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Research-in-Progress

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Abstract

As the internet has developed, the barriers to online donations have decreased – in order to effectively differentiate, charities have adopted various interface design innovations to encourage donors. This study examines the efficacy of anthropomorphism and visual/image appeals in increasing willingness to donate to a charity website. This paper reports findings from the first in a series of experiments. Specifically, we test the effect of image type (negative affect vs positive affect) on the variables of image appeal, moral norms, and intentions to donate. Our future experiments will build on the findings presented here, by testing the influence of anthropomorphized vs non-anthropomorphized websites on the same variables. Once finalized, the results of this research will contribute to IS research through suggesting appropriate interface design and to charity donation research through the evaluation of alternative channels for donations.
Keywords: Charity Website, Online Donations, Interface Design, Website Success

1. Introduction

Individual giving behaviors (e.g., monetary donations) have been of growing interest in the literature (White and Peloza 2009). In particular, donors are increasingly shifting their preferences towards donating via online rather than offline channels (Dunham+Company 2013). In order to understand and best meet the needs of online donors, a considerable amount of research in information systems (IS) has attempted to uncover the underlying determinants of eCommerce/website success (Cyr et al. 2009; DeLone and McLean 2003; Wells et al. 2011). In recent years, research has endeavored to move beyond the dominant cognition-driven paradigm and instead concentrate on affect (Cyr et al. 2009; Deng & Poole 2010). In this line of work, researchers have emphasized arousal (Deng & Poole 2010), perceived enjoyment (Cyr et al. 2007), pleasantness (Lavie & Tractinsky 2004), and social

presence (Cyr et al. 2009). One way in which social presence may be communicated is via anthropomorphism.

Anthropomorphism refers to a bias that occurs when people attribute humanlike characteristics, beliefs, intentions, and behaviors to animals and nonhuman objects (Aggarwal & McGill 2008). It has been previously argued that anthropomorphism leads to moral consequences such as increased care, consideration or respect with regards to the non-human agent or object in question (Waytz et al. 2010) and even changes to behavioral intentions (Aggarwal & McGill 2012) or preferences (Chartrand et al.,2008). We propose that there are two ways in which an image may be appealing. The first is through use of emotive imagery (positive or negative affect – tested in the current study) and the second is through humanlike imagery (anthropomorphized vs not anthropomorphized – to be tested in an upcoming study). However, image appeal alone is not enough to encourage donation behaviors. We propose that this influence occurs via moral norms, with the empathetic reaction that comes from viewing either human children (study 1) or anthropomorphized agents (study 2), leading to an increased desire to behave morally, and hence donate to the charity website presented. Specifically, we focus on the context of charity websites, and suggest that a specialized interface design can influence moral norms. Furthermore, by conducting pre and post experiments, we will verify the impacts of changed moral norms and concerns on willingness to donate to a charity website.

According to Ajzen (1991), moral norms (or moral obligations, personal norms) are regarded as an individual's perceptions of the moral correctness or incorrectness of performing a certain behavior (i.e., donations in this study). Moral norms take account of "personal feelings of … responsibility to perform, or refusal to perform, a certain behavior" (Ajzen 1991, p. 199). Compared to other attitudinal constructs (e.g., cognitive and affective attitudes), moral norms have not been extensively examined in persuasion and adoption-based research although such norms have an important role to play, especially in the context of ethical and altruistic behaviors (Armitage & Conner 2001).

Although moral norms, anthropomorphism, and visual/image appeals can help researchers to understand web user behaviors in the context of online donations, a theoretical gap exists in IS research. First, while moral norms can better explain online donation behaviors, limited research has examined the mutable nature of moral norms. Second, there has been no attempt to investigate gendered anthropomorphic websites. Lastly, while research has been conducted that illustrates how images are used in persuasion, there remains a lack of research on the types of images that could be more effective in increasing moral norms and corresponding changes in donation behaviors. In trying to address the above research gaps, this study has the following goals.

The remainder of this study is organized as follows: in the next section, we review related literature from moral norms, anthropomorphism, and gender stereotype. Next, we present the research model and hypotheses. Following this, research methods and data analyses are described. Finally, we conclude with a summary of the results, theoretical and practical implications, and limitations.

2. Theoretical Background

Persuasion in Prior Research

As stated earlier, moral norms can better explain ethical and altruistic behaviors. In the Theory of Planned Behavior (TPB), moral norms are expected to influence intentions, in parallel with attitudes, subjective norms, and perceived behavioral control (Ajzen 1991). Conventional IS research, based especially on expectancy-value theories (e.g., TRA and TPB), has implicitly implied that the attitudes of potential adopters of IT are relatively nonflexible (Angst & Agarwal 2009). In the same vein, moral norms have been viewed as immutable in TPB-based IT ethics research (e.g., Banerjee et al. 1998; Lee & Kozar 2008). This type of research has not generally examined determinants of moral norms. Consequently, as previous IS research has assumed that moral norms are immutable (e.g., Banerjee et al. 1998; Lee & Kozar 2008) there is little in the existing literature that can be applied to the study of persuasion in the charity donation context: that is, as researchers in the IS field have not previously attempted to influence moral norms, we do not know whether website design can shift moral norms or not.

However, recent persuasion research (Angst & Agarwal 2009, see Table 1) refutes the immutable nature of attitudes and suggests that attitudes toward the use of certain technologies can be formed and changed in response to external persuasion. Sussman & Siegal (2003) noted that "while adoption models are useful first steps in understanding how intentions towards a message are formed, these models were not designed to answer questions about the influence process itself" (p. 49). Also, Angst & Agarwal (2009) pointed out that "with few exceptions, prior research has implicitly suggested that the attitudes of potential adopters of technology are relatively immutable" (p. 341). Hence recent research states that attitudes can change, but it remains unclear as to whether moral attitudes are susceptible to persuasion or whether such attitudes are too deeply ingrained to be changed. The current study extends prior research to examine whether altering the design of a charity website can influence moral norms. This represents a major contribution of this study.

Table 1. Comparison between Expectancy Value Research and Persuasion Research

	Expectancy-Value	Persuasion
Theories	• Theory of Reasoned Action • Theory of Planned Behavior	• Elaboration Likelihood Model • Heuristic Systematic Model
Nature of Attitudes	Attitudes (and moral norms) are relatively immutable.	Attitudes (and moral norms) are relatively mutable.
Determinants of Moral Norms	Not generally examined determinants of moral norms.	Examine determinants of moral norms as external persuasion.
Selected Studies	Armitage & Conner (2001), Banerjee et al. (1998), Beck & Ajzen (1991), Harrison (1995), Lee and Kozar (2008)	Ferrari and Leippe (1992), Ortberg et al. (2001),

Anthropomorphism

Research on anthropomorphism is prominent in social psychology, consumer behavior, and human computer interaction. Social psychologists have examined why and when people anthropomorphize nonhuman objects (Epley et al. 2008a; Epley et al. 2008b; Epley et al. 2007). For example, the tendency to anthropomorphize is determined by the desire to understand the acts of nonhuman agents (Epley et al. 2007; Epley et al. 2008b), and can be motivated by a need for belongingness (Epley et al. 2008a). Kim & McGill (2011) examined downstream consequences of anthropomorphism, showing responses to anthropomorphized objects that suggest perceptions of these objects as humanlike. This is significant because once an object is thought of as being human, it becomes deserving of consideration and respect in the eyes of the human observer (Epley et al. 2007). Recent work also finds that the tendency towards anthropomorphism varies by individual (Waytz et al., 2010), despite being previously thought of as universal.

Literature from the field of computer human interaction has also focused on understanding the consequences of anthropomorphism, and has found some positive effects of anthropomorphism. According to Kiesler and Goetz (2002), people are more likely to collaborate with humanlike robots than with machinelike robots. Moreover, researchers have examined the effects of anthropomorphic interfaces, especially avatars, in the Web context (see Qiu & Benbasat 2009 for a review). Holzwarth et al. (2006) found that an avatar pictured during human-computer interaction makes the interaction feel more reciprocal and conversational. Also, as more anthropomorphic faces and voices appeared in the interface, individuals reported more favorable attitudes toward a computerized desert survival task (Burgoon et al. 2000). In the same vein, anthropomorphic interfaces such as humanoid embodiment and voice output have been found to increase social presence, which in turn leads to an increase in online shopping (Qiu & Benbasat 2009).

Although anthropomorphism can be an effective instrument for persuasion – ensuring he consumer feels as if they are interacting with a human-like presence – it has not been applied in the helping context to examine whether anthropomorphic websites are effective at persuading people to donate.

3. Research Model and Hypotheses

The research model below indicates the expected relationships between three variables as a result of a 2×2 experimental design manipulating the type of affective image shown, and the gendered anthropomorphic priming of a website. The two types of images will each convey a different affect aimed at increasing moral norms amongst participants: a sad child (negative affect), a happy child (positive affect).
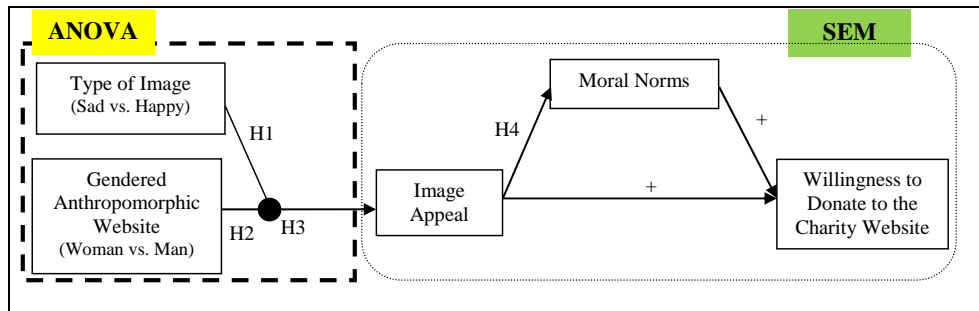

Figure 1. Research Model

Types of Images

An image showing a hungry child is associated with negative affect and as people are motivated to reduce internal conflicts that create cognitive dissonance (e.g., Festinger 1962), it is expected that the negative affect of the image will increase moral norms of donation. For instance, it is expected that a negative affective image will increase feelings of guilt and empathy, whereas a positive affective image may give the impression that all is well, hence making it unlikely that an uncomfortable internal conflict will be created. Indeed, previous research has found that negative images are more successful in increasing intentions to donate money, time and goods (e.g., Burt & Strongman 2005). In order to reduce this uncomfortable state, it is likely that donors will change their moral norms (attitude) and donation intentions (behavior) in order to align with the positive feelings that are anticipated from reducing the negative state experienced by the child in the image.

H1: Image appeal will be higher in the negative affective image condition (i.e., a hungry/sad child), when compared to the positive affective image condition (i.e. a happy child).

Gendered Anthropomorphic Website

Kim and McGill (2011) argued that "anthropomorphizing a product causes consumers to apply social expectations and beliefs they would not normally apply to an inanimate entity" (p. 96). In a similar vein, we argue that anthropomorphic images facilitate consumers' feelings of responsibility. In the normative perspective, people have learned to help others especially when others ask their help. Moreover, the norm of reciprocity explains this helping behavior such that the original helper would be helped by the others later. As Liu and Aaker (2008) suggested, the way in which people are asked to contribute is critical. Anthropomorphic primes increase social presence (Tam et al., 2013) which by extension makes people more generous (Haley & Fessler 2005) and more likely to cooperate with norms (Bateson et al. 2006). In addition, once an individual has anthropomorphized an agent, he or she is more likely to emulate that agent based on the perceived associations. For example, people are more likely to exhibit increased behavioral preferences towards loyalty when exposed to dogs as opposed to cats (Chartrand, et al., 2008). In another study, personified brands caused participants to increase their behavioral intentions to emulate those brands – for instance, the 'healthy' brand group intended to take the stairs more, while the 'unhealthy' brand group intended to take the elevator (Aggarwal & McGill 2012). This highlights the importance of what is anthropomorphized, and how it is presented.

Helping is generally regarded as warm and kind behavior, and thus we propose that a female anthropomorphic website will be more effective than a male anthropomorphic website. Females carry associations of warmth and kindness (Huddy & Terkildsen 1993), which is expected to make people feel more empathetic when exposed to a female presence. Therefore, given that previous research has shown that people emulate the perceived characteristics of anthropomorphized agents (Aggarwal & McGill, 2012; Chartrand et al., 2008), then emulating a female gendered anthropomorphized website should result in transference of the warm/kind attitude to the observer. Therefore, the current study expects that people are more likely to donate when a female-like website is shown.

H2: Image appeal will be higher in the female anthropomorphic website condition, when compared to the male anthropomorphic condition.

Two Way-Interaction

It is expected that the juxtaposition of a negative affective image (i.e., a hungry/sad child) and a female anthropomorphic website will be the most effective combination for increasing image appeals. The reason for this is that such a juxtaposition of images is anticipated to cause the viewer to enter into cognitive dissonance. This state of internal conflict arises because of the nature of the images: the female anthropomorphic website brings to mind stereotypical feminine associations, such as kindness, warmth and empathy. The image of the child reflects the outcome of the absence of these qualities (i.e. what happens when someone is not treated with kindness, warmth and empathy). The likely emotion that will then arise in the donor is that of guilt, prompting them to resolve this state of internal conflict (e.g., Festinger, 1962), most likely by donating to the cause. If the image of the child reflected positive affect, then no state of dissonance would be created (the image would be in harmony with the warm, empathetic stereotype of the website) and if the website were anthropomorphically male, different stereotypical associations would be presented (e.g., strength, power) that may not result in guilt and empathy. Indeed, males are often associated with agentic goals that reflect individualistic ideals, while females are more focused on others, following communal goals. The following hypothesis is therefore proposed:

H3: The effect of negative affective image on image appeals will be more significant for a female anthropomorphic website than the others.

Effect of image appeal on moral norms

Image appeals can cause a specific emotion (e.g., guilt) and can therefore stimulate the morality of people trying to resolve the internal conflict by altering their attitudes and behaviours. Burt and Strongman (2005) examine the role of images for charity advertising on emotional reactions. Their experiments on types of images and emotional reaction reveal that emotions influence donation behaviors. Specifically, people react more emotionally to images of children in charity messages. The empathy that children trigger is key, as studies find that moral norms toward the living – especially family members or loved ones – play a critical role in willingness to donate (Hyde & White, 2009). We therefore propose the following hypothesis:

H4: Image appeals will positively influence moral norms.

4. RESEARCH METHODS AND DATA ANALYSIS

We plan to conduct series of experiments to test the proposed research model summarized in Table 2. The current study conducted Experiment 1 to identify the effect of image type and to set a baseline for future studies. In future, two other experiments will be conducted to examine the effect of (1) gendered anthropomorphic website (Experiment 2), and (2) Interaction effect (Experiment 3). In addition, we will further examine the effect of image appeal on moral norms which in turn influence willingness to donate using structure equation modeling.

Table 2: Summary of Study Designs

	Current Study	Future Study		
Experiment	Experiment 1	Experiment 2	Experiment 3	Structure Equation Model

	2 (Image type: sad child vs. happy child)	2 (gendered anthropomorphic website: female vs. male)	2 (image type: sad child vs. happy child) × 2 (gendered anthropomorphic website: female vs. male)	
Focus	Effect of image type (H1)	Effect of anthropomorphic website (H2)	Two-way interaction (H3)	Effect of image appeal on moral norms (H4)
Independent Variables	Image type	Gendered anthropomorphic website	Image type, Gendered anthropomorphic website	Image Appeals
Dependent Variables	Image appeals	Image appeals	Image appeals	Moral Norms, Willingness to Donate
Method	Controlled Lab Experiment: ANOVA			Structural Equation Model Analysis

Two different website treatments were developed for Experiment 1 as shown in Figure 2. The subjects for Experiment 1 were undergraduate students at a large public university in the US. A total of 80 subjects completed the study. Thirty-three subjects (41.3%) were female and the average age of the sample was 21.4 years old. Participants were asked to fill out a pre-test survey that measured demographic information. Then they were provided instructions on how to assess the website. After they interacted with the website, we measured their perceptions of image appeals which consisted of three items: "the image used in the website appeals to me emotionally," "the image used in the website is appropriate," and "the image used in the website looks appealing."

A sad child (negative affective image)   A happy child (positive affective image)

Figure 2. Website Manipulations and Screenshots

We conducted control and manipulation checks. There were no significant differences in the distribution of gender (Pearson chi-square value = .17, *p* = .678) or age (*F* = .36, *p* = .547) between the two treatment conditions, confirming that there is no assignment bias. Next, we conducted manipulation checks for image type. A result of the chi-square test indicates that there is a significant difference for image type (Pearson chi-square value = 72.39, *p* = .000). A univariate ANOVA test was conducted to examine the effect of image type on the dependent variable of image appeal, and found a significant main effect (F = 4.533, p < .05). Specifically, the happy image type resulted in higher levels of image appeal (M= X) than the negative image type (M = X). Hence, support was found for H1.

5. Future Research Plan
As mentioned earlier, Experiments 2 and 3 will be conducted to test H2 and H3. We will also further examine the influence of image appeal on moral norms and willingness to donate, by applying structural equation modeling.

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