Factors Influencing Intentions to Maintain Web Content in Voluntary Organizations

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September 17, 2005

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Abstract

Many voluntary organizations (VOs) use Web sites to help them raise funds, recruit volunteers, and so on. Content management systems (CMS) simplify Web site maintenance, letting IT novices update Web sites. However, some VOs find it difficult to recruit volunteers for this role, even though it requires little IT expertise. This study will use the theory of planned behavior to examine factors influencing volunteers' intentions to help maintain Web site content. The results could help software designers make CMS use more attractive, and VO leaders find people willing to maintain content.

Voluntary organizations (VOs), where most labor is given freely, are central to civic, cultural, and religious life. They perform functions that the public and private sectors are unable or unwilling to address. Examples of VOs include charities, churches, grass-roots advocacy groups, and community theaters.

Many VOs have Web sites (Gilbert, 2002). The Web is a cost-effective way for VOs to communicate with volunteers, funders, clients, and other stakeholders. Web site hosting is inexpensive in economically advantaged countries. Creating effective Web sites is a labor intensive process, however. Only VOs that can afford professional services, or whose volunteers have the required skills, can build more than a basic site.

Web sites are more effective if updated regularly (Nielsen, 2000). Knowledge about what information should be updated is usually scattered throughout a VO. For example, in a community center, one person might know about new adult education classes, another about new library books, and so on. Requiring all these people to learn Web technology so they can update the site is often unworkable. Some VOs therefore route new content to a single technical expert. This creates a bottleneck; updates take more time, and content errors take longer to find and correct.

A solution is to use a content management system (CMS) that allows people with little technical expertise to update content. CMS formatting languages are easy to learn. For example, instead of entering:

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<b>Please</b> see <a href="../re/adult.html">adult
education</a>.
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a user might enter:

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*Please* see AdultEducation.
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The CMS translates this into HTML, and places it in a template containing navigation bars, headers, and other Web page elements.

Organizational problems can impede CMD implementation, however (Kyrnin, 2002; Robertson, 2004). One problem is finding people who will update content. Here are excerpts from a VO Web masters' mailing list[1]. Lines separate different posts:

> [There was resistance to using the CMS] from everyone I've tried to recruit. In most cases it's easy to just do the updating myself than to fight to get other people to do it.
>
> ... it's a slow process of education and overcoming fears.

> One thing I'll say is that it's very difficult to get people to update their own stuff, even if it's dead easy.

> I have not been able to get anyone using even the basic text-input feature besides myself and a person I recruited specifically to update the calendar.

> My experience has been the same ...

This study will identify factors influencing volunteers' intentions to maintain Web content using a CMS. The results could be used in various ways. First, CMS designers could build systems that volunteers are willing to use. Second, VO leaders could design training and promotional programs to encourage CMS use. Third, the study would help VO leaders identify people who might be willing and able to perform the task.

Of course, not every volunteer is a potential CMS user. For example, people without access to a computer are not candidates. There is little point in studying them. We focus only on those who (1) have access to a computer and the Web, and (2) know how to use a Web browser.

1 From the Websters list of the Unitarian Universalist Association, http://www.uua.org.

Theoretical Foundation

Several theories could serve as the base for this research, including the theory of reasoned action (TRA) (Fishbein and Ajzen, 1975), the theory of planned behavior (TPB) (Ajzen, 1991), the technology acceptance model (TAM) (Davis, Bagozzi, and Warshaw, 1989), and the theory of trying (TT) (Bagozzi, Davis, and Warshaw, 1992). TPB is the most suitable for our purposes. TRA does not model factors inhibiting behavior, such as lack of expertise, which will probably be important in forming CMS update intentions. TAM models general factors like usefulness and ease of use. It does not identify context-specific beliefs that promote or inhibit intention, as TPB does. It's easier to generate suggestions for action from TPB than from TAM (Mathieson, 1991). TT focuses on mismatches between intentions and behavior, and subsequent belief revision. This study stops at intention, so TT offers no advantages over TPB in this case.

TPB predicts an individual's intention to perform a behavior voluntarily. As Figure 1 shows, TPB's main constructs are attitude, subjective norms (SN), and perceived behavioral control (PBC). Attitude is someone's perception of how good it would be to perform the behavior. For example, Mary might think it would be good for her to use the CMS. Attitudes depend on beliefs about outcomes of the behavior. An outcome might be something like "attract new VO members." A behavioral belief (BB) is the individual's estimate of an outcome's likelihood. For instance, Mary might think the VO would attract new members if she used the CMS. An outcome evaluation (OE) is the outcome's importance. For example, attracting members could be very important to Mary. BB and OE are multiplied for each outcome. The sum of the products across outcomes determines

attitude.

Subjective norms (SN) is the individual's perceptions of other peoples' opinion about the behavior. For instance, does Mary think people important to her would approve of her using the CMS? Overall SN depends on the opinions of specific social referents, like friends. A normative belief (NB) is the individual's perception of a referent's opinion. For example, Mary might think her friends would approve of her using the CMS. Motivation to comply (MC) is the referent's importance. Mary might attach great importance to her friends' opinions.

Perceived behavioral control (PBC) is the individual's estimate of whether he or she has the resources, skills, and opportunities needed for the behavior. A control belief (CB) is the individual's perception that a particular resource is available. For instance, Mary might think she doesn't have the computer skills needed to use the CMS. Perceived facilitation (PF) is the importance of the resource. For example, Mary might think that having computer skills is very important for CMS use. PBC is estimated as the sum of the products of CB and PF for each resource.

Attitude, SN, and PBC influence intention. Intention predicts behavior, unless the individual has, for example, underestimated the resources required. The broken line between PBC and behavior represents this possibility.

TPB holds up well empirically (Armitage and Conner, 2001), but has limitations. First, the theory best predicts behaviors that are specific in time, person, and place (Ajzen, 1991). The more specific a behavior is, the better its antecedents can be described and assessed. Second, products like OE.BB are troublesome. TPB models attitude as:

$$A = \sum_{i=1}^{k} OE_i BB_i \qquad (1)$$

where k is the number of the behavioral outcomes. Suppose regression is used to estimate the model's parameters[2]. This yields:

$$A = b_0 + \sum_{i=1}^{k} b_i OE_i BB_i + e \qquad (2)$$

There are two sets of weights in (2): the *b*s and the OEs. Both reflect the impact of each BB on A. It isn't clear what this means theoretically. Further, a product's correlation with another variable can change if one of the product's components is simply rescaled (Evans, 1991). It's undesirable for an analysis to be subject to such artifacts.

Following past practice (e. g., Bredahl, Grunert & Frewer, 1998; Mathieson, 2005), the OEs, MCs, and PFs, all weights for their corresponding beliefs, will not be included in the analyses. Statistically estimated weights will be used instead.

Study 1: Particularizing TPB

The first study will identify the outcomes, social referents, and control issues volunteers consider when thinking about using a CMS. The BB, CB, and NB measures will then be created.

The subjects would be members of a VO group the author has access to. Only about a dozen subjects would be required. Subjects would complete a Web-based survey adapted from Mathieson (2005). For example, one item might be:

> What do you see as the **advantages** of using a CMS to update the <name of VO> Web site?

Responses would be open ended. BB items would be developed from responses to this

2 The argument is the same for any technique that estimates weights.

question.

Study 2: Predicting Intentions

The second study would use the BB, CB, and NB items created in the first study. Measures for TPB's other constructs - attitude, SN, PBC, and intention - would be adapted from Mathieson (2005). The subjects would be drawn from the same VO organization used in study 1. It should be possible to get at least one hundred respondents.

Analysis

The data would be analyzed with partial least squares (PLS), a regression-based structural equation modeling technique (Chin, 1998). PLS does not assume multivariate normality, and has lower sample size requirements than covariance modeling techniques like LISREL. We would use PLS-Graph, a program offering an intuitive drag-and-drop interface that simplifies model construction.

Conclusion

Voluntary organizations do important work, and IT could help them be more effective. However, the use of voluntary workers for IT tasks raises questions that other organizations do not encounter in quite the same way. One problem VO technology managers have is finding people who will use a CMS to update Web content. This study would identify issues affecting peoples' intentions to perform the task. It would help VO managers and software developers remove barriers to CMS use.

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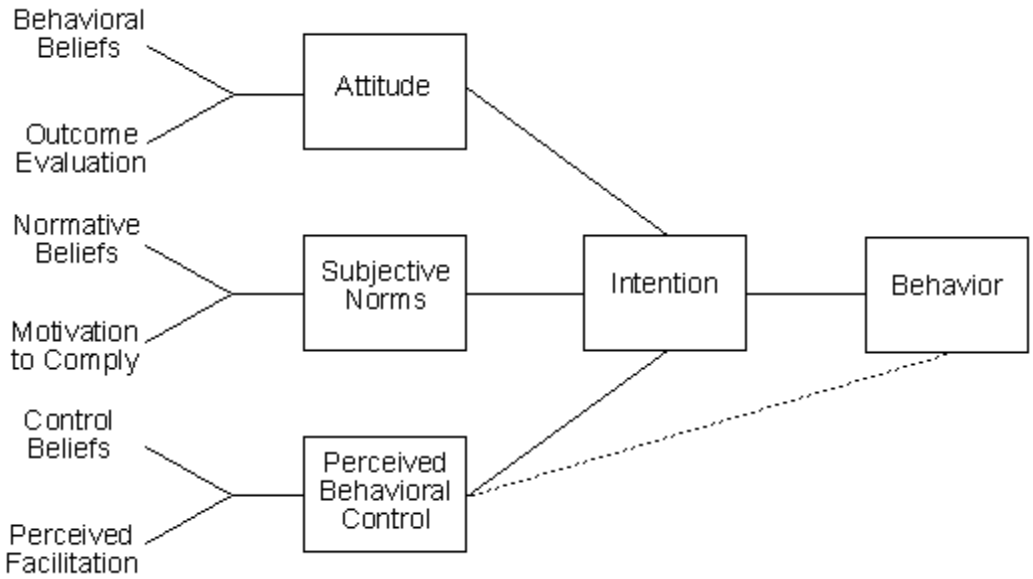

Figure 1. The Theory of Planned Behavior