

## AN APPLICATION AND EXTENSION OF THE TECHNOLOGY ACCEPTANCE MODEL TO NONPROFIT CERTIFICATION

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As technology takes a more active role in the nonprofit work, Lise Anne Slatten gives a practical look at a model on nonprofit certification accepting and integrating technologies into their structure.



### INTRODUCTION

Nonprofit organizations are confronted with a wide range of operational and environmental obstacles. Even though this sector has constructed creative and forward thinking initiatives, it remains a struggle to maintain their unique character and role in society (Salamon, 1999). To stay competitive, nonprofit organizations must aggressively assess their current capacity to deliver needed services. One viable response to scarce resources and competitive pressures in the sector is the pursuit of a competitive advantage through certification (in this study, “certification” is a form of accreditation). Certified organizations enjoy bolstered public trust, weather publicized scandals and leverage their certification as a key differentiator when competing for resources. Such nonprofit certification programs currently exist in nearly 20 states, including Louisiana, where the certification mechanism is known as the Standards for Excellence program. Established in 2004 by the Louisiana Association of Nonprofit Organizations (LANO), the program encourages nonprofit organizations to engage in ongoing evaluation and performance procedures and to adopt the Standards for Excellence criteria as a demonstration of their quality of service. The purpose of this research

was to study the decisions leading to the adoption and application of nonprofit certification using a modification of the Technology Acceptance Model.

### THE SITUATION TODAY: MOVING INTO THE 21ST CENTURY

In recent years, and particularly since 1990, the press has had adequate opportunity to report on a regular basis about nonprofit organizations and their executives who have been found guilty of misdeeds. Covenant House and United Cancer Council both made news when reports of loans to board members from secret funds and excessive fees paid to fundraising consultants surfaced as feature stories and television station investigations (Chisolm, 1995). William Aramony, former United Way of America president, repeated the theme with his misuse of funds scandal in 1992. The steady stream of bad press and shift in public trust continued with reports on similar activities at large well-known organizations through the 1990s. Unfortunately, many Americans still recall the nightly news stories regarding the mishandling of millions of dollars in donations after the 2001 terrorist attacks on the Pentagon and the World Trade Center. Observations about transgressions in the nonprofit sector led to questions about accountability. Soon thereafter, the U.S. Senate Finance Committee initiated hearings on the activities of nonprofit organizations and the instances of abuse and wrongdoing by leaders and those in positions of authority. The long history of public trust in public charities was morphing into a sense of mistrust and feelings of betrayal. Such sentiments were well documented in a 2003 report issued by The Brookings Institution that stated public confidence in America’s 1.5 million charitable organizations was eroding (Light, 2003). Suddenly, there was attention from the media, regulators, donors and

**Table 1:** Potential Benefits of Assessment and Certification Programs to Internal and External Stakeholders

INTERNAL STAKEHOLDERS	BENEFITS
<b>Board Members</b>	Better direction for efforts directed towards accomplishing the mission and practicing accountability; improvements in fundraising and/or credibility in the community.
<b>Volunteers</b>	Speak and comprehend a common (shared) language when working with staff and board members; dedication to the mission.
<b>Staff</b>	Increased understanding of what is needed to accomplish the mission; improvement of internal processes, program quality and performance; enhanced staff capacity.
<b>Organization</b>	A framework to implement organizational assessment, planning and performance improvement; increased visibility within the nonprofit sector; approach the funding community with more credibility.
<b>Clients</b>	Organization is answerable to a higher authority that will ensure responsibility for actions and present an accounting for the actions; increased capacity to provide high quality services.
EXTERNAL STAKEHOLDERS	BENEFITS
<b>Sponsors</b>	Mechanism to support legitimate relationship, connection and link to a credible organization with ethical and accountable operations.
<b>Donors</b>	Develop a better understanding of the work of the organization in order to continue to support it.
<b>Government Agencies</b>	Uniform language for discussion of accountable and effective management.
<b>Funding Organizations</b>	Easy identification of those who have achieved organizational excellence.
<b>Community Partners</b>	Establishes high level of accountability; community network development.
<b>General Public</b>	Community organization is fulfilling stated goals and can be held responsible for their actions.
<b>Media</b>	Effective information exchange.

(Louisiana Association of Nonprofit Organizations, 2003; Balis & Sokatch, 2006; Pollack & Lampkin, 2001; Chaskin, 2003)

volunteers regarding ethics and accountability. Nonprofit organizations were continually accused of wasting money, excessive executive salaries, and were using inefficient management practices.

Changing business conditions, financial challenges and new demands for service delivery require an examination of current business practices in nonprofit organizations today (Rojas, 2000). Efforts are needed to restore public trust in the overall effectiveness and the honorableness of the sector.

Salamon (1999) and others have suggested that this will require a strengthening of the accountability mechanisms within the nonprofit sector and greater attention to the measurement of nonprofit results. Organizational effectiveness among nonprofit organizations is important to the many stakeholders involved (board members, staff, volunteers, donors, clients, government agencies and funders). A presentation of the potential benefits of assessment and certification programs to internal and external stakeholders is shown in *Table 1*.

Government agencies and the public-at-large are concerned about the capability and capacity of nonprofit organizations to maintain high levels of accountability. Appropriate state and federal government regulations, combined with self-regulation within the nonprofit sector, allow organizations to maintain both accountability and the expected public trust that exists in the nonprofit sector (*Louisiana Association of Nonprofit Organizations, 2003*). The programs often include components that would train organizations to overcome the recently well-publicized problems of nonprofit organizations, provide an incentive to improve their operations and to increase confidence and comfort for the public in their contributions to and participation with nonprofit organizations (*Balis & Sokatch, 2006*).

It appears that the situation today is a challenging one. The climate of shaken public trust in the nonprofit sector, misbehavior of those entrusted with the leadership of these organizations, and recent government interest in regulation in some form, has created an opportunity. The adoption of standards for ethics and accountability may provide the solution.

There are many beneficial tools to evaluate and measure performance, including assessment exercises. The responses to these sometimes self-administered and sometimes externally peer-reviewed exercises help pinpoint areas for improvement, addition or change. Adherence to basic standards and practices

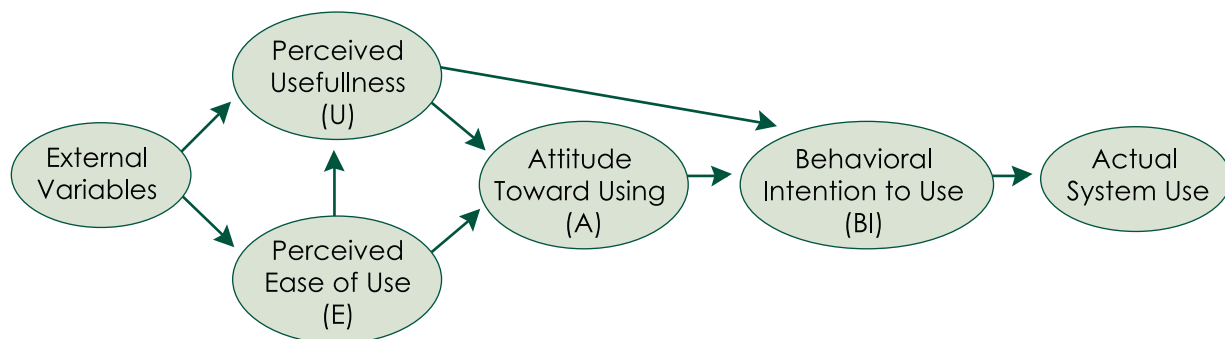
may lead to organizational excellence. Some insist that there is a direct correlation between the two; however, there are others who question if the new standards and practices are well founded, well developed, or nothing more than the latest strategic planning and management fad. This research intends to investigate these claims and issues and interpret and address the fundamental behavioral phenomenon that is taking place in certain nonprofit organizations today.

**TAM OVERVIEW**

The Technology Acceptance Model (TAM), well known in the literature as a means of explaining user acceptance of technology, has been extensively researched since first introduced by Fred D. Davis in 1989. TAM suggests that usefulness and ease of use are beliefs about a certain technology that have influence over an individual’s attitude toward actual use of that technology (*Porter & Donthu, 2006*).

TAM provides a foundation for measuring beliefs and attitudes that may predict future behaviors (*Hubona & Burton-Jones, 2002*). Perceived usefulness and perceived ease of use are two central beliefs in TAM for predicting behavior (*Figure 1*). These beliefs constitute an individual’s cognitive response and decision to use a particular technology, which affects the response or attitude towards that technology, and ultimately drives the behavioral response about whether to use the technology (*Hubona & Burton-Jones, 2002*).

**Figure 1.** Technology Acceptance Model (TAM)



In TAM, perceived usefulness and perceived ease of use are supported as fundamental constructs that determine user acceptance of a given form of technology. The original variables include beliefs, attitudes, behavior, usefulness and ease of use; modified versions of TAM have been adapted to study a variety of issues centered around technology assimilations and technology acceptance. TAM research continues and has recently been expanded to what is known as TAM3. This research adds to the body of knowledge by offering a comprehensive nomological network of the determinants of information technologies adoption and use (Venkatesh & Bala, 2008).

The TAM variables have clear but untested application in the nonprofit environment relative to certification and accreditation. The executive director and others in the organization ultimately make the decisions that control how the organization acquires and implements resources. These individuals may cooperate with, compete with or support one another. The beliefs and attitudes about themselves, the organization and each other shape what they do and how well they do it. By understanding what causes people to behave as they do, staff leaders can employ their leadership skills to achieve positive outcomes and engage in organizational development activities, such as certification and accreditation. Beliefs and attitude about such innovations and initiatives will likely have a strong impact on behavior.

## THE STUDY

### Key Elements

In the context of this study, usefulness of accreditation and ease of achieving accreditation have a positive impact on attitude. Davis (1989) suggests that both perceived usefulness and perceived ease of use may be determinants of user behavior. People will use or not use a certain system to the extent that they believe it will help them to perform their job better. At the same time, the system should not present difficulty of use and the benefits of using it should not be outweighed by the effort or

costs required to implement the application.

Attitude has a positive impact on intent to pursue certification. Executive directors today must ascertain the challenge of managing people by directing the focus of employees and managing relationships with board members in ways to meet the demands of the rapidly changing environment (Drucker, 1990). Both need the feeling of achievement and the satisfaction of service or they become alienated and disenfranchised (Drucker, 1990). People at all levels of the organization must be making a clear contribution, thinking in innovative ways and learning new values and attitudes. Certification and accreditation programs may offer solutions to many organizational and governance problems and may also initiate the process of developing the organization into a learning organization. Such changes help organizations adapt to change and chaos.

Positive attitudes regarding the intent to pursue accreditation should ultimately lead to actual pursuit. Such action in an organization would mean everyone is engaged in identifying and solving problems. Certification and accreditation programs would enable the organization to experiment, change and improve, thus increasing the capacity of the organization in all aspects, particularly in better achieving its mission.

The basic Technology Acceptance Model was used and extended by including a new external antecedent variable: perceived access barriers related to resources. Such access barriers to securing the required resources to implement the system may be financial (e.g., the process is too costly), human (e.g., staff resources are too lean), or time-related (e.g., the process is too time consuming and distracts from service delivery). This extension of TAM to nonprofit certification also allowed the exploration of specific actions performed by both the staff and leaders of an organization towards successful completion of a certification program. Hence, based on the work of Berthon et al. (Berthon, Pitt, Ewing, & Carr, 2002), this research was designed as an extension study.

## RELEVANT VARIABLES AND INTER-RELATIONSHIPS

### Perceived Access Barriers

Access to resources, allocation of time and competition for scarce donations are all components of economics that relate to nonprofit organizations. Organizations have finite resources and the ability to obtain future resources may impact the decision to spend money and time on certification rather than service delivery or program development. It is possible that true resource constraints do not exist, but instead the leaders of the organization simply choose to allocate funds to other organizational efforts and initiatives. A key point here is the trade off or the opportunity cost involved in such decision making. The opportunity cost of spending organization funds on performance improvement interventions is best measured by the organizational benefits (integrity enhancement, improved internal operations, augmented fund-generation capacity, continuous improvement focus) that could have been achieved had the money been spent on the next best alternative intervention or process improvement program. Porter and Donthu (2006) extended the TAM to include perceived access barriers to explain demographic-based differences in Internet use. This study was designed to determine the relationship between perceived access barriers, as these related to resources, and the usefulness of certification.

### Usefulness

Davis originally defined perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989: 320). He suggested that when applying TAM to technology, computer usage was determined by behavioral intent, attitude and the system’s perceived usefulness and perceived ease of use (Davis, 1989). Perceived usefulness was influenced by ease of use and some unnamed external variables. It may be a major determinant of people’s intentions to engage in a certification process principally based on their expectations that it would improve their job performance, career prospects,

job satisfaction, or social standing of the organization. In a recent study on situational limitations of existing technology acceptance studies, perceived usefulness was confirmed as one of the most important factors to influence user technology acceptance (Sun & Zhang, 2005). The perceived usefulness of certification was examined to determine the degree to which such a variable may have influence on behavioral intent to pursue certification.

### Perceived Ease of Use

According to Porter and Donthu (2006), individuals have specific beliefs about their performance capabilities based on a variety of individual experience, cognitive and personality factors. Research has suggested that many will choose to avoid learning something new because of the perceived or real difficulty and risk associated with the pursuit. The same may be said of a certification process which usually takes at least six months to complete and includes 55 standards for review. Perceived ease of use was described by Gardner and Amoroso (2004) as the degree to which a system would be free of physical and mental effort. The perceived ease of achieving certification can clearly influence attitude and intention. Based on this important relationship, the study included an examination of the perceived ease of achieving certification and the impact on attitude toward pursuing certification.

### Attitude

Davis et al. (1989) suggests that behavioral intention is viewed as being jointly determined by the person’s attitude toward using the system under review and its perceived usefulness. The attitude-behavioral intention relationship in TAM implies that people form intentions to perform behaviors toward which they have positive effect. Attitudes toward a behavior are determined by relevant beliefs. The possible tangible benefits of an organization being certified (e.g., enhanced legitimacy, improved governance, greater income generation) may have an impact on the organization’s positive or negative feelings about pursuit of certification.

Therefore, the inter-relationship between the executive director's attitude towards pursuing certification and the intentions to pursue certification were important to examine.

### **Pro-Active Personality**

Proactive individuals scan for opportunities, show initiative, take action and persevere until they reach closure in bringing about change. While the Technology Acceptance Model did not include pro-activity, this variable reflects the recognition that positive affect for an action may not always translate into behavioral intent when the risk of failure, effort, and opportunity costs are so significant, as in the case of certification. The data collected afforded a better understanding of the complex issues associated with executive director pro-activity and the resulting relationship between attitude and behavioral intent.

### **Behavioral Intent**

Venkatesh and Davis (2000) reported that behavioral intention is a good predictor of actual usage of an application or system – a contention that has received support from numerous studies (*Davis et al., 1989; Taylor & Todd, 1995*). It may be a natural conclusion then, that any factors influencing behavior are indirect influences on behavioral intent. Thus, included in the framework for the study was an examination of the degree to which the executive director's pro-activity would be associated with the behavioral intent to pursue certification.

### **Research Design and Methods**

Executive directors of nonprofit organizations that are members of the Louisiana Association of Nonprofit Organizations (LANO), a statewide network of nonprofits, foundations and individuals, representing every region of Louisiana, were surveyed. LANO agreed to endorse the research and distribute the instrument electronically. Of the original 900 members to whom the original survey was sent, twenty-one surveys were undeliverable.

Usable responses were received from 248 executive directors resulting in a response rate of 28.2% and representing a diversity of organizational sizes and geographic distribution.

The survey was administered electronically and was scheduled to be conducted over an eight week period. Weather-related events, including direct hits from two hurricanes and the threat of a third, served as a distraction for a number of major metropolitan areas of the state during the time period in which the survey was conducted. This caused the data collection to extend over a 16 week period. Follow-up reminders were sent via email, and telephone call reminders were also made to those in select regions of the state where the response rate was low.

### **Analysis and Results**

The initial test results indicated that to improve the model fit, perceived access barriers (resources) should be moved from being an antecedent defined as an "external" variable to an independent variable along with usefulness and perceived ease of use. Whereas, resources may be an external antecedent in the technology setting, that it is significant here indicates that perceived access barriers (e.g., cost, lean human resources, time) are going to directly influence attitude towards using a particular process and performance improvement tool. Re-specifying the model allowed these relationships to be tested.

This revised model generated more acceptable fit indices and all standardized loadings were significant at  $p < 0.05$  with one exception (pro-active personality to behavioral intent). The overall final model fit indices were all in generally acceptable ranges. The final model provided support for the association between perceived access barriers (resources) and usefulness, and perceived ease of achieving certification; usefulness of certification positively influencing behavioral intent and attitudes; the perceived ease of achieving certification and its positive association with attitude toward

pursuing certification; attitudes of the executive director towards pursuing certification positively associated with intentions to pursue certification and for the mediating relationship of proactive personality between attitude and behavioral intent.

### FINDINGS AND IMPLICATIONS

While most of the literature on TAM has focused on the means by which a certain set of constructs can explain user acceptance of technology, new research has begun to extend the focus of this work into other settings and situations. Several well-established relationships have been confirmed by this study, as well as new relationships identified.

The major findings of the study confirm the following:

- 1) Usefulness plays an important role in forming an applicant's behavioral intent. The value and worth of certification to the executive director, as well as how it may be applied at the organizational level to improve and enhance institutional performance demonstrated high levels of importance. Usefulness was a critical influencer of the director's intention to engage in specific behaviors in pursuit of certification.
- 2) Attitude and the executive director proactive personality/pro-activity also had significant impact on overall behavioral intention. The results indicated that a positive attitude toward a system or organizational improvement initiative such as certification can influence behavioral intent. Pro-activity or proactive personality (the extent to which an individual takes action to influence or change their environment) also prompted behavioral intent or intention to perform a specified behavior. These leaders are truly the champions and advocates for reform efforts like certification as they seek to develop and implement new ideas and processes at work.
- 3) The effects of perceived access barriers related to available resources on usefulness are confirmed by the results. An organization's ability to access certain resources (labor, land, capital) did prove to have an impact on the degree to which the executive director believed that engaging in the certification process would enhance his or her job performance.

The results of the study identified two new relationships have emerged. Perceived access barriers functions better as an independent variable, along with usefulness and perceived ease of use, than it does as an external variable. As such, a positive and significant association with attitude was observed. Also, a person's attitude towards using a new system in an organization influences their propensity to have a proactive personality. Attitudes are held with respect to some aspect of the individual's world and generally represent his/her evaluation of the entity or article in question (*Ajzen & Fishbein, 1977*). In this study, attitude influences proactivity which is dictated by the favorability of the environment and determined by attitude. Overall, it can be concluded that TAM is a useful model, and is suited for adaptation into organizational behavior domains.

Current sentiments toward nonprofit organizations, such as those aforementioned in the beginning of this paper, have created an opportunity. It is reasonable to suggest that the adoption of standards for ethics and accountability may provide a solution. The research presented here takes a preliminary step towards the solution by applying a model and several theories to explain user acceptance behavior. While not technology based per se, the Louisiana Standards for Excellence program – a voluntary certification process based on values such as honesty, integrity, fairness, respect and responsibility – has created a uniform language for addressing nonprofit organizational excellence, as well as accountable and effective management. It is therefore reasonable to extend the TAM to this type of user acceptance behavior. The research

presented here indicates that the variables used to study user technology acceptance behavior also function in a similar fashion when applied to acceptance of a certification or accreditation program in a nonprofit organization.

### CONCLUSIONS AND IMPLICATIONS

The results of this study contribute to the expansion of the TAM in at least two specific ways beyond its application to a non-technological context. First, perceived access barriers related to available resources functions as an adequate external variable. Chau (1996) reported that individuals evaluate their behavior in terms of perceived usefulness and base their choice of behavior on the desirability of such usefulness. Second, in this study, proactive personality influences behavioral intent. Proactive individuals seek achievements, particularly those that represent intentional constructive change (*Bateman & Crant, 1993*). Therefore, taking the initiative to solve organizational problems by engaging in certification would be a proactive effort that directly impacts the organizational environment.

These results suggest a potential impact on the certification-granting associations or state associations of nonprofit organizations. These member-based organizations may use the results of

this study as a template for ideas on future training and educational activities for their members, as well as a mechanism for identifying ways in which they may strengthen the accreditation process they administer. For example, the process may need simplification or actual changes may be needed to increase the usefulness of achieving certification.

This study was designed to gather support for a research model that modified the well-known technology acceptance model, or TAM. Toward that end, the study was successful. Data collected from executive directors in a variety of nonprofit organizations relative to the LANO administered Standards for Excellence voluntary certification program generally supported the overall validity of the modified TAM. This study has shown that a possible modification of TAM may be applied to the use of certification and accreditation programs in the nonprofit sector.

Given the current environment of decreased funding, increased pressures for accountability and heightened emphasis on tangible results, nonprofit organizations must distinguish themselves. Certification programs are providing identified and effective means for organizations to accomplish this goal. ■

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