Although the NCCS database does include some website addresses, the list is incomplete and is not updated frequently. Virginia Tech Business Information Technology students, working for extra class credit, conducted manual Internet searches for each charities' website address in the fall of 2013. The author verified each located website address by checking it against the listed Uniform Resource Locator (URL), if available in the NCCS, and the physical address posted on the website. If a website could not be located for a sampled charity, the author randomly drew a replacement from the same revenue stratification in the NCCS database in order to reduce nonresponsive bias (Stopher 2012).

Of the original randomly selected nonprofits, 81% had an active website. The author excluded 9% of the organizations in the original sample as they shared websites, such as with a corporation or university. The author conducted an analysis to ensure that the nonprofits without a website and those excluded were not significantly different from those that remained in the sample. The excluded nonprofits were similar in terms of urbanicity, or the population density of their location based on U.S. Department of Agriculture (2013) data and total assets, but they were somewhat younger organizations than those that remained. The replacement sample, however, did not differ significantly from the excluded nonprofits in age, urbanicity and assets, reducing bias. The final sample of U.S. nonprofit websites for analysis totaled 431.

### ***Thai Nonprofit Sample***

The author chose Thailand for the emerging market portion of this research due to that nation's economic and infrastructure growth during the past 25 years. Despite an economic slowdown and political upheaval since 2006, Thailand has been a success story during the past few decades, and analysts expect the country's Gross Domestic Product (GDP) to continue to expand (Kongrukgratayos and Djalal 2017). The government of Thailand has also recognized the importance of ICT for economic growth and worked to develop such infrastructure and improve related educational curricula nationally (Kongrukgratayos and Djalal 2017). In 2016, almost half of Thailand's population used the Internet regularly, and 10% had a paid fixed subscription to faster speed, broadband Internet, a marked gain from 2013, the year this dissertation's research began, when only 29% of Thais used the Internet (World Bank 2016).

Moreover, Thailand has a thriving and diverse nonprofit sector (Pongsapich 1998) and a culture that is quite different than that of the United States. Nonprofits in Thailand benefit from

the Theravada Buddhist tradition of almsgiving to the needy (Ilchman, Katz, and Queen 1998). In addition, Thailand has a strong communitarian culture with pragmatic politeness, in which harmonious relationships are cornerstones of society and organizations operate like families (Barnett and Carter 2013; Intachakra 2012). At the same time, status is respected, and individuals understand and respect each other's socially ascribed standing and status.

As the Internet is still relatively limited in Thailand, nonprofits using websites may be considered early adopters. Such organizations are important for ICT research, as they tend to influence those that later adopt a technology (Rogers 2003). Their use of new tools often foreshadows how later users will employ them. Similarly, nonprofits' website use in Thailand may reflect patterns of use and adoption in other countries undergoing similar economic transformation.

Thailand does not maintain a comprehensive list of nonprofits. According to the Thai National Statistics Office (NSO) (2013), however, the nation has approximately 77,000 nonprofits, including cremation, religious and trade organizations. Of that total, the NSO has reported that 26% use the Internet and 6% host websites. Thai nonprofits are not obliged to register nationally and may also do so only at the provincial level if they wish. In order to create a sample of Thai nonprofit websites, the author utilized a non-probability sampling technique. The author and Thai graduate students from Thammasat University, collaborating with Dr. Peter Ractham, collected the names of all Thai nonprofits and charities, as well as any lists of Thai nonprofits they could find online in either the Thai or English languages. Cremation services and trade organizations were not included in order to focus more precisely on public charities, as in the U.S. sample. After the author and the Thai speaking researchers verified each nonprofit's website address, the final Thai sample of nonprofit organizations included 286 entities.

### ***Website Coding***

In order to analyze each website's development fully, each was examined independently by two individuals according to an instrument the author developed based on characteristics highlighted in the relevant scholarly literature, similar to a content analysis. More precisely, the author derived the protocol using for-profit website effectiveness research, such as Webqual (Chiou, Lin, and Perng 2010; Ip, Law, and Lee 2011; Loiacono 2000; Loiacono, Watson, and Goodhue 2007) and nonprofit values, such as accountability (Dumont 2013; Goatman and Lewis 2007; Hart 2002; Holzer et al. 2014; Lovejoy and Saxton 2012; McPherson 2007; Quinton and Fennemore 2013; Sargeant, West, and Jay 2007; Waters 2007; Wenham, Stephens, and Hardy 2003) to create an inventory of website features and uses. For example, the instrument inventoried the content nonprofits included on their websites, such as mission statements, goals, programmatic information, board member names, key staff names and roles, IRS 990 tax form availability (for the U.S.), budget statements, annual reports and contact information. The instrument also asked the website coders to document how the above information was presented, such as via webcams, data and statistics, blogs, photos, interactive components, videos, etc. The instrument also included space to record how nonprofits sought to use their websites to involve individuals in their programming, such as volunteer recruitment, events notifications, newsletter archives, donations, user-generated content and types of social media. The form likewise included open-ended questions to permit coders to note any feature or technology not otherwise

included (see Appendix C). After receiving all the coded website data, the author transformed the various related elements into the stage model.

### ***Automated Assessment Data***

In addition, the author obtained a secondary set of data from a commercial, third party, quality assessment firm, Sitebeam (Silktide 2013), which produces automated website quality scores. Sitebeam, using the author's collected Thai and U.S. nonprofit URLs, analyzed the content of each website and produced quality scores for each. Sitebeam's software crawls website logs and HTML code; collects information concerning various indicators, such as error pages, missing files, redirections, broken links, alternative text, readability and freshness of content; and produces quality scores, including overall, as well as technical, marketing, accessibility and content quality scores for each nonprofit in a provided sample. Sitebeam derives its quality scores by analyzing a range of features it collects through its proprietary algorithm, developed on the basis of years of website research and experience. Sitebeam provided its results for all of the Thai and U.S. websites without cost, since the data was to be used for educational research purposes. The author used Sitebeam's information as supplemental data for the analysis offered in the first article to determine differences in website quality, but primarily in the third paper to compare the firm's automated assessment results to those produced by the stage model.

### ***Methodology Issues***

The author encountered several methodological issues while conducting this research and these are detailed in each of the articles. In the U.S. sample, nonprofits without a website could have created a nonresponsive bias. As noted, however, replacement data was not significantly different than the excluded sample since it was drawn from the same asset group. A similar question arose concerning the information obtained in Thailand. Without a master or comprehensive list of nonprofits, a non-probability sampling technique, rather than a random representative one, limited the generalizability of the Thai website findings. In addition, some of the websites were presented in two languages (Thai and English) or in Thai only, necessitating the use of Thai speaking coders.

To limit reliability issues, a pilot study, using three nonprofits, helped to pinpoint potential issues in coders' understanding of the instrument developed to evaluate the websites. In response to that effort's findings, the author created a training module for the coders with examples and a description of each website item or feature being coded. In addition, the author hand-checked any non-matching codes; i.e., when coders did not agree on their treatment of an item.

A final concern was the inherent bias of both possible assessment tools. Nonprofits are incredibly diverse, raising the question of whether it is possible to have a website evaluation model that can encompass the universe of these entities. Moreover, both evaluative tools were derived in the West, which might possibly fail to capture relevant nuances of specific Thai ICT or nonprofit cultures. To help to address these concerns, the website coding included a number of open-ended questions and the author worked with Thai researchers throughout the research process.

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E-progression of Nonprofit Organization Websites: U.S. versus Thai Charities

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### **ABSTRACT:**

Nonprofit organizations are pivotal actors in society, working in various sectors attempting to fill gaps between government services and the market. This interdisciplinary research compared nonprofit websites in Thailand, a developing country, to nonprofit websites in the United States to determine progression through an adapted e-business stage model. A manual decoding process of websites and a web crawling analysis software, Sitebeam, were used to determine the nonprofits' e-progression. Thai and U.S. nonprofits did not differ significantly from each other in terms of presence building content or interactivity, but the U.S. websites were more advanced in e-transactions than the Thai websites (55% vs 37%). The acceptance of e-transactions was also found to be highly associated with greater online presence and interactivity, suggesting there is significant room for advancement among organizations that do not accept e-transactions both in Thailand and the U.S.

Keywords: Thailand, nonprofit, website, e-business, charity

### **INTRODUCTION**

Governments, businesses, and nonprofit organizations use websites to present themselves to the public. They share information, interact with stakeholders, and conduct online transactions. Although there are numerous studies on how businesses have transformed their operations into an electronic era [5, 32], the nonprofit sector remains largely overlooked by researchers in the field of technology [45]. Past research on nonprofit websites has focused on adoption [6, 22] or particular features, such as social media [24] or online fundraising [13]. While a few studies reviewed nonprofits' basic website usage, they are outdated in the fast paced ICT field and focused only on organizations in the United States and the United Kingdom [40, 43]. Little research has been conducted on information communication technology in developing countries [41], and even less so on nonprofit websites in these areas. This interdisciplinary research seeks to add to the literature on nonprofit technology and website use, as well as technology in developing countries, by analyzing the progression of nonprofit websites both in the U.S. and in Thailand using an adapted e-business stage model.

Nonprofit organizations are important to study as they have beneficial, societal goals. Some nonprofits work to eliminate hunger, while others provide healthcare and education, advance science and technology, or focus on improving individual productivity. Nonprofits can play even greater roles by contributing to economic growth, broadening civic infrastructure, and mitigating negative spillover effects from development [1]. Nonprofits are especially vital in developing countries as these low to middle income countries are often served by weak governments and

markets that may not be able to provide for the needs of their citizenry, leading to societal ills such as poverty, a poorly educated populace, and less advanced infrastructure, including information communication technology.

Internet penetration is significantly lower in developing countries than in developed countries [15], but is expected to expand at a fast pace [15, 38]. Understanding how nonprofits in these areas use website technology and how their use compares to U.S. nonprofits, in a more developed information technology market, can help bridge technology adoption gaps and subsequently aid the greater society that they serve. This research adapted an established e-business stage model, which has been found effective in analyzing business websites, and empirically tested it on nonprofit websites in the U.S and Thailand. The research also assessed third party quality metrics, Sitebeam [35], to expose differences in website maintenance and development. By comparing nonprofit websites from a developed country and from a developing country, we assessed how well both types of organizations are progressing through the stage model and how they are using website technology.

## **THEORY DEVELOPMENT**

The Internet and web technologies transition businesses from an off-line to an e-business environment, where interactions and transactions with their various partners are completed electronically [28], creating a value added channel for businesses and their partners [8]. Just as businesses and governments have moved some of their operations online [2, 29, 34], nonprofits can also benefit from expanding online.

While nonprofits are not traditional businesses, they can use their websites to increase their visibility to the community [43], advocate for a particular issue [40], fundraise [17], crowdfund their activities [9, 30], crowdsource information to solve problems or collect votes to inform project priorities [9], build and develop relationships with their stakeholders [20], or recruit volunteers [10]. Website development is thus an important factor for nonprofit organizations, as websites are a channel to which the public looks for information on, for interaction with, or to donate to a particular charity. Websites also project an image of the nonprofit to the public. Even though some organizations have moved partially or solely to social media sites, usability research suggests that the public still expects organizational websites and anticipates those websites having more information than associated social media pages [26]. If nonprofit organizations can appropriately adopt and exploit web technologies to effectively run their online operations, they will be able to reduce transaction costs and ultimately gain valuable resources.

### **E-Business Progression Model**

Stage Theory measures how organizations adopt and progress their web technologies for their e-business evolution, starting with basic communication dissemination and developing into a more sophisticated integrated business system [11]. Each stage reflects a progression of maturity in organizational use of IT as each stage increases complexity, cost, and technological demands [28]. The various levels of the stages for businesses have been discussed in past literature [11, 28, 29, 44].

To define an e-business progression for nonprofit organizations, one must be able to identify how organizations utilize various web technologies on their websites. As the majority of nonprofits, at least in the U.S. for which data is available, are small [25], we adapted a model previously used for small and medium size enterprises [28]. Table 1 shows the four e-business

stages and the current study's adapted nonprofit model. The levels are 1) Online Presence, 2) Interactivity, 3) E-Transaction and 4) Enterprise Integration.

**Table 1. E-Business Progression Levels, adapted from [28]**

<b>Progression level</b>	<b>Description</b>	<b>Business Example</b>	<b>Adapted Nonprofit Model</b>
<b>Level I – Online Presence</b>	<ul style="list-style-type: none"> <li>○ Organizations present themselves and their information in a static, one-way communication format</li> </ul>	<ul style="list-style-type: none"> <li>○ Website</li> <li>○ Product/service information</li> <li>○ Contact information</li> </ul>	<ul style="list-style-type: none"> <li>○ Organizational information-mission, goals, programs, annual or financial reports, board members, key staff</li> <li>○ Contact information (address, email, map, etc.)</li> </ul>
<b>Level II – Interactive Online Presence</b>	<ul style="list-style-type: none"> <li>○ Organizations provide two-way communication channels online for customers or suppliers</li> </ul>	<ul style="list-style-type: none"> <li>○ Online feedback form</li> <li>○ Online order form (without e-payment)</li> <li>○ Virtual tour</li> <li>○ Online inventory database</li> <li>○ Web2.0 services</li> </ul>	<ul style="list-style-type: none"> <li>○ Interactivity/Personalization (online games, health libraries)</li> <li>○ Web discussion forums</li> <li>○ Facebook, YouTube, Twitter</li> </ul>
<b>Level III – Electronic Transactions</b>	<ul style="list-style-type: none"> <li>○ Organizations offer advanced electronic transactions, such as electronic payment, electronic auction, etc.</li> </ul>	<ul style="list-style-type: none"> <li>○ Online payment service</li> </ul>	<ul style="list-style-type: none"> <li>○ Online donations</li> <li>○ Online payments for goods or services</li> <li>○ Crowdsourced funding</li> </ul>
<b>Level IV – Enterprise Integration</b>	<ul style="list-style-type: none"> <li>○ Organizations integrate supply chain activities with suppliers and customer relationship management activities with their customers</li> </ul>	<ul style="list-style-type: none"> <li>○ E-loyalty or E-reward program</li> <li>○ Extranet or ERP system</li> </ul>	<ul style="list-style-type: none"> <li>○ Donor and prospect relationship management</li> <li>○ Volunteer management</li> </ul> <p>*Not within the scope of this study.</p>

Level 1 is the basic presentation and dissemination of information. For nonprofits, critical information includes the purpose of the organization, their goals, and information on what programs or projects they conduct. Additional information, such as annual or financial reports, board members and staff details, can be added to increase the appearance of transparency and accountability to the public and donors [39]. Level 1 also includes contact information.

Progressing to Level 2 ensures an interactive online component, or a two-way communication forum. For nonprofits, this helps build awareness and a community around issues of concern. Websites can include interactive components where visitors input certain information and

receive distinct responses. Interactive features can include online health libraries, web forums, visitor polls, user-generated content or connectivity to social media websites.

Level 3 adds an e-transaction component. Traditional businesses sell goods or services, and while nonprofits may do the same, many are also looking for direct online donations. They may develop their own online transaction service, or they can use third party processing and pay a fee. They could also link to third party crowdfunding websites or fundraising portals, through which individuals can make solicitation pages and raise money for that particular organization.

Often businesses seek to integrate online supply chain activities with their suppliers and customer relationship management activities with their customer base in order to increase efficiency, as seen in Level 4. Nonprofits, however, often do not have an extensive supply chain in the same sense as other businesses. Moreover, some nonprofits' missions revolve around advocacy for which the traditional supply chain is not applicable. Nonprofits may still benefit from connecting their stakeholder base to particular activities, such as through a customer relationship management system or online volunteer management systems, but measuring this was not within the scope of this study.

Stage Theory has been criticized in past literature, and Fitzgerald and Mendo [11] addressed many of these criticisms. In particular, Stage Theory has been criticized for oversimplifying the complex nature of technology adoption, utilizing a strict linear interpretation, and being too general. While we understand that information communication technologies are often adopted or implemented incrementally due to internal and external factors that affect organizations, we still find the theory appealing, as the broad scope allows practitioners to classify and compare organizations. Furthermore, the stages do not need to be interpreted in a strict linear fashion, as some organizations regress and others skip stages. The stage model adds value by mapping the nonprofit sector's website progression in a particular time, giving guidance to managers to assess their own website in comparison to the larger sector using the model's levels as benchmarks. This research also addresses these criticisms by detailing two units of analysis per stage, the basic meeting of the stage by having at least one element and the average number of elements coded within each stage.

### **Thailand and American Nonprofits**

Thailand is an interesting case study for nonprofit technology in a developing country. It has a historical tradition of religious charitable services and has maintained a flourishing nonprofit sector since political upheaval and economic growth occurred in the 1970's [27]. Thailand also became a popular relay location for many international organizations focused on Southeast Asia [27]. As a middle economy nation, Thailand has growing levels of information technology literacy and infrastructure [3, 37]. In 2013, Internet penetration in Thailand was only at 29% [15], but is predicted to continue growing rapidly, necessitating website development and maintenance [38]. While Thai nonprofits and technology infrastructure may be more advanced than some other developing countries, Internet penetration will continue to extend throughout many developing nations, especially through mobile networks. Thailand is thus a good case study to review as these websites were developed by nonprofits that can be considered early adopters in developing markets [45].

In comparison, the U.S. has one of the strongest economies in the world, an educated workforce, and advanced infrastructure. The Internet penetration rate in the U.S. is 84% [15]. The U.S. also has a history with nonprofits dating back to colonial days, and currently, there are about 1.5



million nonprofits [25]. The U.S. also has numerous dedicated support resources for charities that wish to expand their use of technology, such as the Nonprofit Technology Enterprise Network or TechSoup. Nonprofits in the U.S. should be exemplars of developed nations.

## **Hypotheses**

This study examined how nonprofit websites advance along the e-progression model using two measurements. The first was reaching each stage: presence, interactivity, and e-transactions by having at least one feature exhibited (see Table 5-7). The second was measured by an additive index and displays how many features, on average, the nonprofits employ within each stage.

As each stage reflects progression in organizational use of IT, the U.S. nonprofit websites – having been developed in a more mature information technology market – could be presumed to be more advanced. However, upon closer examination of each level, we expected that the U.S. would only be more advanced in presenting more informational content and conducting e-transactions.

A basic informational website that includes mission or contact information meets the minimum requirement for reaching Level 1 in the e-progression model. According to a survey of managers [12], the top purposes for a U.S. nonprofit website are related to increasing awareness of the organization and its mission, and providing pertinent information, such as contact information. We hypothesized there would not be a difference between U.S. and Thai nonprofits on reaching this basic level as nonprofit managers in Thailand can have similar purposes (H1). In terms of the amount of Level 1 content, U.S. nonprofits are under increased pressure by funders to maintain strategic management and transparency, which includes posting clear missions, goals, reports and board member information [4]. Therefore, U.S. nonprofits were hypothesized to provide more presence building content than Thai organizations (H2).

Level II indicates interactivity is offered on the website. Thailand and Asia in general is a collectivist society, in which societal behavior can be bound by what peers think and do, creating a social norm in which their public persona is very important. Nonprofits will likely capitalize on these social norms by offering interactivity options in which stakeholders can communicate with the organization and also see what their peers are doing, such as volunteering, attending events, or donating [16]. As social media sites, such as Facebook, are often low cost and already well-established in Asian markets [19], it was hypothesized that the Thai charities within a collectivist, social culture would drive the websites' interactivity and there would be no difference between U.S. and Thai charities (H3-H4).

Conducting e-transactions online, Level 3, however, requires additional technological capacities. With limited but growing Internet access, Thai organizations may not have as much experience with e-transactions as U.S. entities, which led us to hypothesize that U.S. nonprofits would use e-transactions more often than Thai organizations (H5) and would also offer more types of e-transaction processing (H6).

The hypotheses are summarized as:

- H1: There would be no difference between U.S. and Thai nonprofit websites reaching Level 1- Presence.
- H2: U.S. websites would have more Level 1- Presence building features than Thai websites

- H3: There would be no difference between U.S. and Thai nonprofit websites reaching Level II-Interactivity.
- H4: There would be no difference between U.S. and Thai nonprofit websites on the amount of Level II- Interactive features.
- H5: More U.S. websites would reach Level III- E-transactions than Thai websites
- H6: U.S. websites would have more Level III- E-transaction features than Thai websites

## **METHODOLOGY**

This research aimed to gain new insight into how nonprofit organizations utilize web technologies by conducting a survey of U.S. and Thai nonprofit organizational websites based on the e-progression levels. Throughout the fall of 2013, 431 random U.S. nonprofit, public charity websites were surveyed. Public charities, those with 501c3 status, were selected as the subgroup of nonprofit organizations due to their tax exemption status and public mission, but also as a distinguishable group of nonprofits within the National Center for Charitable Statistics (NCCS), an organization that collects information on all registered non-profit organizations in the United States. This sample was drawn from the NCCS Statistics of Income (SOI) 2010 database, the latest SOI available at that date. While the SOI is a random sample of nonprofits, it is stratified by assets; therefore this study randomly drew 383 nonprofits from the various asset groups to match the population of nonprofits filing 990 forms and an additional 100 oversample from the higher level asset group to maintain a sufficiently sized sample for analysis of organizations with higher assets. Post stratification weights were added to the data to maintain the population representation for generalizability.

We also attempted to acquire a comprehensive list of nonprofit organizations in Thailand from the Thai Revenue Department (TRD). However, due to political upheaval during the time of research, the TRD was unable to provide this list. Thai organizations can also register at provincial levels, for which lists are also not easily released, and nonprofits in Thailand can also operate without any registration at all. As many of these nonprofit organizations are situated in disperse parts of Thailand, it was therefore extremely difficult to integrate the most up-to-date information for these organizations. Due to these issues, a non-probability purposive sampling technique [7] was used to obtain a list of available Thai nonprofit websites. For three weeks in December 2013, two graduate research assistants, fluent in Thai, searched online to find any Thai nonprofit websites to add to the sample. They used search parameters, such as “Thai nonprofit,” “Thai foundation,” “Thai charity,” and “Volunteer organizations.” Although labor unions and cremation services are considered nonprofit organizations in Thailand, they were not identified within the search parameters of this study and are not included as this study’s focus was on socially beneficial welfare organizations. The research assistants produced a list of 450 potential Thai nonprofit websites. After a review of the list, we found some organizations originally listed were not nonprofit organizations (i.e. eco-tourism, socially beneficial businesses) and these were removed from analysis. Nonprofit organizations that failed to have an independent website, such as charity projects of corporations, were also removed as ownership of the website would be indistinct. Although this sampling technique does limit the generalizable findings, it allows exploration of diverse socially beneficial nonprofits. Each website from both samples was randomly assigned to two coders, who were knowledgeable in the field of business information technology, and were not involved in the sample collection. Working independently, each website was coded based on an instrument that we developed to survey the e-progression

variables including presentation of information, interactivity, and e-transactions (Table 5-7). Each coder was given a training module and examples for each variable. Coders were asked to explore the website completely and report any of the available variables. Any websites only in Thai were analyzed by two graduate research assistants in Thailand. All non-matching responses were individually checked by the lead researcher.

**Table 2. Types of Nonprofits in Sample**

	Thai Nonpr ofits	U.S. Nonprofits
Children	24%	16%
Poverty and Hunger	16%	4%
Health	16%	17%
Education and Research	16%	13%
Business or Individual Advancement	16%	8%
General and Community Development	5%	9%
Environment	13%	4%
Human Rights	6%	0%
Animals	5%	7%
Women	3%	2%
Religious	6%	4%
Culture	15%	2%
Senior citizens	0%	4%
Athletics	1%	7%
Safety	2%	3%
Science and Technology	1%	3%

Note: Organizations were categorized into one or two classifications based on their main mission. These categories are not mutually-exclusive, and percentages may sum to more than 100%.

After reviewing the makeup of the Thai sample, it was found that internationally connected organizations (nonprofits with offices in more than one country) made up 28% of the surveyed organizations. These internationally connected organizations had significant differences from the rest of the Thai sample. The decision was therefore made to remove international organizations from the Thai sample as well as from the U.S. sample. The final Thai sample was 206 organizations. The final U.S. sample without international organizations was 412 entities. The socially diverse missions in the sample are listed in Table 2.

A second set of data on the same nonprofit charities was collected from a third party technology company, Sitebeam [35], to analyze basic website quality. Sitebeam is a commercial entity, which crawls websites' HTML code and reports varying quality indicators based on the code and their proprietary algorithms and weights (Table 3). Using Sitebeam data, versus usability studies, allows consistency over the quality variables studied. Sitebeam crawled the top 10 pages of each website in the samples and returned various summary scores for each website, such as overall quality, accessibility, marketing, and technology. The size of each website was collected using the number of Google indexed pages for each website.

**Table 3. Sitebeam Tests for Summary Scores**

Accessibility summary	W3C compliance, SEO, speed, readability, URL format, headings, Redirections, broken links, stylesheets, alternative text
Content summary	Freshness based on update time, readability, spelling, SEO
Marketing summary	Uses analytics, Facebook, Alexa popularity, SEO, open graph, incoming links, social interest, speed, freshness, readability, URL format, headings, error pages, broken links, stylesheets, alternative text
Technology summary	Printability, analytics, W3C compliance, SEO, open graph, speed, URL format, broken links, stylesheets, redirections, missing files, headings, error pages, alternative text
Overall summary	W3C compliance, analytics, printability, Facebook, popularity, SEO, open graph, incoming links, social interest, speed, freshness, readability, URL format, broken links, redirections, error pages, missing files, headings, style sheets, and alternative text

**FINDINGS**

A series of chi-square tests and t-tests for independence were conducted to establish whether e-progression levels were significantly different for nonprofits in Thailand verses those in the U.S. Table 4 shows the percentages of nonprofits’ websites in Thailand and the U.S. that reached each progression level with the minimum of one feature. Tables 5-7 go into further details on each progression level and the various features for each level. Table 8 recaps the hypotheses and findings. In order to illustrate overall use of features by progression stage, an additive index was created for each stage in which the basic means are reported. Overall, all organizations were able to present themselves online in various ways, but only about two thirds facilitated some type of interactivity, and even fewer conducted any online transactions. Thai nonprofits lag behind U.S. nonprofits only in the third level of e-transactions. Out of the 29 total features examined across the three levels, 18 had significant associations with the type of nonprofit website.

**Table 4. Overview of Level Progression**

	Thai Nonprofits N=206	U.S. Nonprofits N=412
Presence	100%	100%
Interactivity	68%	69%
Online Transactions	37%	55%***

Note: For each level, websites had to only exhibit one feature as listed in detail in Tables 7-9. \*\*\*Pearson chi-square association between type of nonprofit and levels is significant at p<.0001.

**Level 1: Key findings**

- A chi-square test found that the percentage of websites reaching Level 1: Presence did not differ by type of nonprofit website ( $\chi^2(1)=2.003, p=.157$ ). Similarly, an t-test for independence found there was no significant difference in means of the additive index of Level 1 features ( $t(616)=1.08, p=.28$ ). When an analysis was run on the particular details within the level, some differences that would have otherwise been concealed at the aggregate level were distinguishable (Table 5). More U.S. organizations displayed their mission, information on projects or programs, board members and their backgrounds, key staff information, and annual

or financial reports. Thai organizations were more likely to display goals, news updates, and contact information.

**Table 5. Level I: Presence**

	Thai Nonprofits n=206 %	U.S. Nonprofits n=412 %	Significance p-value
Mission	57	<b>81</b>	<0.0001
Information on programs or projects	77	<b>89</b>	<0.0001
Posted press releases, news updates, or stories about themselves in media	<b>57</b>	34	<.0001
Board members	43	<b>64</b>	<.0001
Board members' background	11	<b>27</b>	<.0001
Key staff	40	<b>59</b>	<.0001
Annual report or budget/financials	9	<b>19</b>	.001
Goals	<b>48</b>	37	.01
Email	<b>77</b>	68	.02
Online contact form	40	40	n.s.
Phone	85	90	n.s.
Address	87	86	n.s.
Fax	<b>53</b>	29	<.0001
Map to location	<b>41</b>	24	<.0001
Presence Index Mean (out of 14)	7.26± CI: .32	7.47± CI: .22	n.s.

Note: **Bold** indicates country with significantly higher value for this metric.  
n.s. = not statistically significant, at  $\alpha=0.05$  (95% confidence).

- These findings were consistent with past research that found most organizations have at least online presence features [12, 33, 43]. In general, the U.S. website displayed more content that could be issuances required for transparency, but still less than a quarter posted reports, and less than two thirds posted minimal information on their board and staff. Thai organizations did post goals more often, but written goals are required for registration of a nonprofit in Thailand and not in the U.S.

## Level 2: Key findings

- About two-thirds of Thai and U.S. organizations used at least one interactive component on their website. Out of nine features observed, the U.S. and Thai organizations averaged 1.40 features (Table 6). Both types of nonprofits thus offered interactivity on their website, but they did not offer different types of interactivity.
- Facebook is the most popular form of interactivity for both U.S. and Thai organizations, followed by Twitter. Past research has shown that just having a social media site does not

suffice; organizations must be activity engaged [42]. As the data had a highly positive skew, a t-test was conducted on the transformed log10 Facebook ‘Likes’, ‘people talking’ about the organization on Facebook, Twitter ‘Followers’ or Twitter ‘Tweets.’ Thai organizations were significantly more active on Facebook than the U.S. organizations in terms of the log of Facebook likes (mean difference=.51, t(279)-5.66, p<.0001) and the log of people talking about the organization on Facebook (mean difference=.28, t(253)-2.60, p=.01). There were no significant differences, however, with Twitter activity, which could be due to the lower popularity of the platform in Thailand. No other social media site was as popular among either type of organizations.

**Table 6. Level II: Interactivity**

	Thai Nonprofits n=206 %	U.S. Nonprofits n=412 %	Significance p-value
Interactivity or personalization	3	5	n.s.
Visitor polls	<b>4</b>	1	.029
User Generated Content <sup>1</sup>	<b>13</b>	4	<.0001
Web Forum or online discussion group/private portal <sup>2</sup>	15	<b>23</b>	.019
Facebook (S.B.)	50	57	n.s.
Twitter (S.B.)	19	<b>32</b>	.001
Live Chat	1	1	n.s.
Youtube	15	15	n.s.
A social media sharing widget	<b>18</b>	6	<.0001
Does not conduct online transactions	<b>63</b>	45	<.0001
Interactive Index Mean (out of 9) <sup>3</sup>	1.37 ± CI: .18	1.43 ± CI: .12	n.s.

<sup>1</sup>Wording is slightly different between surveys. <sup>2</sup>Thai survey asked specifically about web forums and discussion groups, whereas U.S. survey asked about private social networks or portals. <sup>3</sup> Interactivity index did not include organizations that did not accept online transactions. (S.B.)= Coded by Sitebeam.

- Although 15% of the organizations connected to the YouTube social network, about one-third of both U.S. and Thai charities embedded videos within their website.
- All reported incidences of user-generated content were comments on articles or blogs. None of the websites requested visitor photos, stories, or videos.

### Level 3: Key findings

- A major difference found between Thai and U.S. organizations was in their ability to accept online transactions (Table 7). Only 37% of Thai organizations and 55% of U.S. organizations accepted online donations ( $\chi^2(1)=18.211$ , p<.0001). This finding suggests a growth over the past decade as Tuckman et al. [40] found only 17% of U.S. nonprofit websites solicited donations online in 2004. An independent t-test also found a significant difference in the

additive index of e-transaction features offered, ( $t(616)=3.434$ ,  $p=.001$ ), with U.S. nonprofit websites offering more options.

**Table 7: Level III: E-Transactions**

	Thai Nonprofit s	U.S. Nonprofits	Significance
	n=206	n=412	
	%	%	p-value
Sells items online	6	8	n.s
Accepts online donations through third party (e.g. PayPal, Give2Asia)	34	40	n.s.
Accept online donations directly	4	<b>16</b>	<0.0001
Fundraising pages for individuals to create and raise funds	1	2	n.s.
Crowd-sourced fundraising sites	2	1	n.s.
E-Transactional Index Mean (out of 5)	.47± CI: .09	<b>.68±</b> CI: .08	.001

- While the most common e-transaction was third party processing, the driving difference in accepting online transactions was the 16% of U.S. organizations that processed online transactions directly. Two-thirds of the U.S. charities that accepted online transactions through a third party used Paypal, whereas only 44% of Thai organizations did so. Instead, Thai organizations depended on online transactions directly through their bank. The most common way to donate to Thai organizations was by direct bank to bank transfer with 45% of all organizations posting their routing and account number on their website.
- Further analysis of the U.S. websites, as the findings can be generalized to the larger population, found that the ability to accept e-transactions was associated with significantly higher levels of almost every variable tested. The organizations conducting e-transactions posted more presence building content than those that did not, including annual or financial reports, news updates, and board information. Almost three quarters (72%) of the nonprofits that accepted e-transactions had Facebook and 45% had Twitter, compared to those that did not, 38% and 18%, respectively. The interactive index mean also increased from .94 without e-transactions to 1.88 for those that accepted e-transactions. The organization's mission did not make a difference in likelihood to accept e-transactions, except animal-focused nonprofits tended to be more likely, and athletic leisure nonprofits tended to be less likely, to accept e-transactions. While causation cannot be claimed, nonprofits that accepted e-transactions were found to be doing more on their websites. What is unclear is whether e-transactions helped organizations raise more money, allowing them to do more online, or whether these organizations have more funding to begin with.

## Hypothesis Recap

Although it was predicted that U.S. nonprofits would display more presence building features, the null hypothesis could not be rejected. Despite less Internet connectivity and online experience, Thai organizations adopted interactivity at the same levels as the U.S. organizations. Thai organizations, however, have not moved into the third level of conducting online transactions at the same pace as U.S. organizations.

**Table 8: Summary of Hypotheses and Findings**

		Thai versus U.S.	Findings
H1	Stage I: Presence	No difference	Support
H2	Stage I: Presence by features	US nonprofits higher	No Support
H3	Stage II: Interactivity	No difference	Support
H4	Stage II: Interactivity by features	No difference	Support
H5	Stage III: E-Transactions	US Higher	Support
H6	Stage III: E-Transactions by features	US Higher	Support

## Website Quality Assessment

In addition to coding the websites manually to determine the e-progression level, data was also collected from Sitebeam to determine if differences also existed in web quality (Table 9). In terms of overall web quality, measured by Sitebeam's algorithm, U.S. and Thai websites had no significant differences between accessibility, technology, or overall assessment summary scores. Thai organizations had higher content scores, which included freshness and readability, and the U.S. organizations had higher marketing scores, which included headers, alternative text, broken links, and use of analytics. Overall, there was not a significant difference between U.S. and Thai nonprofits in terms of website size.

**Table 9. Sitebeam Scores and Google Indexed Pages**

	Thai Nonprofits Mean	U.S. Nonprofits Mean	Mean Difference	Significance (Independent T-Test)
Accessibility (S.B.)	5.21	5.31	0.10	t(347)=.42, p=.67
Content (S.B.)	<b>7.07</b>	5.73	-1.34	t(604)=-10.21, p<0.0001
Marketing (S.B.)	4.00	<b>4.39</b>	.40	t(604)=3.02, p=.003
Technology (S.B.)	3.83	4.00	.16	t(604)=.79, p=.431
Overall (S.B.)	4.15	4.21	.06	t(350)=.36, p=.717
Log10Google Index <sup>1</sup>	2.36	2.22	-.13	t(614)=-1.55, p=.121

Note: The quality scores were assessed on a 0-10 scale. <sup>1</sup>=Due to the positive skewness, the Google Indexed pages were transformed by log10. (S.B.)= Coded by Sitebeam

## DISCUSSION

Nonprofit organizations are progressing up the e-business ladder. Considering the Internet came to Thailand more recently and has faced various censorship issues throughout the years, nonprofits have websites that are generally on par with organizations in the U.S., with the



exception of accepting online transactions. Similarly, the Sitebeam data suggests that Thai and U.S. organizations are similar in terms of quality. There is room to improve, however, as both averaged less than five on a scale of ten on Sitebeam's overall summary score.

The findings suggest that nonprofits primarily use their websites to present information. The average Thai and U.S. organization posted over seven different types of 'presence' building content and had websites between 100-1000 indexed pages. The most common type of presentation content was contact information, suggesting that organizations feel obligated to have a website for basic information, similar to a contemporary phone book. While the Thai website audience may be different than that of U.S. websites, Thai organizations may want to improve their clarity of purpose by posting mission statements and program information. There is also room for both types of organizations to improve their posting of organizational goals, which help visitors quickly understand what the organization is aiming to do in society and lays the groundwork for the rest of the website. The two presence building features that were the least included content in both types of organizations were board member background and annual or financial reports. As boards are a required aspect of both Thai and U.S. nonprofits, organizations should consider the benefit of adding this information so stakeholders can better understand the leadership and agenda.

The approximately one third of organizations that did not have any interactivity may want to look into how these features can aid their mission. Interactivity allows peers to see what others are doing, and studies have shown individuals are more likely to donate when they know their peers have donated [16]. The ability to post volunteer opportunities or events to a forum in which people spread the word to their families and friends can greatly enhance how many people can be reached. This helps organizations attract, engage and retain stakeholders. Half of the organizations have started using Facebook, and to a much lesser extent, organizations have begun using Twitter and Youtube. Other social media sites were also coded, but no other site was used as often. Organizations that are only using web forums or private portals might want to consider social media (30-40% of these organizations do not have Facebook) to attract more people who are not currently aware of their organization. The highly positive skew of Facebook and Twitter statistics also suggests that while a few organizations are active on these platforms, others are driving the median down with limited activity. These platforms will not work without active participation by the organization to post information, as well as to monitor and respond promptly to others. While critics may claim that the limited Internet connectivity in Thailand is reason not to participate in interactivity, this study found that at least on Facebook, Thai organizations are actually more active than U.S. organizations.

Organizations may also want to explore other ways of improving two-way communication and feedback. Very few organizations were using features that visitors might find 'fun' such as polls or user-generated content. Polls can help organizations collect information from interested parties, and user-generated content can help propagate a website with content, as well as to pique visitors' interest with unique stories of how the organization has aided society. Visitors could be asked to post stories or photos, or simply leave feedback on the organization.

Online transactions are an added benefit that can easily raise additional funds for the organization. Nonprofits rely on third parties for e-transactions – even though these third parties often require a percentage take of each transaction – as they provide a reliable and secure way to donate. The use of Paypal allows organizations to accept donations from all over the world, in any currency, greatly enhancing the fundraising footprint of each organization. While it is not

clear whether Thai banks also take a percentage of a donation, international donations may be impeded as familiarity and trust with these banks are limited. A smaller segment of Thai organizations were selling goods online through Paypal, Etsy.com, and other sites. Some of these organizations were training individuals, including children, in art or business and selling their homemade greeting cards, scarfs, and other artwork online. Other organizations were conducting similar projects, but selling goods offline, requiring individuals to contact them directly to purchase items. These organizations could adopt e-transactions and sell items directly online, greatly enhancing their customer base. Even fewer organizations, however, used crowdsourcing websites or fundraising portals, which allow outside individuals to do the fundraising for the organization, either as part of a designated campaign or because these individuals feel a unique need to support the organization. While these types of fundraising efforts are popular in the U.S. among well-known American nonprofits, additional research may want to review why more organizations are not using these fundraising tools.

This study did have limitations. The primary limitation being the nonprobability sampling technique for nonprofit charities in Thailand, thus limiting the generalizability of findings beyond the Thai nonprofits studied. However, the diverse sample collected, the removal of international organizations, and the similarity to the U.S. sample gave us confidence that the findings are an accurate illustration of socially beneficial nonprofit website development in Thailand. Another limitation is the coding process with multi-language websites, differing interpretation between coders, and continually changing websites. This concern was mitigated by having the same researcher review the paired coding discrepancies, aiding in the development of a single interpretation across all coded websites. In terms of the quality assessment using Sitebeam, their algorithms are proprietary, limiting the ability to analyze their scores closely. However, by using an automatic service, the same metrics are applied across the board for all the websites, reducing subjective bias.

## **IMPLICATIONS AND FUTURE WORK**

Nonprofits' use of technology to aid their missions is often considered an unfulfilled potential, but this research illustrates that nonprofits, even in less developed countries, are progressing in their website development. At the same time, this study suggests that user expectations of websites may need to be mitigated as not every organization uses social media and the majority of organizations do not conduct online transactions.

This research further displayed evidence that Thai organizations are not far behind U.S. organizations in the development and maintenance of websites. Investing in more complex websites, such as progressing to Level 2 and 3, requires more individuals to be involved and increased organizational capacity as the website progresses from being only a disseminating tool to being also an information gathering tool. Ensuring the progression is made with user-friendly interfaces and designs also increases the need for training or other investments. Financial transactions require an even higher level of internal IT competencies, regulatory compliance, and relationships with sophisticated financial partners. While this study did not analyze organizational assets, it could be argued that U.S. organizations have greater assets and access to technology support, either making the overall progression of Thai nonprofits' website noteworthy or the U.S. nonprofit's progression stagnant. Further research should study technology in developing countries to assess if this advanced technology progression nearing U.S. levels is more widespread.

Research should also explore why more Thai nonprofits have not progressed to Level 3. Reaching Level 3 is important not only for raising additional funds but also for producing more content and interactivity as they are significantly associated. While nonprofit assets could play a role that affects capacity growth, other barriers could also affect the advancement of their websites. Local laws or societal attitude toward nonprofit fundraising may be a barrier. Trust is another important factor for conducting online e-business transactions [18, 23]. The public will consider the reliability of the transaction's security and privacy, but also must trust that the nonprofit will use the funds appropriately. Thailand, for example, has had issues with Internet censorship and trust may be an issue from the perspective of organization's willingness to offer online donations as well as donor's trust in the Thai Internet's security. Though nonprofits in Thailand and the U.S. lack the same legal accountability to their stakeholders as businesses, nonprofits can attempt to increase accountability through transparent actions, such as increased informational transparency postings.

Other barriers may be access and speed. Internet penetration is lower in Thailand, which could affect information communication literacy. Rural organizations, as well, may not see how the benefits outweigh the costs of added website features if access to the Internet is limited. In many emerging markets, mobile phones are increasing Internet access, and if many users are visiting websites via mobile phones or on slower connections, websites may need to be simplified. This lack of Internet access throughout rural regions can also affect trust, and it may affect the nonprofit management's choice to improve their website simply because they do not have experience with it. They may believe their stakeholders are only local, and if they have limited Internet access, the organization may not see the benefit in developing their website further.

Research in emerging markets cannot end without asking the ethical question of who is missing out on these improvements. In Thailand, and other developing countries, it is difficult to pinpoint the number of operating nonprofits or the number with websites. There are a significant number of people who do not have Internet connections, and thus websites may have little meaning to them. However, if the organization has increased capacity with increased funds or volunteers thanks to their website, the organization should be better prepared to affect situations on the ground, but this assumption needs rigorous testing. Research should continue to explore how websites actually increase reach by observing long term web technology implementations, and exploring further questions of website quality. Moreover, research on mobile technology and its e-business progression can look into how business' and nonprofits' websites are experienced on a smaller screen.

The field of nonprofit use of technology is limited and additional research will help nonprofits learn how to progress and use technology for their mission. Crowdfunding, for example, seems to be a feature that could integrate community building of an organization and fundraising, yet few organizations are participating. Similarly, further studies on user expectations or usability of nonprofit websites will aid organizations in focusing their limited investments on what makes the most impact for them.

For nonprofit managers, this research developed a model that nonprofit managers can use to assess their own website progression. They can assess whether or not their organization is reaching the desired level and how many features they offer in each level. Using the stage levels as benchmarks, they can compare their own organization to the average U.S. or Thai nonprofit.

## CONCLUSION

Adapting the e-business progression model to nonprofits allows an overview of how nonprofit website development is advancing. While this research does not specify exactly what should be on a website, as each organization needs to strategize their own website, past research on nonprofits and businesses suggest at least some presence building content, interactivity, and e-transactions adds value to websites. While a website does not activate change alone, it can help mobilize funding and people. A global network can be created through IT use, content can be disclosed to potential stakeholders, and people can connect with each other for a common cause. This research has found that dissemination of content has been the main focus on nonprofit websites. While more nonprofits are starting to utilize social media, direct interactivity on their own website is limited, opting instead for connections with social media sites. While some nonprofits rely on third party e-transactions, many more still need to establish this process. Thus, while U.S. and Thai nonprofits are progressing on the e-business ladder, they still have significant room to grow.

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This is the accepted version of the following article: Kirk, K., A. Abrahams, and P. Ractham. 2016. "Website Development by Nonprofit Organizations in an Emerging Market: A case study of Thailand." *International Journal of Nonprofit & Voluntary Sector Marketing* 21(3): 195-211, which has been published in final form at <http://doi.wiley.com/10.1002/nvsm.1557>. This article may be used for non-commercial purposes in accordance with the Wiley Self-Archiving Policy [<http://olabout.wiley.com/WileyCDA/Section/id-820227.html>].

# Website Development by Nonprofit Organizations in an Emerging Market: A Case Study of Thai Websites

## Abstract

Nonprofit organizations are pertinent players in making the world a better place. Their websites aid in fulfilling their socially beneficial missions by being a platform to present themselves, to interact with stakeholders around the world, and to perform e-transactions to raise funds. This interdisciplinary research explores nonprofit websites in Thailand, an emerging market, to determine their progress through an adapted e-business stage model. A manual website decoding process was used to determine the development of websites per the model within the sector. On average, almost three-quarters of the websites offered interactivity and just less than half conducted online transactions, but internationally connected organizations in Thailand were significantly more likely to do so. The findings suggest that while nonprofit websites in Thailand are progressing, there is significant lag between local Thai websites and those that have international connections. While the model successfully provided new data for understanding nonprofit websites in less developed markets, it may need to be modified in future studies.

## Introduction

Advances in web technologies have allowed organizations in the government, business, and nonprofit sectors to present themselves to the public by sharing information; interacting with stakeholders, clients, and customers; and conducting online transactions. Although there are numerous studies on how modern organizations have transformed their operation and business practices into an electronic business era, the nonprofit sector remains largely overlooked by researchers in the field of e-business and technology more generally (Walsham, 2012; Zhang et al., 2010). This research aims to analyze the developmental progress of nonprofit websites, using the case study of charity organizations in Thailand.

Considerable research has been conducted on businesses' development and use of websites (Rotchanakitumnuai et al., 2011), and on government websites (Bertot et al., 2010; Shareef et al., 2011; United Nations, 2008), but previous research on nonprofit websites is outdated in the fast paced ICT field (Tuckman et al., 2004); it has focused on adoption of websites (Clerkin and Gronbjerg, 2007; Manzo and Pitken, 2007), or has concentrated on particular segments of web technologies, such as social media (Nah and Saxton, 2012; Waters et al., 2009) or online fundraising (Goecks et al., 2008). Very few studies, business or nonprofit, even focus on website evaluation in less developed nations (Hasan et al., 2013; Sambhanthan and Good, 2013). Research on nonprofit websites in less developed areas are typically particular case studies, such as crowdsourcing (Gao et al., 2011). Thus, there is a gap in understanding how nonprofits organizations are holistically utilizing website technology, especially in emerging or developing markets where little research has been conducted in this field (Xiao et al., 2013).

To assess how well charitable nonprofits in Thailand are using web technologies, the following research questions were developed:

- What type of website features and uses do nonprofit organizations in Thailand include in their websites?
- What framework can be developed and used to analyze nonprofit websites?
- How well are local Thai charities developing websites compared to international Thai organizations?

This interdisciplinary research seeks to add to the literature on nonprofit technology and website use in two critical areas. First, it looks at the development of nonprofit websites using an adapted e-business stage model. This adapted model contributes to the research on nonprofit technology as it allows a high level analysis that has been found effective in analyzing businesses' websites as well as displaying the use of particular technologies sector-wide. This adapted and applied framework opens the landscape for benchmarking as researchers and practitioners can further develop the model and compare other nonprofits in future studies.

Secondly, this research focuses on socially beneficial, welfare nonprofit organizations in Thailand, one of the largest emerging market countries, allowing a critical evaluation of information technology use for development by comparing local Thai organizations to internationally supported nonprofit organizations in Thailand, including affiliates and international organizations. Internationally connected organizations in Thailand are used as a comparison as they may have additional resources than local groups, and it is thus hypothesized that internationally supported organizations in Thailand will have more developed websites. More generally, however, websites can help organizations overcome barriers, such as geographical, institutional, or social boundaries, which may help give groups voices in the public sphere.

### ***Context of study***

Thailand is an interesting case study as its emergence has been considered a success story for developing countries (World Bank, 2014). In January 2013, Bloomberg Markets called Thailand the third most important emerging market to watch. As Thailand's economy has shifted from an agricultural center to an industrial structure, its educated workforce ("Statistics", 2013) and information technology literacy and infrastructure have expanded (Bilbao-Osorio et al., 2013; "Thailand Information Technology Report", 2014). Despite this growth, only one third of the Thai population used the Internet in 2013. Internet penetration is, however, expected to grow rapidly ("Thailand's internet users to double", 2013). Thailand's development necessitates research on these early adopters as they demonstrate the future of Thailand's charities, as well as other charities in countries that are undergoing similar transformations.

In emerging and developing markets, such as Thailand, nonprofits play a pivotal role in contributing to economic growth, broadening civic infrastructure, creating shared values, and mitigating negative spillover effects from development, such as supporting marginalized people (Anheier and Salamon, 1998). Culturally, nonprofit organizations have become a model in which the religious practice of "Dana" or the Theravada Buddhist tradition of almsgivings to the needy is performed and serves as a fundamental practice of Buddhism (Ilchman et al., 1998). Thailand has a historical tradition of religious charitable services, and the nonprofit sector has been able to flourish since the 1970s (Pongsapich, 1998). More recently, Thailand has become a popular relay location for many international organizations focused on Southeast Asia (Pongsapich, 1998).



Although nonprofit registration is not required by law in Thailand, the Office of the National Economic and Social Development Board (ONESDB) (2010), found 71,000 registered nonprofits in Thailand in 2008. While the total number of unregistered nonprofits is unknown, the ONESDB found the sector to be expanding at a faster pace than in other countries, including the U.S. and Japan.

The use of websites for nonprofits is increasingly important in emerging and developing markets as competition for financial support and volunteers have increased as government support has been reduced due to financial uncertainty. ONESDB (2010) found that most Thai nonprofit revenue came from private donations or from selling goods and services, which necessitates the need for increased marketing and awareness of the organizations. Private donations accounted for 47% of nonprofit revenue, while the government only accounted for 8% of the revenue. Nonprofit revenue from selling goods and services was 37%. This was a shift from 20 years ago, when the government accounted for 39%, fees garnered 50%, and private donations accounted for 10%. Moreover, Thailand's thriving middle class and high net worth individuals can be accessed via the expanding internet to create new fundraising opportunities (Perkins et al., 2010). As these changes continue to shape Thailand's public and political sphere, charity websites will play an increasingly important role in raising awareness of issues, creating communities, and raising needed funds for services.

## **Theory**

The Internet and web technologies have played important roles in transitioning business transactions from the off-line to an online environment. Electronic business (e-business) can be defined as organizations using a business model in which interactions and transactions with their various partners can be completed electronically (Rao et al., 2003). Organizations worldwide use various types of web technologies in online marketing to attract and maintain customers as well as gather necessary information and knowledge to gain a competitive advantage over their competitors (Majeed, 2011). Electronic business transaction methods are important value-added channels for organizations in dealing with their business partners; including their customers within the value chain (Disney et al., 2004). Although, the concept of e-business has been researched in various industries (Rotchanakitumnuai, 2011), it is still largely overlooked in the world of nonprofit organizations.

While nonprofits are not traditional businesses, they can still potentially benefit from expanding their operations online. While researchers recognize the diversity of nonprofit organizations, both in terms of governance, mission, and income sources, well developed and maintained websites can aid in building legitimacy, credibility and trustworthiness (Long and Chiagouris, 2006; Tsygankov, 2004), which are pertinent to all nonprofits ability to reinforce mutually beneficial behaviors and their subsequent ability to raise revenue or attract volunteers (Enjolras, 2009). Nonprofits, like businesses, interact with various partners and stakeholders and process various transactions, such as fundraising or selling goods, both of which can be conducted electronically online. Many nonprofit organizations already use their website to increase their visibility to the community (Wenham et al., 2003), advocate a particular issue (Tuckman et al., 2004), crowdfund their charitable activities (Read, 2013), crowdsource their reporting impacts and updates from multiple participants (El Borno, 2012), build and develop relationships with their stakeholders through social media (Lovejoy and Saxton, 2012), recruit volunteers (Finn, 1999), or have online fundraising features for electronic donations (Kanter et al., 2010).

A nonprofit website is an important channel in which the public comes to look for information on a particular charity. Even though some organizations have moved, partially or completely, to third party social media sites, usability research suggests that the public still expects organizational websites, and anticipates that those websites have more information than social media pages (Nielsen, 2011). If nonprofit organizations can appropriately adopt and exploit various types of web technologies to effectively run their online operations, they may be able to reduce transaction costs and ultimately gain valuable resources beyond their traditional methods, elevating the importance of web development and maintenance for nonprofit organizations.

An adapted e-business progression model can be used to determine how nonprofit websites are developing generally, and if applied to different sectors, how different types of nonprofit websites compare.

### ***E-business Stage Model***

Stage Theory, emerging in the 1970s, has been widely used to measure how organizations adopt and progress their web technologies for their e-business evolution, starting with basic use as a communication dissemination tool and moving to a more sophisticated use with integrated business systems (Fitzgerald and Mendo, 2005; Zhu et al., 2009). Each stage reflects a progression of maturity in organizational use and IT strategy as the movements of websites along the stages increase complexity, cost, and technological demands (Rao et al., 2003; United Nations, 2008). The stages, however, do not need to be interpreted in a strict linear progression as some organizations may regress and others may skip stages.

To define an e-business progression, one must identify how organizations utilize various web technologies on their websites. As the majority of nonprofits are small organizations, this research adapted Rao et al.'s (2003) small and medium business enterprise model and combined it with the United Nation's e-government model (2008) that focuses on public service websites. The levels represent usage of different web technologies by the organizations. The levels are 1) Emerging Presence, 2) Enhanced Presence, 3) Interactivity, 4) E-Transaction and 5) Enterprise Integration.

Level 1 is the basic presentation and dissemination of information in a one-way, 'brochure-ware' format. This presentation of static information is primarily used for attracting new customers. At the most basic level this includes contact information, but it can also include product and service information. For nonprofits, this also includes the mission or purpose of the organization and details on programs or projects they support or conduct.

Level 2 is enhanced one-way information on policies or governance. This additional information, such as goals, newsletters, annual or financial reports, board members and staff details, can also be added to increase the organization's appearance of transparency and accountability (Tremblay-Boire and Prakash, 2014).

Level 3 ensures an interactive online component, or a two-way communication forum. In e-business, interactivity may be demonstrated with online feedback forms, online order forms (without e-payments), virtual tours, online inventory databases, or social media opportunities. Interactivity is primarily used to attract, engage, and retain customers. For nonprofits, this level helps build awareness and forms community around issues of concern. It offers direct two-way communication with stakeholders. Interactive components can include website features in which visitors input certain information and receive distinct responses, such as with an online health library; web forums to raise questions and discuss issues; visitor polls or user-generated content

to pique visitors' interest; as well as connectivity to social media websites, where representatives from the nonprofits can interact with the public.

Level 4 adds an e-transaction component. Traditional businesses sell goods or services, and online transactions increase their ability to raise revenue and create direct connections with consumers. The website would offer online payments or electronic auctions. While nonprofits may also raise revenue through commercialization, many depend on private donations or public resources and entitlements. Offering e-transactions on a nonprofit website may help diversify revenue. Nonprofits can sell goods or services online, as well as offer multiple modes for direct online donations. Nonprofits may develop their own online transaction service, or they can use third party processing and pay a fee, such as with PayPal. They could also link to third party crowdfunding websites or fundraising portals, in which individuals can make pages and raise money for that particular organization.

In Level 5, commercial businesses seek to integrate online supply chain activities, electronically connecting their suppliers and customer relationship management activities in order to increase efficiency. E-reward programs, extranet or ERP programs as well as customer relationship management software are examples of enterprise integration. Nonprofits, however, often do not have an extensive supply chain in the same sense as other businesses. While nonprofits may supply goods and services to people, online sign-up is less common, as targeted beneficiaries may not have access to the Internet. Other nonprofits may not offer physical goods, such as advocacy organizations, and the traditional supply chain may not be applicable. Nonprofits may still benefit from linking their stakeholder base to particular activities, such as through a customer relationship management system, but measuring this is not within the scope of this study as it requires knowledge of organizations' use of internal customer relationship management software.

## **Methodology**

This research aims to gain new insight into how social welfare nonprofit organizations utilize web technologies by conducting a survey of Thai and international nonprofit organizational websites based on the stage levels. Due to the lack of required registration and political upheaval at the time of research, the researchers were unable to acquire the comprehensive list of nonprofits from the Thai Revenue Department (TRD). As the TRD's nonprofit list does not include nonprofit URLs, it was decided to collect a non-probability purposive sample (Daniel, 2012) to obtain a list of available Thai nonprofit websites. For three weeks in December 2013, two graduate research assistants, fluent in Thai, searched online for Thai nonprofits and their websites. Their search parameters included, "Thai nonprofit," "Thai foundation," "Thai charity," and "volunteer organizations." Labor unions and cremation services are considered nonprofit organizations in Thailand, but they were not included within the search parameters of this study as this study focused on socially beneficial, welfare nonprofit organizations. While this type of organization is diverse and the importance of websites may vary by their individual mission, the researchers felt the broad inclusion would yield better results for mapping the general website technology use in the sector. The research assistants produced a list of 450 potential Thai nonprofit websites. After a review of the list, researchers found some organizations were not nonprofit organizations (i.e. eco-tourism, socially beneficial for-profit businesses), and these were removed from analysis. Nonprofit organizations that failed to have an independent website, such as charity projects of corporations, were also removed as ownership of the website would be indistinct. International organizations that had projects in

Thailand, but not a physical office were also excluded. Although this sampling technique does limit the generalizable findings, it allows exploration of diverse socially beneficial nonprofits. Organizations focused on children were the largest cohort at 25%, followed by those focused on poverty at 20%. Charities focused on health, education, environment, and human rights were between 10-15% of the total sample. Less than 10% of the sample focused on women, animals, or culture. The final sample size was 284.

Each website was randomly assigned to two coders, who were knowledgeable in the field of business information technology, and were not involved in the sampling collection. Working independently, each website was decoded based on an instrument that was developed by the researchers to survey the stage level features including presentation of information, interactivity, and e-transactions (Table I-IV). The website feature inventory developed in this study provides a novel, adaptable and re-usable instrument specifically for nonprofit website assessment, suitable for cross-sectional benchmarking at a single point in time, as in this study, or for future comparative studies, across time, geography, or other dimensions.

Each coder was given a training module and examples for each variable. Coders were asked to explore the website completely and report all of the available variables. They were also asked to note any additional features, such as other social media sites. Thirty-three out of the thirty-seven total variables surveyed had greater than 85% percentage agreement. Cohen's Kappa determined a substantial agreement between coders,  $K=.619, p \geq .001$ . All non-matching responses were individually checked by the lead researcher, and all responses for the four variables with low inter-rater agreement were also individually checked by the lead researcher.

The sampled websites were split into two categories for analysis: local or international. International organizations were either affiliates of an international organization, had an external funding partner, or were international organizations with an office in Thailand. The researchers assumed that these international organizations could potentially have more assets, which could advance their technology progression, and decided to isolate them for analysis and comparison. This differentiation allows a display of how local, on the ground, Thai organizations are operating online.

## **Data Analysis**

Overall, the organizations studied represented themselves on their websites in various ways, but local Thai nonprofit websites lagged behind websites developed by internationally-connected organizations. Two units of analysis are used per stage: the basic meeting of the level by having at least one element available, as well as the average number of elements coded per stage. As the stages progress from Level 1 to Level 4, fewer websites meet each stage. Only two-thirds of internationally connected websites (62%) and only one quarter of local Thai websites (27%) actually reached all four levels with at least one feature.

Out of the 29 total features examined across the four levels, 15 had significant differences between the two types of organizations. Tables I-IV go into further detail on each stage level and the various features for each level.

### ***Level 1: Emerging Presence Key Findings***

All of the nonprofits studied reached Level 1. Out of the eight emerging presence-building features measured, the websites studied averaged 5.3 informational items. The mean difference between the number of features within Level 1 for international organizations and local Thai organizations was also significant ( $.45, t(282)=-2.15, p \leq .05$ ), suggesting that

internationally connected organizations post slightly more emerging presence content than local organizations.

In particular, more international organizations posted their missions and information about programs or services than the local organizations. The most common type of content was contact information, in particular phone numbers, addresses, and emails. There were no significant differences for the type of contact information between the two types of organizations.

### ***Level 2: Enhanced Presence Key Findings***

The majority of the websites had some type of enhanced material (89%). Although there was not a significant difference between international websites and local websites reaching Level 2 with the minimum of one feature (95% vs 87%, respectively), there was a difference in amount and types of material posted. International organizations posted more enhanced presence materials, averaging 3 items, compared to Thai organizations only posting about 2 (1.22,  $t(125)=-4.36, p\leq.001$ ).

Internationally connected organizations were more likely to post information that might be regarded as transparency material, such as news and updates, information on board members, key staff, and annual or financial reports. Local Thai organizations rarely posted board member background and annual or financial reports. The only transparency material that was not significantly different was posted organizational goals.

### ***Level 3: Interactivity Key Findings***

Only 72% of the websites facilitated some type of interactivity. Just over two-thirds of Thai websites (68%) used at least one interactive component compared to 83% of international websites, a significant difference. Out of nine features observed, the websites averaged 1.62 features. International organizations were more likely to use more than two types of interactive features, whereas local groups yielded closer to one interactive feature (.85,  $t(125)=-4.36, p\leq.001$ ).

Just over half of the organizations studied used Facebook, and to a lesser extent, organizations used Twitter and YouTube. 73% of internationally connected organizations used Facebook, whereas 50% of Thai organizations did. Other social media sites were also coded, but no other site was found to have a considerable amount of organizations participating. Local Thai organizations used web forums more often than international organizations (15% vs 5%).

Non-social media forms of interactivity, such as online games, interactive maps, or user generated content was limited. All reported incidences of user-generated content were comments on articles or blogs, none of the websites requested visitor photos, stories, or videos.

### ***Level 4: E-Transactions Key Findings***

Less than half of all websites studied (47%) conducted any type of online transactions. Almost three-quarters of international websites accepted online transactions (73%), whereas only about one-third of Thai organizations did (37%). International organizations were more likely to have at least one way of transacting online (.52,  $t(282)=5.28, p\leq.001$ ).

The most common e-transaction was through a third party (39%). Most of the international organizations (54%) and one third of the Thai organizations (34%) accepted third party processing on their website. Almost half (46%) of the third party processing was through PayPal. Thai banks were the other main source of third party e-transactions.

A quarter of the organizations studied only accepted offline donations, such as checks or in-person shopping, while another quarter did not mention donating or raising public funds on their website at all.

## **Discussion**

### ***Website Features and Uses***

Based on these findings, nonprofits in Thailand are using many of the features and technologies showcased within the model. Yet, there is still considerable room for nonprofits in Thailand to improve their websites and advance to higher stages. Even after reaching a particular level, however, organizations can enhance their website by offering additional features at that level.

Overall, these findings on Thai nonprofits are consistent with past research on Western nonprofits that shows information provision is a main function of websites (Eimhjellen et al., 2014) meant to increase awareness and provide pertinent contact information (Goatman and Lewis, 2007). A deeper purpose of websites, such as building community through interactivity, or raising additional funds was not clearly evident in the features available.

Level 1 findings suggest nonprofits see their website as a way for the public to find them, similar to a phonebook. While some offer online connectivity through Facebook, posted contact information is almost ubiquitous, allowing the public to contact them offline or via email. Organizations can further improve the clarity of purpose on their websites by including mission statements, program information, and goals so visitors can quickly understand what the organization is aiming to do in society and lays the groundwork for the rest of the website.

Level 2 findings suggest that internationally connected organizations also see their website as an accountability tool, making online disclosures, including financial statements and information about the board members. Transparency content is limited for local Thai organizations, but is an important factor for them to consider if these organizations want to build online trust for increased stakeholder interest and funding. These nonprofit organizations may want to consider posting more background information on their board members and financial reports, transparency measures required for public businesses in many countries, allowing stakeholders to better understand the nonprofits' leadership and agenda (Tremblay-Boire and Prakash, 2014).

Interactivity, Level 3, offers two-way communication that can aid in building awareness, increase transparency, and obtaining feedback. This online interactivity aids organizations not only in attracting new stakeholders, but in engaging and retaining them. The ability to post opportunities to a forum in which people spread the word to their families and friends can greatly enhance how many people can be reached. With about half of the organizations hosting a Facebook page, the majority of these nonprofits know social media is important.

Past research has shown, however, that having a social media site does not suffice; organizations must be actively engaged (Waters et al., 2009). Gunawong (2015) studied Facebook use in Thai public agencies, such as ministries and provincial offices, and found significantly fewer active social media accounts. Nonprofits in Thailand may also succumb to inactivity. In order for these platforms to work, nonprofits must be engaged and active. Future renditions of the stage model analysis may want to consider adoption versus active account discrepancies.

This research also observed few organizations using alternative, non-social media, interactive features. Polls can help organizations collect information from interested parties, and

user-generated content can help propagate a website with content, as well as pique visitors' interest with unique stories of how the organization had aided the society. Visitors could be asked to post stories or photos, or simply leave feedback for the organization. These alternative interactive features can help draw attention or awareness to the organization or their cause in interesting or novel ways. Organizations may want to look into how these features can aid their organizational mission (Guo and Saxton, 2014; Lovejoy and Saxton, 2012).

Online transactions, Level 4, are an added benefit that can easily raise additional funds for the organization, yet less than half of all the websites conducted any online transactions. The most prominent difference found in the study between local websites and international websites is the ability to conduct e-transactions. As Thailand's growing middle class will make credit cards more common (Perkins et al., 2010), nonprofit organizations will want to capitalize on online credit card processing. Some nonprofits were found to be relying on third parties for e-transactions, even though these third parties often charge transaction fees. The use of well known third parties, such as PayPal, however, allows organizations to accept donations from all over the world, in any currency, greatly enhancing the fundraising footprint of the organizations. These third party transactions allow the organizations to have a reliable and secure feature on their websites, which may increase the level of trust for their sites (Hooper and Stobart, 2003).

A small segment of organizations are selling goods online through PayPal, Etsy.com, and other sites. Some of these organizations had combined their programming with fundraising, by training individuals, including children, in art or business and selling their homemade greeting cards, posters, scarfs, and other artwork online. Researchers found other organizations that were conducting similar projects, but they were not capitalizing on the potential of e-transactions, requiring individuals to contact them directly to purchase items. These organizations should explore e-transactions to increase their selling capability.

Very few organizations used crowdsourcing websites or fundraising portals. These platforms allow outside individuals to do fundraising for the organization (Read, 2013). Additional research may want to review why more organizations are not using these online fundraising tools.

### ***Stage Model***

Stage Theory has been criticized in past literature, and Fitzgerald and Mendo (2005) address many of these criticisms. Stage Theory is criticized for over-simplifying the complex nature of technology adoption, a strict linear interpretation, and being too general. The researchers acknowledge that information communication technology and websites are often adopted or implemented incrementally due to internal and external factors that affect organizations but still find the theory appealing as the broad scope allows practitioners to classify and compare organizations for benchmarking purposes. Interpretation of the stages, however, does not need to be linear or conceptualized in a time-series; some organizations regress and others skip stages. The stage model adds value by mapping nonprofit websites in a particular time, as a snap shot, giving guidance to managers that need to direct their organizational goals and resources. This research in particular also confronts some criticisms by detailing two units of analysis per stage: the basic meeting of the stage by having at least one element per stage, and the average number of elements coded as being present on websites within each stage.

The stage model is thus useful in providing an overhead review of website features available, as well as website development in an easy to understand format. While this model is used internationally to analyze government (United Nations, 2008) and business websites

(Rotchanakitumnuai et al., 2011), there is not a clear understanding of whether the model is inherently western, focusing on features and uses that western information technologists suggest are useful or critical for websites and potentially ignoring local ICT culture. By including open ended questions and codes, researchers explored this possibility, but did not find any other features of significant adoption. Similarly, this model has never been applied to nonprofits, and it may need to be adjusted further to take into account nonprofit particularities.

A model flaw that is not confronted in this study is user experience or technical aspects that influence user's perception of the organization. Models used to analyze businesses (Loiacono et al., 2007) use design aspects, such as navigation and broken links, to proxy user experience. Future studies should incorporate some of these technical aspects to gauge website quality.

### ***International versus Local Thai Organizations***

Throughout the stage analysis, the findings illustrate a significant digital divide between organizations that have international connections and those that do not. Internationally connected Thai nonprofits have more websites reaching each stage and have more features within each stage.

The Mangrove Action Project and Plan International Thailand Foundation are two examples of internationally connected organizations that have robust stage levels. Each supplies a considerable amount of content, including a clear purpose, board member backgrounds and annual reports. A visitor can easily find evidence of the impact the organization is making in society. They both use multiple interactivity forums, reaching beyond basic Facebook and Twitter. Both also have multiple e-transaction mechanisms for visitors to donate to their cause.

Extensive research over the past three decades has analyzed this divide (Norris, 2001; van Dijk, 2006). While this study did not analyze organizational assets, it could be argued that international organizations have a larger stakeholder base, and consequently could have increased funding and access to technology support. Investing in more complex websites, such as reaching to Levels 3 and 4, or improving quality, requires more individuals to be involved and higher organizational capacity as the website progresses from being a disseminating tool to an informational gathering tool. Financial transactions also require a higher level of internal IT competencies. Ensuring the progression is made with user-friendly interfaces and designs also increases the need for training or investments in software that internationally supported organizations may have better access to.

Still the differences between local organizations and internationally supported organizations may be more nuanced than access to funding. Level development may also rely on who is deemed to be the target audience of the website. Internationally connected organizations in this sample included international fundraising units of Thai organizations, fundamentally suggesting a need to reach out to international audiences in order to raise funds. Local Thai organizations may not see how the benefits outweigh the costs of added website features if access to Internet is limited in their region. If target stakeholders are local with limited Internet access, the organization may not see the added benefit in attempting to build an online community through interactivity or raising funds online. Furthermore, in many emerging markets, mobile phones are increasing access to the Internet, and if many users are visiting websites via mobile phones or on slow Internet connections, websites may need to be simplified for easier downloads.



## Implications and Future Work

Past ICT and website research has focused considerably on developed countries, but with expanding globalization, there is a need to look at developing markets and understand how organizations in these regions are transforming, as well (Xiao et al., 2013). While these research findings illustrate that nonprofit websites in Thailand are progressing, nonprofit use of technology is still an unfulfilled potential. This study suggests, at least in an emerging country like Thailand and potentially other emerging or developing markets, user expectations of websites may need to be mitigated. Not every organization uses social media and the majority of organizations do not conduct online transactions.

The field of nonprofit use of technology is limited and additional research will help nonprofits learn how to better utilize technology. These findings note the absence of advanced web technologies on nonprofit's websites, such as user-generated content or crowdsourcing, which have been praised in past research (Gao et al., 2011; Read, 2013). Insights into *why* specific technology features were or were not adopted requires further investigation, and may contribute important theoretical and empirical insights. Few organizations, at least in Thailand, actually use these advanced web technologies on their websites. Crowdfunding, for example, seems to be a feature that could integrate community building of an organization and the need to raise funds. While organizations may be focusing their efforts on Facebook, research should consider how these advanced features best fit with organizations' goals and their own websites, and whether there is a difference between interactivity and advanced features on a third party platform versus integrating them into their own organizations' website.

The question of "*is more better?*" is an important area of future concern. Nonprofits need to make choices that align their technology strategy with organizational goals. By using the high level analysis of the stage model, nonprofits can be mapped into developmental levels, but still have considerable choice within each level. Studies on user expectations or usability of nonprofit websites will aid organizations in focusing their limited investments on what makes the most impact for them. Additionally, future studies that analyze the association between website features or quality and organizational performance would also be beneficial to the sector. As organizational performance and growth metrics are not readily available for Thai organizations, such an analysis was not possible in this current study.

Moreover, research in emerging or developing markets cannot end without asking the ethical question of who is missing out. In Thailand, as in many other countries, it is difficult to pinpoint the number of operating nonprofits, more so the number with websites. There are a significant number of people who do not have Internet connections, and thus websites may have little meaning to them. However, if the organization has increased capacity, such as with increased funds or volunteers thanks to their website, the organization should be better prepared to affect things on the ground, but this assumption needs rigorous testing. Analyzing nonprofits without websites or taking a closer look at nonprofits with limited Internet connections may also shed light on other development processes and other ICT tools that may be more helpful to their mission than websites, such as data management tools. Research should continue to explore how websites actually increase reach by observing long term web technology implementations, and explore further questions of website quality. Research on mobile technology and its developmental progression can also look into how business' and nonprofits' websites are experienced on a smaller screen.

As this research developed a primary framework for evaluation of nonprofit websites, the stage model employed can also be further developed and adapted to better fit different types of

nonprofits. The framework can also be used to compare different organizational types. Future research may also explore ranking individual features or establishing which features matter most to the model, as well as determining other factors that affect overall quality, such as design elements.

This study had a number of limitations that could be improved upon in future research. The primary limitation being the nonprobability sampling technique necessitated by the political conditions on the ground and an absence of a full comprehensive list of operating websites for nonprofit charities in Thailand. However, the diverse sample collected gives the researchers confidence that the findings are an accurate illustration of socially beneficial, nonprofit website development in Thailand. Another limitation is the coding process with multi-language websites; differing interpretation between coders, and continually changing websites. The researchers mitigated this concern by having the same researcher review the paired coding discrepancies, aiding in developing a single interpretation across all decoded websites. Future studies could attempt to obtain a random sample and could further update the stage model theory for nonprofits, allowing further comparison between nonprofit sectors.

A further limitation may be the appearance of a Western framework on Thai culture and practices. Unique cultural tendencies may promote particular website elements over others. Along with a Thai research member, coding included open elements to log other uncharted features. This open question, however, did not provide any additional features that were not already captured. In terms to the stage model being Western centric, the model has been used in Thailand's business sector (Rotchanakitumnuai et al., 2011) and in other non-western settings (Alfarraj et al., 2011). Furthermore, transparency has seen a major push within Thai's public agencies (Gunawong, 2015), and interactivity is well-established within the collectivist, social culture of Thailand (Kritsch, 2014).

## **Conclusion**

The typical approach to asking whether information communication technology is making a better world is analyzed through improved effectiveness (Walsham, 2012). In the traditional e-business model, each stage level reached by an organizational website is regarded as an improvement. In the nonprofit sector, this assumption may not always be true. A nonprofit's organizational goals may not be to expand or reach new audiences. While better websites may equate with increased reach of donors and beneficiaries, raised awareness, community building and more, which subsequently can aid the organization in their mission fulfilment, resources dedicated to websites limit the resources devoted to direct mission fulfillment. The decision to develop their website and improve quality must ultimately be part of the nonprofit's overall organizational strategy.

This research thus helps to better understand how nonprofit organizations are using web technologies to improve their operations. This study adds to ICT research by providing an initial framework for nonprofit website analysis through the adapted stage model. Practitioners and researchers can use or further adapt the stage model to look at organizational websites' development or can use the framework to benchmark and compare groups of nonprofits. While development through the stages may not fit the needs or resources of particular nonprofits, managers may want to consider what their peers, competitors, or partners are already doing. In this sense, the findings are benchmarking data that can be used to better understand Thai nonprofits' website use and compare Thai or international nonprofits to other nonprofits, especially those in less developed areas where research is scarce.

This research provides evidence that nonprofit websites in emerging markets are developing, albeit at a slower rate than international nonprofits. Thailand's charities, as a case study, demonstrates how other charities in developing and emerging markets may develop their websites as Internet usage expands. As charities continue to be a major player in international development, understanding how these nonprofit's function in changing ICT environments is important. This research confirmed that dissemination of content has been the main focus of these nonprofit websites, and less than half of the websites offer any form of e-transactions. While more of these nonprofits are starting to utilize social media, direct interactivity on their own websites is limited with expansion instead on third party social media sites.

## Acknowledgement

*This research was partially funded by The Center of Excellence in Operations and Information Management, Thammasat University.*

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**Table I. Level 1 Emerging Presence**

	Full Sample n=284	Thai Nonprofits n=206	Internationally Connected Nonprofits n=78	Pearson Chi-Square	
<b>Level 1: Emerging Presence</b>	%	%	%	Value	Sig.
Mission	62	57	77	9.761	0.002**
Information on programs or projects	82	77	95	12.014	0.001**
Email	80	77	87	3.523	0.061
Online contact form	38	40	35	0.645	0.422
Phone	87	85	94	3.814	0.051
Address	89	87	92	1.375	0.241
Fax	53	53	51	0.060	0.806
Map to office location	38	41	31	2.634	0.105
Emerging Presence Index Mean (out of 8)	5.30± CI: .18	5.17± CI: .22	5.62± CI: .30	t(282)= -2.15,	p≤.05*

Note: \*Difference between local Thai organizations and internationally connected organization was significant at p≤.05. \*\* Difference significant at p≤.01. \*\*\*Difference significant at p≤.001.

**Table II. Level 2 Enhanced Presence**

	Full Sample n=284	Thai Nonprofits n=206	Internationally Connected Nonprofits n=78	Pearson Chi-Square	
<b>Level 2: Enhanced Presence</b>	%	%	%	Value	Sig.
Goals	48	48	46	0.082	0.774
Posted press releases, news updates, or stories about themselves in media	63	57	80	12.306	0.000***
Board members	49	43	64	9.889	0.002**
Board members' background	18	11	37	25.599	0.000***
Key staff	45	40	59	8.397	0.004**
Annual report or budget/financials	19	9	45	46.997	0.000***
Enhanced Presence Index Mean (out of 6)	2.42± CI: .18	2.09± CI: .19	3.31± CI: .36	t(122)=-5.88,	p≤.001***

Note: \*Difference between local Thai organizations and internationally connected organization was significant at p≤.05. \*\* Difference significant at p≤.01. \*\*\*Difference significant at p≤.001

**Table III. Level 3 Interactivity**

	Full	Thai	Internationally	Pearson	
	Sample	Nonprofits	Connected Nonprofits	Chi-Square	
	n=284	n=206	n=78		
<b>Level 3: Interactivity</b>	%	%	%	Value	Sig.
Interactive or personalization	4	3	5	0.818	0.366
Visitor polls	3	4	1	1.248	0.264
User Generated Content	12	13	8	1.615	0.204
Web Forum or online discussion group	12	15	5	4.779	0.029*
Facebook	56	50	73	12.747	0.000***
Twitter	28	19	51	29.488	0.000***
Live Chat	1	1	0	0.763	0.382
Youtube	25	15	50	37.213	0.000***
A social media sharing widget	22	18	30	4.089	0.043*
Interactive Index Mean (out of 9)	1.61± CI: .17	1.37 ± CI: .18	2.23 ± CI: .33	t(125)= -4.36, p≤.001***	

Note: \*Difference between local Thai organizations and internationally connected organization was significant at p≤.05. \*\* Difference significant at p≤.01. \*\*\*Difference significant at p≤.001.

**Table IV. Level 4 Electronic Transactions**

	Full	Thai	Internationally	Pearson	
	sample	Nonprofits	Connected Nonprofits	Chi-Square	
	n=284	n=206	n=78		
<b>Level 4: E-Transactions</b>	%	%	%	Value	Sig.
Sells items online	7	6	10	1.286	0.257
Accepts online donations through third party (e.g. PayPal, Give2Asia)	39	34	54	9.348	0.002**
Accept online donations directly	9	4	23	23.016	0.000***
Fundraising pages for individuals to create and raise funds	3	1	9	11.810	0.001**
Crowd-sourced fundraising sites	2	2	3	0.401	0.526
E-Transactional Index Mean (out of 5)	.61± CI: .09	.47± CI: .09	.99± CI: .19	t(282)=- 5.28, p≤.001***	

Note: \*Difference between local Thai organizations and internationally connected organization was significant at p≤.05. \*\* Difference significant at p≤.01. \*\*\*Difference significant at p≤.001.



This is the accepted version of the following article: Kirk, K. and Abrahams, A.S. 2017. Evaluating Public Charity Websites: Stage Model versus Automated Service" *Nonprofit Management and Leadership* 27(4) pp: 475-491. DOI: 10.1002/nml.21256, which has been published in final form at <http://doi.wiley.com/10.1002/nml.21256>. This article may be used for non-commercial purposes in accordance with the Wiley Self-Archiving Policy [<http://olabout.wiley.com/WileyCDA/Section/id-828039.html>].

## **Evaluating Public Charity Websites: Stage Model versus Automated Service**

### **Abstract**

This study explores nonprofit website development by applying two different types of website assessment tools to U.S. charity websites. One instrument is theoretically based in nonprofit tendencies whereas the other is a commercial automated service. The results of these evaluation tools are further analyzed to determine if the instruments are sufficiently independent for evaluation of nonprofit websites. The results illuminate differences in the assessment tools, finding them to be complimentary. Each method offers different insights into website development deficiencies and avenues for improvement.

**Keywords:** Nonprofit, charity, website, technology adoption, stage model

Nonprofit organizations are committed to socially and publicly beneficial missions as dictated by their 501c3 tax exemption status. Due to increases in Internet penetration and usage across the globe, as well as an influx of accessible, low cost website building tools, websites are critical platforms for nonprofits (McPherson 2007). Website visitors and online donations to charitable organizations continue to rise (M+R 2016). Nonprofits can use websites to establish an online presence, build their brand, develop a community, reach new audiences, increase their revenue, connect with volunteers, and communicate with stakeholders. Evaluating websites' quality and success is thus important to researchers and practitioners in the field of nonprofit management. This research explores two evaluation instruments that can be applied to nonprofit websites, how the instrument's results relate to each other, and what this means for nonprofit website evaluation.

While there has been notable research on the adoption of websites by nonprofits (Clerkin and Gronbjerg 2007; Manzo and Pitken 2007) and other types of information technology (Hackler and Saxton 2007; McNutt 2007; Wolpert and Seley 2007), nonprofit technology research has moved toward focusing on particular online elements, such as the use of social media (Curtis et al. 2010; Guo and Saxton 2014; Lovejoy and Saxton 2012; Maxwell and Carboni 2016; Nah and Saxton 2012; Waters et al. 2009) and online fundraising (Bennett 2009; Burt and Gibbons 2011; Read 2013; Shier and Handy 2012).

Websites are still important to study as they are a relatively low cost platform for communication between stakeholders. Even with the influx of social media, the public still looks for nonprofit websites (Nielson 2011). Innovations in technology have made new, low cost, and easy to understand tools and templates available, enabling any organization to create robust websites (Hooper and Stobart 2003). Research now needs to take into account advances in

technology that have allowed websites to transform from static or flat brochure-ware pages into dynamic and robust interactive marketing and fundraising platforms.

Users are expecting more; managers and website developers need to be conscious of those expectations (Waite, Harrison, and Hunter 2011). Organizations that use the Internet and websites have been found to achieve higher organizational growth than those that do not (Eimhjellen, Wollebæk, and Strømsnes 2014). If nonprofits fail to take advantage of advanced technologies expected by users, the organizations may be negatively impacted. For example, if a visitor cannot find an easy way to donate, the nonprofit may lose the opportunity to collect funds. A visitor who cannot find a way to get involved may look for another organization, and the nonprofit may lose a potential volunteer. A nonprofit that wants to raise awareness on a particular subject but only has large downloadable educational PDFs, may not be communicating its message effectively. Nonprofits thus can benefit from carefully designing and maintaining their websites.

Measuring the success of a website, consumer or charitable based, however, is difficult (Zviran, Glezer, and Avni 2006). Evaluation tools for businesses include research based indexes like WebQual (Loiacono, Watson, and Goodhue 2007) and expensive usability tests (Hasan, Morris, and Proberts 2013). Using web metrics is an easier, less expensive option, but hosts incomplete data and unstandardized interpretations (Weischedel and Huizingh 2006). Another approach is the burgeoning, fee-based automated services. These services, such as Sitebeam and Woorank, analyze website logs or HTML codes and provide standardized scores based on consumer websites and marketing experience.

Evaluating nonprofit websites is even more complex due to the multiple stakeholders, bottom lines, and goals. A successful nonprofit website must have effective design that allows

the organization to communicate a clear message and engage audiences, which may include interactivity and online fundraising. Research, however, has not yet developed a comprehensive, well tested index or structure for analyzing nonprofit websites. Nonprofits may conduct self-assessments of their websites or adapt consumer-orientated approaches, such as attempting to interpret analytics or purchasing costly third-party, consumer based usability or automated tests.

In attempting to overcome the absence of a comprehensive nonprofit website evaluation framework, Kirk, Abrahams, and Ractham (2016) adapted a stage model that had previously been used to evaluate e-governments (Alfarraj, Steve, and AlGhamdi 2011; United Nations 2008; United Nations 2010) and businesses (Rotchanakitumnuai, Kaewkitipong, and Ractham 2011; Zhu, Basil, and Hunter 2009). The model provides an overview of website development by classifying nonprofit websites into stage levels, starting as a basic tool for communication dissemination and moving toward sophisticated business integration. The model provides details within each stage that nonprofits can adapt for their particular needs. These indicators are easily quantifiable, a benefit for nonprofits conducting a self-assessment or benchmarking. While the stages do not necessitate linearity, each stage met is considered a progression of organizational and information technology (IT) maturity, as the stages increase in complexity, cost, and technological demands (Rao, Metts, and Monge 2003; United Nations 2008).

This study analyzes a nonprofit stage model by comparing it to a consumer-based, third party automated service. In particular, this study applies both evaluation instruments to U.S. charities and evaluates the relationship between the stage model findings and the automated service scores. As the stage model does not include indicators of technical design, organizations may erroneously assume that websites with higher stage progressions are better quality websites.

This study confronts this concern by asking if the stage model analyses and automated services are independently sufficient measurements of nonprofit website development.

Nonprofit leaders and managers want attractive, well-functioning, and organized websites to communicate and engage their audiences. They subsequently need an efficient manner to evaluate their websites. This research aims to contribute to the nonprofit technology field by comparing a nonprofit stage model to a consumer-based, third party automated service that analyzes technical quality based on HTML coding. In doing so, this study questions whether or not the instruments can be substituted for each other. As nonprofit websites are becoming more integral, assessing website quality and development is important for these leaders who are strategizing their organizations' online presence.

### **Measurement Instrument 1: The Nonprofit Website Stage Model**

Many past studies focus on website adoption or influences on adoption (Clerkin and Gronbjerg 2007; McMahon, Seaman, and Buckingham 2011), but few studies comprehensively focus on nonprofit websites' features or quality. Waters (2007) conducted a content analysis of communication and fundraising features, but only sampled top charitable organizations. Dumont (2013) developed a virtual accountability index for nonprofit websites, but only applied it to a small segment of nonprofits in Illinois. Kirk, Abrahams, and Ractham (2016a, 2016b) adapted a stage model to evaluate nonprofit websites by categorizing the types of features available on nonprofit websites along developmental levels in the United States and in Thailand.

This research implements a similar stage model. Level 1 is "Emerging Presence" or the basic presentation and dissemination of information. Level 2 is "Enhanced Presence" and includes transparency information, such as policies and governance. Level 3 is "Interactivity" and notes two-way, interactive components. Level 4 is "E-Transactions" in which a website

offers online payments or accepts online donations. While Level 5, “Enterprise Integration,” reviews how organizations integrate back office infrastructure online, it is beyond the scope of this study and is not included in the analysis as it requires information not publicly accessible. A complete list of indicators within each level is available in Appendix A.

The stage model is easily applied to nonprofit websites and can be further adapted to the needs of particular organizations by indexing specific content and features. The stage model assumes that as organizations progress the model, technological capacity and design is reflected (Rao, Metts, and Monge 2003; United Nations 2008). The model does not actually include design issues, such as accessibility, broken links, or readability, which are factors that can affect user experience. The model includes social media in terms of hosting an existing account but does not include the actual activity of those accounts, which may differ significantly (Maxwell and Carboni 2016). The model thus creates an index for various features and content that are important to nonprofits but does not verify the websites are user-friendly with technical elements. The model can be easily applied as a self-assessment by nonprofits and used as a research tool to determine development of nonprofit websites.

## **Measurement Instrument 2: Automated Testing Services**

There are numerous services that offer automated testing services for consumer websites, such as Sitebeam or WooRank. These services have each developed their own computer software programs that scan websites, using web-crawling bots to read HTML coding, and return reports on particular parameters, including accessibility, social media usage, and search engine optimization. Their reports can include raw data, summary scores, and suggestions for improvement. Their scoring algorithms, however, are proprietary.

One of the benefits of using an automated service is the speed and ease of the reporting on a single website or multiple websites, such as a competitor's website, for comparison. Along with raw and summary scores, the reports often include concrete advice for improving websites based on marketing and technology experience within the companies. For example, the reports may show how active the organization is on Facebook or Twitter, based on a linked account, and may recommend more organizational postings.

These services, however, are geared toward the private sector. In particular, they focus on the technological and marketing aspects of a website. For example, while they might code the content's semantics, spelling, and reading level, they do not report what type of information is available, such as annual reports or board member background. Furthermore, while there are multiple types of packages at various price points, the services can be considered costly for some nonprofits.

### **Data and Methodology**

Unlike many charity website studies that examine a small number of organizational websites (Long and Chiagouris 2006) or surveys returned by management (Goatman and Lewis 2007; McNutt 2007), this research examined 431 random nonprofit, public charity websites during the fall of 2013. Public charities, those with 501c3 status, are a subgroup of nonprofit organizations due to their tax exemption status and public mission. Using a similar methodology as Tuckman, Chatterjee, and Muha (2004), this sample was drawn from the National Center for Charitable Statistics (NCCS) Statistics of Income (SOI) 2010 database, which collects a variety of data from nonprofits' submitted IRS 990 forms, including their total end of year assets, number of employees, the age of the organization, and location. While the SOI is a random sample of nonprofits, it is stratified by assets. This study randomly drew 383 nonprofits from

asset groups to match the population of nonprofits filing 990 forms and an additional 100 oversample of higher level asset groups to maintain a sufficiently sized sample for analysis of organizations with higher assets (Table 1). Researchers chose a random sample based on assets, rather than organizational subtype, as past research has shown organizational asset size to be an important indicator of technology adoption (Manzo and Pitken 2007; Tuckman, Chatterjee, and Muha 2004; Wolpert and Seley 2007).

An online search for each charity's website was conducted. Out of the original random selection, 81 percent of the public charities had an active website. Organizations without an attributed website were removed from further analysis. A different random nonprofit charity was randomly selected from the same asset subgroup, and another Internet search for that website ensued. As some organizations share websites with partner organizations, including corporations, those websites (9 percent) were removed as ownership or decision making processes for the website could not be isolated to the randomly selected organization. With this exclusion, the sample size was 431.

Each nonprofit website was randomly assigned to two coders, knowledgeable in the field of business information technology. They coded each website based on an inventory of features and tools available, which is reflected in the stage model. The lead researcher conducted spot checks and reviewed non-matching responses. Cohen's *Kappa* found good agreement between the two coders,  $K = .643$ ,  $p \leq .001$ .

A second set of data on the same 431 nonprofit charities was collected from a third party technology company, Sitebeam (Silktide 2013), that offers automated testing. Sitebeam is a commercial entity used by thousands of organizations, including universities, to assess their website quality (Jonsson 2014; Tze 2014). This company crawls the top 10 pages of each website



reading the HTML code and returns various raw data, such as alternative text, broken links, headers, errors, printability, freshness of content, social media indicators, etc. This study reviews the overall Sitebeam score, which summarizes the results of the websites' individual scores and is considered by Sitebeam to be an overall goodness test, as well as the technology, accessibility, marketing, and content scores.

### **Descriptive and Summary Statistics**

Although the number of nonprofits in the U.S. is well over one million organizations, this study uses a sample representative of the population of U.S. public charities by assets that filed a Form 990 in 2010. The sample includes a wide variety of public charities (Table 2), similar to those in the population with the exception of a greater percentage of health charities and fewer human service charities. ANCOVA testing did not find any substantive differences between these subtypes. Universities and hospitals that are public charities are included within the sample as SOI coding for schools and hospitals also include many small, local organizations. Private foundations are not included. Foundations that receive public support and are public charities are included, but they are a small segment of the sample (1 percent). Post-stratified weights are used to remove any effect of the over sample of higher asset organizations.

Descriptive statistics of the sample (n=431) are listed in Table 3. Charities excluded due to subpages mentioned earlier are not significantly different than the overall sample. Charities without webpages were not significantly different, with the exception of organizational age (mean difference -10.31,  $t(243.7)=-4.474$ ,  $p \leq .001$ ).

### **Findings**

#### **Instrument Assessment: Stage Model**

The stage model includes a variety of measurements and thus different ways of assessing

a nonprofit website. The complete results of the stage model analysis can be found in Appendix A. One method is reviewing the highest stage level that the website met, producing a score of one to four. Websites that skipped a progression level (13 percent) were removed from further analysis to maintain consistent coding system; they did not significantly differ from than the remaining sample in terms of descriptive statistics or automated scoring results. The average website score of 3.18 (st.d. 1.01), indicates most organizations reached Level 3: Interactivity with at least one feature. Another method is the total additive score of variables within the model, with a maximum score of 28. With this measurement, the average website score is 10.03 (st.d. 3.6), 36 percent of the total possible maximum score. While the first measurement finds over three quarters of the websites reached Level 3, the second measurement shows that only 36 percent of possible indicators were met. As successfully reaching a level with one criteria may be considered too light of an assessment, more difficult thresholds can be created, such as requiring a website to host two elements of each level rather than one. In this test, the mean score is 2.33 (st.d. .91). With this more stringent threshold, the average website does not reach beyond Level 2: Enhanced Presence.

A more detailed approach can also be assessed, looking directly at each level individually. In Level 1: Emerging Presence, nonprofits excel in listing their mission and programmatic information. Almost all post their phone number and address, and the majority also post a contact email address. The average website posts 64 percent of the indicators at this level. In Level 2: Enhanced Presence, just over half of the organizations post the names of key staff and board members. Significantly fewer organizations post additional transparency information. Around one-third of organizations post goals, news releases, or board member backgrounds. Only 20 percent post any annual reports or financial disclosures. Out of the six

enhanced presence indicators, the average website posts 2.45 items, or 41 percent.

The most popular Level 3: Interactivity indicator has the inclusion of Facebook. This measurement, however, only marks that the website has a working link to an associated Facebook page and does not measure the activity of that Facebook account. One third of organizations use Twitter, and 16 percent use Youtube. Out of nine Level 3: Interactivity indicators, the websites only average 1.47 items which constitutes attainment of only on average 16 percent of available indicators for Level 3.

Just over half of the organizations (56 percent) offer at least one type of e-transactions (Level 4). The most popular method for accepting online payments is by a third party (41 percent), such as Paypal. Another 17 percent directly accept donations or payments. Very few organizations use crowd-sourced fundraising or fundraising portals.

### **Instrument Assessment: Automated Testing**

While the stage model can be adapted to meet a particular need of a nonprofit, the automated services sell pre-set scoring systems. While different packages may exist, the versatility is limited. The automated service, Sitebeam, produces scores on technology, accessibility, content, marketing, and an overall score. The technology score includes tests on printability, analytics, W3C compliance, search engine optimization, open graph, speed, URL format, broken links, stylesheets, redirections, missing files, headings, error pages, and alternative text. Sitebeam allocates scores out of 10, with scores around 9 representing Excellent, around 7 representing Good, around 5 representing Average, around 3 representing Poor, and around 1 representing Very Poor. The average website technology score in this study is 4.03 (st.d. 2.33) out of 10. The accessibility score equals 5.35 (st.d. 2.48) and includes testing on W3C compliance, search engine optimization, speed, readability, URL format, headings, and

alternative text. Marketing returned a score of 4.44 (st.d 1.49) with tests on user analytics, Facebook or Twitter data, Alexa popularity, search engine optimization, open graphs, incoming links, social interest, speed, freshness, readability, URL format, headings, error pages, and stylesheets. The content test reports a score of 5.72 (st.d. 1.41) measuring freshness by update times, reliability, and spelling. The average overall score, out of 10, is 4.24 (st.d. 1.68). Nonprofit websites are thus just below average on the technical, marketing and overall scores, but just above average on accessibility and content.

An element that the automated services takes into consideration for the overall score, but is not included in the stage model, is the social activity factor beyond hosting an account. The median Facebook likes of these pages is 434 (mean=3787), and median number of people talking about the page is 13 (mean=151). The median number of Twitter followers is 253 (mean=1731), and the median number of tweets is 364 (mean=988). These highly skewed results suggest there are some nonprofits that are extremely active and others are not. The automated service thus provides a more accurate depiction of social media activity than the stage model analysis.

### **Instrument Comparison**

The nonprofit stage model and the automated tests analyze very different data points. The stage model looks at content, interactivity, and fundraising online. The automated testing inspects technical design and implementation aspects. The stage model, using one element criteria, provides the easiest threshold for websites to meet, but all the other assessments, stage or automated, suggest the average nonprofit website is overall below midrange quality. Yet, do nonprofit websites that reach higher stage levels automatically have a better technical website? A Pearson's correlation coefficients between the stage model's findings and automated test's results demonstrate they are generally in the same direction, but they have a weak relationship

(Table 4). A set of linear regressions illustrate that even though the correlations go in the same linear direction, the predictability of one assessment predicting the other is weak and variability is high (Table 5-6). For example, moving from Level 3 to 4 in the stage model, using one indicator, would predict a minimum improvement in the automated Overall Score of 4.4 to 4.9. Using two indicators, a shift from Level 3 to 4 would improve the Overall Score from 4.9 to 5.7. Alternatively, using automated scores to predict an increase in the stage model from Level 3 to 4 requires a website to increase their overall score from a 5 to a 9. While the marketing and accessibility scores are related to the stage levels, the effects are also minimum. These findings suggest that while the scores from both evaluation instruments go in the same direction, the results are highly variable.

### **Discussion**

Nonprofits exist for various reasons, whether demanded by the public in response to government or market failure, established to address information asymmetries, or created by a group of individuals with a specific public purpose (Anheier 2009). Nonprofits can provide services, be change agents, guard values, and advocate positions. While leadership has yet to seriously acknowledge the importance of technology in highly effective nonprofits (Mitchell 2015), they should start to understand that technology, including websites, can help organizations in these mission driven purposes (Ronalds 2010). Websites may help market a particular service to the public and connect the organization to its stakeholders and mobilize supporters, such as by providing contact information or online sign-ups. Websites can provide an avenue to discuss values and advocate positions to the public, either through one-way information pushes or two-way interactivity. They also can create platforms to interact and discuss issues, central to a democratic system, by creating online communities. In addition to

websites aiding organizations directly in mission related objectives, online fundraising may increase funds to accomplish goals offline. In the United States and other countries with high Internet access, websites are subsequently critical platforms for getting people involved in the cause. A nonprofit website must then convey trustworthiness, be of high quality, and be technically sound.

While there are numerous website evaluation tools for business, such as Sitebeam, nonprofits are not typical businesses. Nonprofits do not exist to maximize profits. They can provide public as well as private goods, target specific groups, and create partnerships with the public and private sector. Moreover, participation is voluntary or quasi-voluntary and motivation is purposeful (Anheier 2009). In the U.S. and other liberal countries, nonprofits also perform social, democratic functions, such as advocacy and personal expression, subsequently creating social capitalism. Nonprofit websites then need to do more than simply attract and increase the number of visitors, they must communicate and engage. Website evaluation tools created for the private sector are not necessarily built to take into consideration the differences between the private and non-profit sectors.

Researchers and practitioners must then assess what website evaluation instruments are optimal for improving websites in order for nonprofits to capitalize on the benefits of having a high quality website. This is further confounded by an existing concern that, when nonprofits adopt business-like strategies, such as focusing on performance metrics, their attention to social benefits is weakened (Anheier 2009). Without any evaluation tool, however, nonprofit organizations could miss these opportunities to reach and even expand their audience. It is thus essential that any performance metrics, including those for the organization's websites are connected to organizational mission, vision, values, or strategic plan (Rowe and Dato-on 2013).

The evaluation tools tested in this study are derived from distinct frameworks. The stage model applied gives an easy overview of a website in terms of nonprofit qualities, whereas the automated tests reflect technical design and usability according to consumer based market experience. For example, the nonprofit stage model takes into consideration nonprofit's need for transparency and ideas of interactivity for social capitalism, while the automated services focus on functionality.

The stage model is useful for those who desire a detailed evaluation tool that reflects nonprofit tenants, such as transparency (Dumont 2013; Goatman and Lewis 2007), interactivity (Lovejoy and Saxton 2012; Mwambui 2010; Quinton and Fennemore 2013; Waters et al. 2009), and online fundraising opportunities (Bennett 2009; Nielson 2011; Sargeant, West, and Jay 2007). While the stage model at times may give the appearance of a checklist, it is important to recognize that the average website only reached Level 3, using 1 indicator, and only Level 2, using 2 indicators. This suggests that the average nonprofit website can improve. The stage model can also be used as a self-assessment tool as it is low to no cost and can be easily adapted for individual nonprofit needs. This model may also be helpful for charities that have been criticized for using business based strategies or metrics and want a website evaluation instrument that incorporates charitable aspects. The stage model, however, can be time consuming, especially if reviewing peer institutions' websites for benchmarking; lacks in-depth social media measurements; and does not include any design or technical element that helps illustrate usability issues.

The automated tests, on the other hand, are almost instantaneous and provide quantitative reports on various forms of website quality that enhance user experience. For example, a low score on accessibility means certain populations, such as disabled visitors or even those on a

mobile device, may have difficulty on the site. Low marketing scores, which are partly derived from social media interest, reflect how attractive the website is online, and subsequently affects the number of visitors and returning visitors, or those affected by the nonprofit's website.

Website design is also critical for attracting and maintaining online audiences and building credibility (Cox and Dale 2002; Holzer et al. 2014; Long and Chiagouris 2006), which can be important for mission-related activities, such as marketing events or creating an community around issues, as well as fundraising.

The automated services grade the websites on the technical issues in an easy to understand format. These scores are derived from consumer experience in website marketing, however, and not from nonprofit experience. A well-functioning, well-designed website, according to the automated services, may not provide the information that nonprofit stakeholders are looking for in a website. Managers that are confident in the website's nonprofit qualities or those that are uncertain of the technical aspects may lean toward an automated test.

Although the stage model postulates that increases in stage progression reflect capacity and design, this study reveals a more nuanced situation. The stage model scores and the automated scores, including technical design, are positively related, albeit weak, with limited predictability power. These findings demonstrate that while the relationship between the two types of evaluation is in the same direction, one cannot thoroughly predict one score from the other. The stage model and automated service tests are complimentary assessments and should not completely substitute for each other. A website can be designed technically well, but its stage model progression may be limited. Similarly, a website that progressed through the stages may reflect a marginally better technical website, but due to considerable variance, the website may still have certain technical issues.



A successful nonprofit website communicates a clear message and engages audiences, often through interactivity and online fundraising. A website can be highly functional, but without a purpose. Conversely, a website can be inundated with content and interactivity, but be dysfunctional to visitors. These findings indicate that conducting one test alone may not be sufficient for evaluating nonprofit websites, especially if managers want specific actions to improve their websites. These results further suggest that a more comprehensive evaluation instrument needs to be developed for nonprofits. Until technical design and elements are incorporated in a model that is nonprofit centric, practitioners should blend self-assessment tools, such as the stage model, and tools testing technical aspects, such as automated services, in order to efficiently and effectively evaluate nonprofit websites.

### **Limitations**

While this study's goal was to assess two distinct types of website evaluation instruments for public charities, there are limitations to the findings. One limitation is the sampling framework that limits the generalizability to the actual total nonprofit population. The sample was drawn to be representative of those filing Form 990. This subsequently means that nonprofits that instead filed Form 990-N or non-filers, typically those of below \$50,000 in assets, may not be represented in the findings. The sampling framework is also based on assets rather than nonprofit subtype. This created an overrepresentation of health and fewer human service organizations than in the general nonprofit population, however, there were not any significant means differences between these subtypes. Another concern is the coding process with the stage model assessment. Cohen's Kappa, however, signified a good matching between coders and any differing interpretations were reviewed by the lead researcher. Finally, the automated assessment instrument used for HMTL crawling uses proprietary algorithms that create and weight their

scores based on their consumer marketing and technology experience. These undisclosed formulas limit the ability to analyze the scores more closely. By using a single automatic service, however, the same metrics are applied to all the nonprofits in this study, thus reducing bias.

### **Future Research**

This research examined two different evaluation instruments that can be used to assess nonprofit websites. The stage model illustrates the many features nonprofits are using on their website, whereas the automated tests focus more on elements that affect user experience, such as technical quality, freshness, and accessibility. Future research can evaluate other website evaluation models or work on developing an instrument that combines the nonprofit aspects of the stage model with the technical aspects of the automated services. Additional research should also evaluate how high quality websites or particular website features impact nonprofits, for example from a fundraising or volunteer-recruitment perspective. Additionally, the low coefficient of determination suggests other factors that influence website development. Research may want to explore these possible factors, such as leadership within an organization, technology planning, technology budgeting, trained technology personnel, and external technology contracting. Moreover, the stage model framework can be further adapted and applied by researchers and practitioners alike to assess different nonprofit fields.

### **Conclusion**

This research sought to better understand evaluation tools used to analyze public charity websites. This study applied an adapted stage model and an automated assessment test to U.S. charities in order to determine how these tests relate to each other. The findings suggest that neither evaluation instrument is sufficient as a comprehensive analysis that includes nonprofit tenants and technical quality. Until an inclusive index is developed, however, the evaluation

instruments complement each other for a fuller understanding of nonprofit website development. Nonprofit managers should either incorporate both types of website evaluation or determine whether technical aspects or stage model properties are more imperative for their organization.

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Table 1: Sampling Frame

	Number of 501c3	Nonprofit			Actual
Total End of	Public Charity	Public Charity	Random	Random	Sample
Year Assets	Organizations	population	Sample	Sample Plus	after
	Filing Form 990*	filing 990*	Sample	Oversampling	Exclusions
Under \$500,000	261,700	70 percent	269	269	251
\$500,000 -					
\$999,999	30,074	8 percent	31	31	30
\$1 - \$4,999,999					
million	48,907	13 percent	50	50	41
\$5 - \$9,999,999					
million	12,427	3 percent	13	46	38
\$10 -					
\$99,999,999					
million	16,210	4 percent	17	50	41
More than \$100					
million	3404	1 percent	3	37	30
Total	372,722	100	383	483	431

\*Source: NCCS Statistics of Income (SOI) 2010 database. Does not include 990-N for assets <\$25,000 or non-filers

Table 2: Public Charities by Subsector

	In Sample	In 2010 USA <sup>1</sup>
Human Services	28 percent	34 percent
Health	21 percent	12 percent
(Hospitals)	(6 percent)	(2 percent)
Education	16 percent	18 percent
(Colleges/Universities)	(3 percent)	(1 percent)
Arts, Culture, Humanities	11 percent	11 percent
Other Public Benefit	10 percent	12 percent
Religious	6 percent	6 percent
Environment/Animals	6 percent	5 percent
International	3 percent	2 percent

N =431

<sup>1</sup> Roeger et al. 2012

Note: Subtotals may not sum to totals because of rounding.

Table 3: Mean Descriptive Statistics of  
Organizations (Median)

	Sample
Total End of Year Assets	\$12,420,412 (\$266, 260)
Total Number of Employees	99 (9)
Age in Years of Organization	27 (20)
Urbanicity <sup>1</sup>	1.6 (1)
Content Management System	.36 (0)
N=	431

Note: <sup>1</sup>Urbanicity is based on the USDA's Rural  
Urban Continuum. 1=Urban, 2=Semi-Urban, 3=Rural.

Table 4: Correlation Coefficients of Measurement Instruments

Stage Model		Automated Service						
Met Level (1 Indicator)	Met Level (2 Indicator)	Total Index	Accessibility Score	Marketing Score	Content Score	Technology Score	Overall Score	
Met Level (1 Indicator)	---	.729**	.75**	.149**	.426**	.198**	-.120*	.308**
Met Level (2 Indicator)	.729**	---	.829**	.157**	.531**	.223**	-0.138**	.339**
Total Index	.75**	.829**	---	.177**	.526**	.181**	-.166**	.355**
Accessibility Score	.149**	.157**	.177**	---	.686**	.124*	-.757**	.775**
Marketing Score	.426**	.531**	.526**	.686**	---	.341**	-.618**	.8**
Content Score	.198**	.223**	.181**	.124*	.341*	---	-.129*	.313**

Technology	-.120*	-0.138**	-.166**	-.757**	-.618**	-.129	---	-0.875**
Score <sup>1</sup>								
Overall	.308**	.339**	.355**	.775**	.8**	.313**	-.875**	---
Score								

---

Note: \*\*Correlation is sig at .01 level. \*Correlation is sig at .05 level. <sup>1</sup>Technology Score is transformed for normalcy: negative regression results are positive relationships.



Table 5. Regression Models: Impact of Automated Scores on Level Index

	Level Reached with 1 Indicator			Level Reached with 2 Indicators		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Overall	.183***			.190***		
Technology (SQRT Transform)		-.264**	.181		-.304***	.144
Content (Log Transform)			-.095			.234
Accessibility (Log Transform)			1.198***			1.36***
Marketing (Log Transform)			3.899***			4.268***
Constant	2.428	3.825	-.305	1.552	3.063	-1.587
F	45.03***	8.06**	33.19***	60.36***	12.59	54.57***
R <sup>2</sup>	.11	.02	.26	.14	.03	.38
N	377	377	377	362	362	359

Table 6: Regression Models: Impact of Level Index on Automated Overall Scores

	Level Reached with 1 Indicator	Level Reached with 2 Indicators
Coefficient	.572***	.754***
Constant	2.655	2.66
F	44.02	60.36
R <sup>2</sup>	.11	.14
N	378	362

## Appendix A

<b>Level 1: Emerging Presence</b>		<b>Level 2: Enhanced Presence</b>	
Mission	82 percent	Goals	38 percent
Information on programs or projects	89 percent	Posted press releases, news updates, or stories about themselves in media	35 percent
Email	68 percent	Board members	65 percent
Online contact form	41 percent	Board members' background	28 percent
Phone	90 percent	Key staff	59 percent
Address	86 percent	Annual report or budget/financials	20 percent
Fax	29 percent	Enhanced Presence Index Mean (out of 6)	2.45± CI: .15
Map to office location	24 percent	Met Level (Minimum of 1 requirement)	87 percent
Emerging Presence Index Mean (out of 8)	5.08± CI: .12	N=431	
Met Level (Minimum of 1 requirement)	100 percent		
N=431			
<b>Level 3: Interactivity</b>		<b>Level 4: E-Transactions</b>	
Interactive or personalization	6 percent	Sells items online	9 percent
Visitor polls	2 percent	Accepts online donations through third party (e.g. PayPal)	41 percent
User Generated Content	4 percent	Accept online donations directly	17 percent
Web Forum or online discussion group	22 percent	Fundraising pages for individuals to create and raise funds	3 percent
Facebook	57 percent	Crowd-sourced fundraising sites	2 percent
Twitter	33 percent	E-Transactional Index Mean (out of 5)	.71± CI:.07
Live Chat	1 percent	Met Level (Minimum of 1 requirement)	56 percent
Youtube	16 percent	N=431	
A social media sharing widget	6 percent		
Interactive Index Mean (out of 9)	1.47± CI:.13		
Met Level (Minimum of 1 requirement)	67 percent		
N=431			

## CONCLUSIONS

Websites are one of the most important platforms that nonprofits can use to engage the public, including clients, donors, volunteers and other stakeholders. The potential for such sites to be effective in aiding nonprofits is immense and widely discussed (Dumont 2013; Goatman and Lewis 2007; Greenberg and MacAulay 2009; Jensen 2017; McMahon, Seaman, and Lemley 2015; McNutt 2007; Panic, Hudders, and Cauberghe 2016; Saxton, Guo, and Brown 2007; Shier and Handy 2012; Waters and Feneley 2013; Wolpert and Seley 2007), but also uncertain. Moreover, there is no consensus among analysts or users concerning what makes a nonprofit website effective or successful.

With limited research on nonprofit organization use of ICT having occurred to date, this dissertation set out to understand better such organizations' website development and use. The author devised and applied a website evaluative framework to gain a contemporary comprehension of the current state of nonprofit website features and functions in the United States. The second goal of this inquiry was to assess differences in website development between nonprofits in the U.S. and in an emerging market, Thailand, as well as between international nonprofits operating in that country compared to local national nonprofits. This comparative analysis highlighted technology use patterns among early adopters, who often influence future users. It also identified cross-cultural issues with website development and evaluation. A third aim of this research, accomplished by investigating the utility of two different evaluation models, was to begin a discussion on building website assessment tools specifically for the nonprofit sector. This conclusion offers reflections on the steps necessary to develop a nonprofit website evaluative framework, further thoughts on what these findings mean for nonprofit managers and suggestions for future research in this domain.

## **Nonprofit Evaluative Assessments**

Nonprofit organizations are encouraged by donor policies and various stakeholders to evaluate their activities in order to demonstrate their organizational, as well as programmatic, effectiveness and efficiency. Evaluation and measurement can improve outputs and impact by shifting employees' viewpoint from what they are doing to what they have achieved (Taylor and Soal 2010). Thoughtful evaluation and reporting can aid in allocating resources, may be required by donors or compliance organizations and can be used in efforts to secure support in competitive scenarios. In addition, program evaluation outcomes can be used in developing plans and informing decision-making (Cooper and Shumate 2016). Benchmarking, or comparing one's own efforts to similar organizations, can also be useful for highlighting strengths and weaknesses in an effort to improve performance and promote learning.

Nonprofits, however, often struggle with evaluation (Anheier 2014; Cooper and Shumate 2016). Organizational performance is a vast field, but it offers civil society organization leaders inconclusive advice. Nonprofits may choose from many competing, untested evaluative models and tools, often originating from the public or for-profit sectors. Civil society organizations also commonly lack technical capacity and resources, which leads to issues in implementing and interpreting the evaluative measures they adopt. Inapt assessment efforts can harm organizational purpose by failing to capture key values, such as represented in relationships, stifling creativity; centralizing power; undermining trust or ignoring long-term timelines (Taylor and Soal 2010). Despite the nonprofit sector's historical cultural aversion to business strategies and trepidation concerning performance metrics (Ronalds 2010; Neff and Moss 2011), evaluative measures are becoming more common. Researchers have highlighted the importance of understanding data correctly and within an appropriate context, tying multi-faceted metrics to multiple bottom lines,

and linking mission to relevant assessment strategies (Anheier 2014). If nonprofit organizations carefully consider the evaluative assessment measures they employ, and link them not only to accountability efforts, but also reflect on their findings through organizational learning, they may be able to use those conclusions to improve their mission-related performance (Guijt 2010).

### **Nonprofit Website Assessments**

Website assessment is similarly related to programmatic and institutional performance. It can be a critical element that can aid leaders in strategic planning and improving the impact of their organization's programs, as well as tracking various possible accountability metrics online. Just as websites can be directly linked to mission related work, such as through provision of services and goods, recruiting clients or volunteers, or other programs, such as advocacy, website assessment can help measure the outcomes and impacts of those activities. Similarly, website evaluation can aid organizations in managing their online accountability efforts. Nonprofits are encouraged, if not required, to be publicly accountable or responsible for their actions as they often receive tax benefits, government funding and donations. Websites provide a platform for transparency by providing space for public disclosure of relevant information as well as responsiveness or interactivity with interested stakeholders. As such, website assessment is not merely a technical service, but can actually add value to understanding and improving nonprofit organizational performance.

Nonprofits, however, typically lack the tools necessary to distinguish website effectiveness and quality. A variety of such instruments exist for the for-profit sector, but they are rooted in business or marketing theory. While they can be adopted by nonprofits, they do not take into account such organizations' unique attributes.

This dissertation evaluated two options for nonprofit website evaluation. The first employed an adapted stage model analysis. While other research has focused on accountability measurements (Dumont 2013; Tremblay-Boire and Prakash 2014), practitioners can employ stage model analysis to classify and compare websites in an intuitive, pragmatic manner that can indicate gaps and aid in strategic action by providing a possible road map to determining which strategies might be appropriate to adopt next. For researchers, the stage model traces the development of websites thereby aiding in the overall understanding of technology use in the nonprofit sector. This dissertation represents the first attempt to apply the stage model to nonprofit organizations and to do so while taking into consideration their character and priorities.

After applying the stage model to nonprofit websites in the U.S. and in Thailand, this effort compared those findings to the results generated by a commercially available, automated testing service. Automated evaluation is becoming more popular as it is less expensive than usability assessments or consultants. Automated tools were developed on the basis of research concerning the experiences of for-profit institutions and they rely solely on technical measures, such as broken links, incoming links, speed, etc. to create their site evaluation scores.

The following section summarizes the findings of the dissertation's three articles.

### **Summary of Findings**

According to both the stage model and automated assessment frameworks, the features and functionality of nonprofit websites in the U.S. and Thailand can be improved. International organizations are leading the nonprofit sector with the highest quality websites, attaining higher development stages and offering more features at each level. On average, however, nonprofit entity websites are of moderate technical quality, are building a presence with basic and

enhanced information and usually provide one interactive platform, consisting most often of links to Facebook. Significantly fewer nonprofit organizations employ their websites to accept online transactions. Overall, these analyses found that these organizations in the U.S. and in Thailand use their websites predominately for information dissemination, a finding that accords with past research (Eimhjellen, Wollebæk, and Strømsnes 2014). Nonprofits rely little on much lauded technologies, including those that are highly salient in research, such as crowdsourcing (El Borno 2012; Gao, Barbier, and Goolsby 2011; Jitsophon and Mori 2013). In general, as noted, nonprofit websites' interactivity relies heavily on Facebook and in the U.S. on Twitter, with few organizations offering other types of interaction or user-generated content, such as polls, Live Chat or games. Additionally, relatively few nonprofit organizations sell items online, crowdfund or use participatory fundraising portals or pages. While just more than one-half of U.S. nonprofits and one-third of Thai nonprofits conduct online transactions, such usually occurs via a third party, such as Paypal, and not directly.

Comparatively, the first article in this dissertation demonstrated that, according to the progressive stage model, United States nonprofits typically have more developed websites than their Thai counterparts. Nonetheless, that analysis also suggested that both types of websites are below average in regard to their technical quality. The initial article included here also highlighted significant differences between Thai and American nonprofit websites. In particular, U.S. nonprofit websites are significantly more likely to post governance and transparency-related information, such as board member information and financial or programmatic reports than their Thai counterparts. Thai nonprofits, meanwhile, are more likely to post news and media information, and use different types of interactivity, such as polls and user-generated content. Significantly more American nonprofit websites use Twitter and accept online donations directly



than do their Thai counterparts. Overall, the average Thai nonprofit, as an early adopter is developing well, and almost on par with organizations in the U.S. that enjoyed earlier access to the Internet and website software. At the same time, however, the average technical scores, according to Sitebeam, for both Thai and U.S. websites, suggest that those platforms are not well designed, and that users may therefore need to reduce their expectations when visiting nonprofit websites.

The second article, which addressed international nonprofits with offices in Thailand, concluded that these operate more advanced websites than local nonprofits in that nation do. These international organizations post more emerging and enhanced information, such as news and updates or annual or financial reports, as well as provide more interactive and transaction options. These institutions are also more likely to post transparency-related items and to employ more than one type of interactivity with stakeholders. Few websites, however, offered alternative interactivity or personalization features, such as games, user-generated content or polls. Additionally, while only about one third of local Thai websites accept any online donations, almost three quarters of the international organizations examined in this study conducted online transactions.

The third article compared results of a stage model evaluation to those created via an automated service for a sample of U.S. nonprofit websites. That analysis concluded that the two different assessment tools are related, but neither can serve as an independently sufficient evaluative tool. A main concern is that the stage model does not integrate information system issues, such as website design. For example, it does not register whether an organization is using a content management system for its website. Instead, the stage model, theoretically, presupposes a leveling effect. That is, once a website reaches a higher stage of development, the model

assumes that it has increased its organizational and technological capacity as a result of the increased technological demands that scale of attainment requires. This analysis found that U.S. nonprofit websites that reach higher levels do exhibit significantly more content and interactivity options, than those that did not achieve higher levels, but that this effect does not necessarily improve website technical quality. The Sitebeam assessment demonstrated that that firm's website quality scores are loosely correlated and highly variable in relation to stage model levels. While leveling was associated with organizations employing additional features, and the stage model may help measure website maturity in that respect, it cannot predict the quality of those offerings.

The automated service does not consider nonprofit needs but was developed on the basis of for-profit research and experience. Sitebeam and similar automated services cannot answer open-ended questions and must follow the predefined rules of their developers, making changes, such as assessing specific characteristics for nonprofit needs, difficult. For example, an automated service can record when a page was last updated with new content, but it cannot identify that material as a particular type, such as, for example, an annual performance or budget report, without at least developing a specific predefined rule for the bot's search parameters.

In other words, a website may have strong content, interactivity and allow e-transactions, but not necessarily be easy to navigate. A well-designed nonprofit website that is user friendly, may also mask a lack of transparency and interactivity. Neither the stage nor Sitebeam models offer an adequate mechanism by which to measure website quality holistically.

The three articles together highlight the need for nonprofit website evaluation, as well as the importance of providing support for developing such platforms and appropriate and well-trained staff to manage them. While there are successful nonprofit organization websites,

especially among international organizations, the majority could be improved. Most websites include contact information, key staff and board member names and a linked Facebook account. Beyond these features, however, nonprofit website characteristics vary dramatically. While these analyses did not examine the effectiveness of various elements, the organizations investigated exhibited large variances in social media use, in which a few posted regularly, but the majority did not, suggesting nonprofits may be adopting features without fully understanding how to use them. The average overall Sitebeam evaluation scores were also just below average, suggesting that visitors were confronting difficulties of various sorts when visiting websites, which may cause those individuals to leave, implying a loss of potential resources, clients or program success for the organization. It is also troubling that higher stage levels (using one or two indicators) and the use of more features (Total Index) were not more strongly correlated to technical scores, suggesting that some sites are attempting to do a lot, but not offering those features very effectively.

### **Implications and Future Work**

Research on nonprofit website and ICT evaluation, generally, is ripe for additional attention. Researchers need to continue to develop and test models and frameworks aimed at providing assessment tools that can aid nonprofits in integrating ICT into their operations effectively. To structure websites that are routinely successful in aiding nonprofit organizations in their mission driven work and accountability efforts, researchers need to continue exploring what capabilities are necessary for an effective website evaluative tool for them. Useful assessment should include website quality measures, which normally seek to gauge at least user satisfaction and an organization's goals for its platform (Chiou, Lin, and Perng 2010). A

generalizable model would need to be reliable and valid for the sector, which is incredibly diverse, making this aspiration difficult to attain.

The stage model is nonetheless still useful as a starting point for discussion as it follows, theoretically, the development of enterprises, but future frameworks and research will need to expand the elements of this approach in order to improve its utility. In this respect, it is important to reiterate that advancing across levels in the model does not necessarily imply higher quality; the stage model is not necessarily a progression up a ladder but is better viewed as a snap-shot of development stages that provide a broad overview of website development. The relevant literature suggests that emerging and enhanced presence and interactivity are inherently important for most nonprofits, and while the types of such features and relationships may differ, they still are necessary as elementary dimensions of accountability measures (Behn, DeVries, and Lin 2010; Dainelli, Manetti, and Sibilio 2013; Dumont 2013; Saxton, Guo, and Brown 2007; Tremblay-Boire and Prakash 2014).

Whether all nonprofits should participate or accept online transactions is an important question for future inquiry, too, as not all such organizations accept public donations or sell goods or services. The inclusion of online transactions as part of the developmental stage model is important as it suggests organizational capacity for online trustworthiness, privacy and security. However, with new tools and services, nonprofits can conduct online transactions through third-party services, such as PayPal. In the U.S., only 16% of nonprofits studied for this dissertation accepted online contributions directly, compared to 40%, which used a third-party service. Moreover, the inclusion of e-transactions as an integral feature of a sector-wide nonprofit website evaluative tool will depend in part on organizational goals. If the majority of nonprofits do decide to use their websites to conduct online transactions, it is also important that

those processes be of the highest technical quality, allowing them to be both seamless and easy to employ by users (Bennett 2009; E. Burt and Taylor 2003; Goecks et al. 2008; Panic, Hudders, and Cauberghe 2016; Pollach, Treiblmaier, and Floh 2005; Shier and Handy 2012).

Indeed, more generally, an effective website strategy should reflect its employing organization's goals, as well as assessing the relative quality of the entity's web platform features and functions. Researchers should work to develop site evaluative tools that combine nonprofit values and goals with high technical quality. Analysts may want to investigate other aspects that may need to be added to such frameworks, such as calling on visitors to take specific actions, for example.

Additional research can also further assess connections between technical quality and nonprofit organization goals and priorities. For example, fundraising online is not an isolated feature, but connected to other site elements, such as interactivity or social dimension (Goecks et al. 2008; Panic, Hudders, and Cauberghe 2016) as well as basic website design choices (E. Burt and Taylor 2003). Additionally, the complex concept of client trust is paramount for nonprofits, and while trust is primarily built off-line with stakeholders, stakeholder experience with websites can affect it (C. D. Burt and Gibbons 2011; Myoung-Soo and Ahn 2007; Namahoot and Laohavichien 2015; Nielson 2011; Tsygankov 2004). In short, considerable research is still needed to fully comprehend the complex underpinnings of the elements that together constitute a successful nonprofit website.

In undertaking such inquiry, it is imperative that investigators recognize the importance of insuring the cultural appropriateness of any website evaluation model they develop. Just as commercial tools used by nonprofits may innately clash with the values of the organizations they are seeking to assess (Palmer 2014), tools developed in the West, may not work in every culture.

ICT innovation and associated organizational change is often driven by the advanced economies, primarily those of the West (Avgerou 2008), but the performance of such technologies is mediated in important ways by cultural choices (Lewis and Madon 2004). Past research has highlighted that such differences may have unexpected affects. For example, one study found that transparency measures actually reduced the perception of competence in South Korea as that nation's culture is more long-term focused and accepting of power inequalities as part of a dependence and paternalistic social system (Grimmelikhuijsen et al. 2013). Another study found that culture can also affect the perceived fairness of performance evaluations (Yamazaki and Yoon 2016). Evaluative frameworks created in the West may yield judgments based on the assumptions of those cultures. While organizational capacity and resources may be important, it also vital to recognize and research the ways in which cultural differences may shape website design and use.

Research may also assess overall nonprofit ICT infrastructure and the integration of such tools and services so that they can strategically aid nonprofits in their mission driven work (Ronalds 2010; Limburg et al. 2017). Websites will need to be assessed, but as ICT expands, researchers can continue to evaluate how to measure the integrated use of such tools among nonprofit organizations. For example, websites could be a platform for volunteer or client sign-ups that could be automatically uploaded to a client management software that could link additional services, events, fundraising, etc.

Researchers may also continue to examine how would-be users envision the role of social media among nonprofit and nongovernmental organizations. In relation to the stage model, analysts could assess whether such organizations develop their social media presence via identifiable steps. For example, one might hypothesize that they first would create a presence on

social media; thereafter employ social media for advocacy or engagement; next to coordinate the efforts of stakeholders, such as asking colleagues or friends to an event or to volunteer; and, finally, to conduct crowdfunding campaigns.

Future inquiry might also consider the roles of emerging technologies, such as mobile telephones or gamification, to adapt or develop models to evaluate their development, quality, and effectiveness. Researchers could conceivably create indices to analyze how nonprofit organizations are using these new tools. For example, mobile phones are increasingly important in developing nations as a source, if not the sole source, to secure Internet access. A nonprofit could adopt specific technologies, such as mobile responsive websites, but might also use those phones for tracking activities, goods or services through location pinning; scanning barcodes or tickets for events; and developing fundraising or gaming applications. Researchers could also focus on how larger organizations are encouraging technology development and diffusion by adopting leading edge innovations, which may foreshadow future trends.

Until more research occurs concerning how to construct more robust nonprofit organization website evaluative frameworks, managers in those institutions will continue to confront a relatively uncertain environment. Without website evaluation, nonprofit leaders may not know whether their platform is helping their organization as desired, while poor-quality websites may even be harming its reputation and efforts. The stage model framework is useful, theoretically, for understanding the current state of nonprofit website development, but with its lack of technical quality indicators, its utility beyond serving as a beginning template for evaluation is limited. Likewise, automated services, which evaluate the technical elements of a website, are also limited by lacking a clear connection to a nonprofit entity's values. Nonprofit technology researchers need to develop an assessment model that can meaningfully address

nonprofit values and goals and the relative usability and quality of specific technical website features. This imperative should guide future investigation of these concerns.



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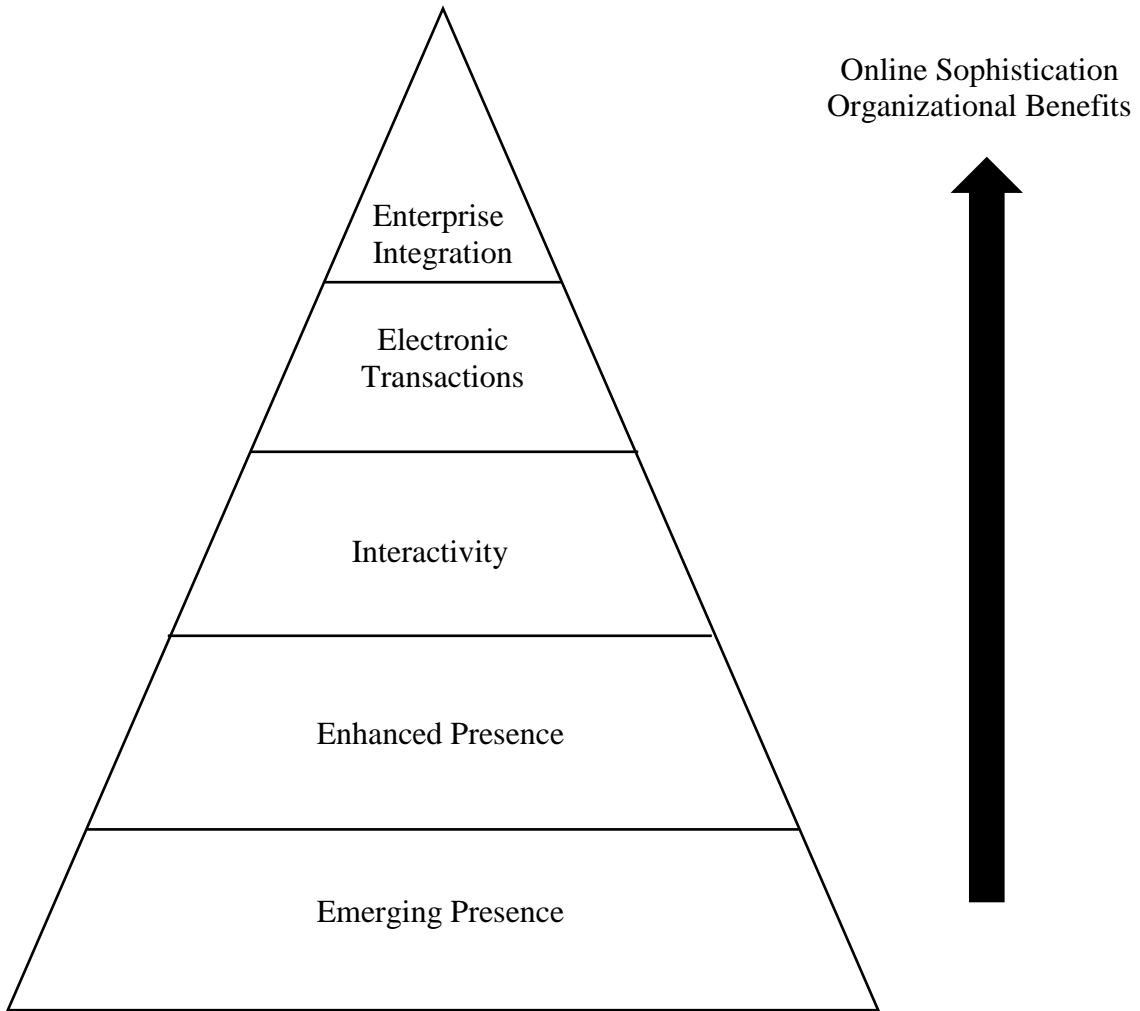
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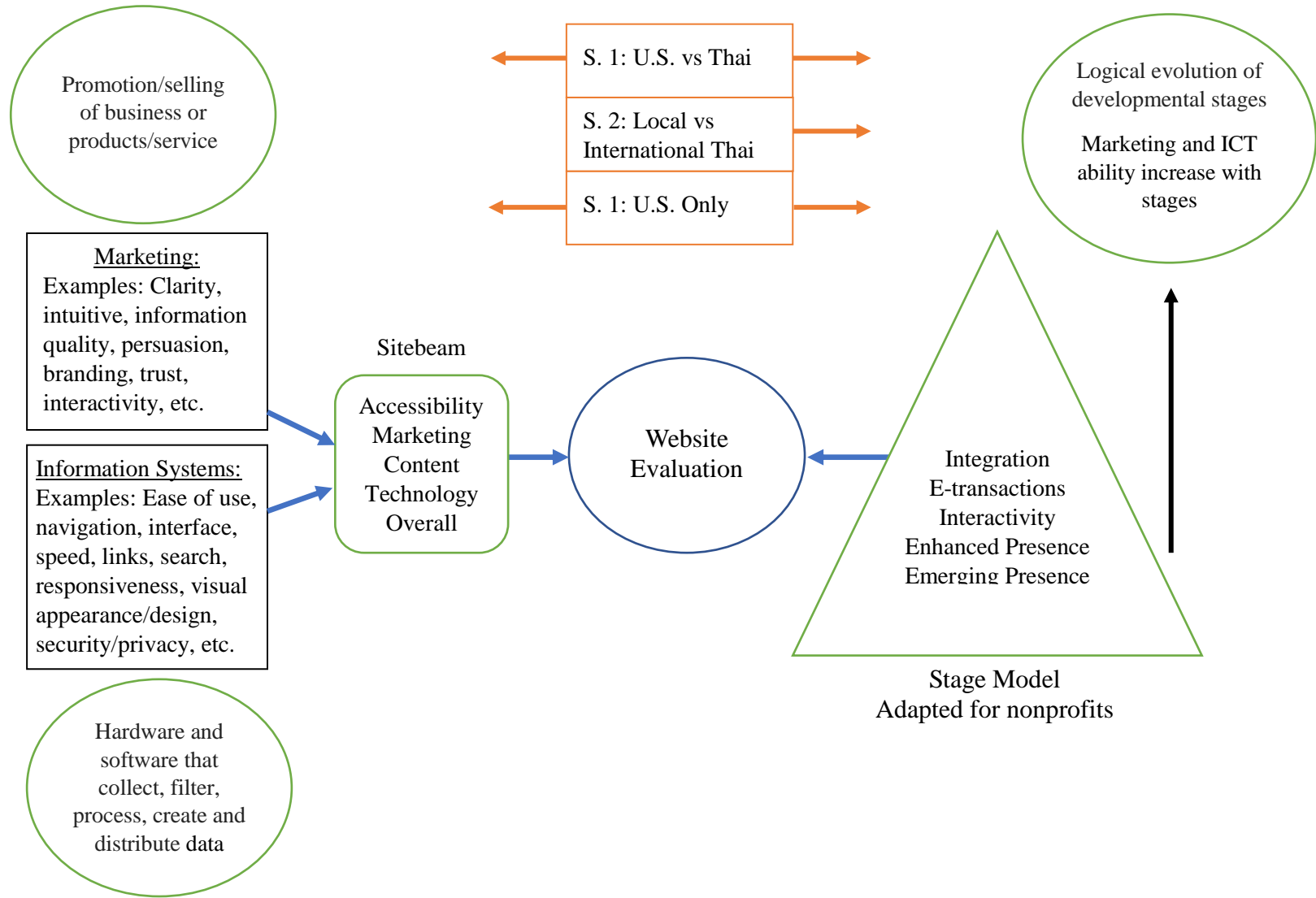
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Appendix A  
Stage Model Levels



Appendix B  
Website Evaluation





Appendix C  
Website Coding Instrument

(Data was collected using Qualtrics)

URL:

Please take a screen shot of the home page. Save it and upload it.

Is there a call to action on the home page (Does the website ask visitors to participate or get involved for the cause)?

- Yes
- No

Is there a call to action elsewhere on the website?

- Yes
- No

What types of call to actions does the organization offer?

- Donate Money
- Donate "In-Kind" (food, used goods)
- Sign up to Volunteer
- Sign a Petition
- Get educated on a particular issue
- Find a local chapter
- Attend Events (meetups, races, etc)
- Create local community or school group events or projects
- Sign up to receive e-newsletters/Email updates
- Asks you to advertise for them (e.g. post their banner on your website or decorate your digital space)
- Asks you to tell your friends about them via email
- Asks you to stay connected via social media (e.g. Facebook, Twitter)
- Asks you to join an online conversation about their issue
- Other \_\_\_\_\_

Please check off what content is available on the website:

Organization's mission

Organization's goals

Information on the organization's programs (i.e. what they do)

Related news from the media

Links to other similar organizations

Grant Information

Board member names listed

Board members' professional background posted

Key staff listed

Annual report posted

Budget or financial statement posted

Organizations 990 tax form

What other content is included on the website? (Open-ended)

Was the organization's mission within one click of the home page?

Yes

No

What is the mission of the organization (copy and paste)?

How much information is posted on the organization's programs?

A few paragraphs/half a page or less

About one page

More than one page

How much information is posted on the problem or issue the organization is focusing on?

A few paragraphs/half a page or less

About one page

More than one page

How many annual reports were posted?

One

Two

Three or more

What years are the posted annual report from?

- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- Older

How many budgets or financial statements were posted?

- One
- Two
- Three or more

What year is the most recent posted budget/financial statement from?

- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- Older

Does the website use any of these strategies?

- Interviews
- Storytelling
- Data or statistics
- Success stories or Testimonials
- Videos describing their work
- Requests visitors to share their story
- Other\_\_\_\_\_

Does the website offer other organizations information on how to partner?

- Yes
- No
- Not Sure

Does the website display or post sponsors or corporate partners?

- Yes
- No
- Not Sure

Does the website offer ways for visitors to use their organization's service (e.g. actually getting the aid or support the organization offers)?

- Yes
- No
- Not sure

Does the organization have a logo?

- Yes
- No
- Not sure

Does the organization have a tag line on the home page?

- Yes
- No
- Not sure

Does the website have a navigation menu?

- Yes
- No
- Not sure

Is the navigation menu faceted or offer drill down menus?

- Yes
- No
- Not sure

Is there a "help" button for website or technological support?

- Yes
- No
- Not sure

Does the website have a search function?

- Yes
- No
- Not sure

Is there a community portal or private social network to sign up to?

- Yes
- No
- Not Sure

What type of contact options does the website offer?

- Posted Email Address
- Online Contact Form
- Posts phone numbers to call
- Posts postal mail address
- Live Chat
- Fax
- Other \_\_\_\_\_

What type of online services or interactivity does the website offer?

- Users can post user-generated content (own photos or videos)
- Calendar of events
- Social Media widget for following or sharing
- RSS
- Podcasts
- Timeline
- Visitor Polls
- Webinars
- Maps
- Blogs
- Infographics
- Online Games
- Other \_\_\_\_\_

Is the calendar populated with events?

- Yes
- No
- Not Sure

What social media networks does the nonprofit use?

- Facebook
- Twitter
- Google+
- YouTube
- LinkedIn
- Pinterest
- Instagram
- Other \_\_\_\_\_

Does the website offer incentives for new Fans/Followers (ie T-shirts or contests)?

- Yes
- No
- Not Sure

Is the timeline, map, or infographic interactive?

- Yes
- No
- Not Sure

Is this website offered in more than one language?

- Yes
- No
- Not Sure

Can you donate directly from the homepage?

- Yes
- No
- Not Sure

How does the organization allow you to donate?

Offers you a mailing address to send a check

Offers you a web catalog of items to buy for your personal use (e.g. gifts, clothing)

Offers you a web catalog of items that you can buy that simulates their work in the field (e.g.cow, sheep, vaccines, education)

Accepts credit cards through third party (e.g. PayPal, Shopping Cart)

Offers online credit card processing directly (no third party)

Has fundraising portals or pages that visitors or teams/groups can create and share to raise additional funds

Has links to crowd-source fundraisers

Offer re-occurring gifting opportunities

Participate in an event (e.g. race, galas, golf tournament, etc)

Other

Does the website say how the organization is going to spend your donation?

- Yes
- No
- Not sure

Does the website list a monetary goal that the organization is trying to reach with fundraising?

- Yes
- No
- Not sure

Does the website offer fees for services (e.g. consulting, subscriptions, data)?

- Yes
- No
- Not Sure

What type of service is for fee?

- Consulting
- Subscriptions to reports
- Data
- Services (e.g. health, housing)
- Other \_\_\_\_\_

Is there a privacy policy posted?

- Yes
- No
- Not Sure

Is there an accessibility policy posted?

- Yes
- No
- Not Sure

Is there a certification or badge of trust from a third party? (Typically, listed at the bottom of a homepage. Examples include BBB, Charity Navigator, GuideStar, or American Institute for Philanthropy)

- Yes
- No
- Not Sure

While on the website, right click. Click "View Page Info".

Is the website collecting cookies?

- Yes
- No
- Not Sure

Any other observations?

Any issues completing the questionnaire?