

# Examining How Perceptions of Websites Encourage Prosocial Behaviour

*Research-in-Progress*

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## Abstract

*Organisations are increasingly reliant on information and communications technology (ICT) to encourage prosocial behaviour (i.e., volunteering, philanthropy and activism). However, little is known about how to use ICT to encourage prosocial behaviour. Given this research gap, the objective of this study is to outline and test a research model that assesses the role of specific perceptions of websites in encouraging prosocial behaviour. To do this, we review the literature to derive a theoretical model of relevant perceptions. We then test the extent to which this model can predict participants' volunteering and philanthropic behaviour subsequent to their usage of a website that encourages prosocial behaviour. The findings are expected to contribute by (i) giving insights into how perceptions of websites encourage prosocial behaviour, (ii) explaining the roles of negative and positive affect in ICT domains, and (iii) developing a "persuasiveness of website scale" to help IS researchers to measure this construct.*

**Keywords:** Website design, Prosocial behaviour, Volunteering, Philanthropy, Persuasion

## Introduction

Information Systems (IS) research has extensively examined information and communications technology (ICT) in commercial and organisational contexts but rarely examined non-profit domains (see Gutierrez and Zhang 2007; Zhang et al. 2010). Consequently, IS research has rarely examined the role of ICT in encouraging prosocial behaviour: “a broad category of acts that are defined by some significant segment of society and/or one’s social group as generally beneficial to other people” (Penner et al. 2005, p. 366), including volunteering, philanthropy, and activism. As organisations such as governments and non-profits increasingly depend on ICT to communicate (see Earl et al. 2010; Horvath 2011; National Volunteering Strategy Consultation 2011), their organisational outcomes are partially contingent on their ability to effectively use ICT to encourage prosocial behaviour. Unfortunately, these IS stakeholders do not always do this well; indeed, many non-profit and government websites have been argued to be poorly designed, leading to calls for the development of better platforms (Bosrédon 2012; Estes and Nielsen 2011; Horvath 2011).

To help address these issues, IS researchers need to devote more effort to explaining how ICT can encourage prosocial behaviour. This process may involve developing new theory as existing IS theory may not be readily applicable for explaining how ICT operates in prosocial contexts. It is well-accepted that different approaches are required to effectively “sell” prosocial and commercial behaviour; the field of social marketing is predicated on the premise that you cannot “sell brotherhood like soap” (Bendapudi et al. 1996; Rothschild 1979; Rothschild 1999). As the design of a website cannot be divorced from the type of transaction it supports (Tan et al. 2013), it is therefore very likely that there are differences between encouraging prosocial and commercial behaviour through ICT. However, while considerable research has examined how ICT encourages commercial behaviour (see Zhang et al. 2010), relatively little research has examined its role in encouraging prosocial behaviour, such as volunteering, activism, and philanthropy. Additionally, despite recognition of differences between commercial and prosocial behaviour, relatively little research has examined how prosocial behaviour can be encouraged in comparison to extensive examination of commercial behaviour. For example, Bendapudi et al. (1996), note that the “marketing literature, which is rich in research [...] about promoting for-profit products and services, offers little guidance to charities on how to promote helping” (p. 33), describing this as a puzzling neglect of something crucially important and virtually undescribed. Similarly, Landry et al. (2010) observe that “little systematically is known [in Economics] about what induces donors to give” (p. 959).

As a wide range of IS literature has shown that perceptions affect behaviour by influencing intention (e.g., Li and Ku 2011; Recker et al. 2011), our research objective is to examine how a range of perceptions of websites can encourage prosocial behaviour. This paper provides an overview of the progress of this research. First, a review of relevant prior literature is conducted to provide a theoretical grounding for the development of a research model. The research methodology section outlines the approach planned to test the research model. The study then concludes by discussing expected contributions, implications, and possible future research.

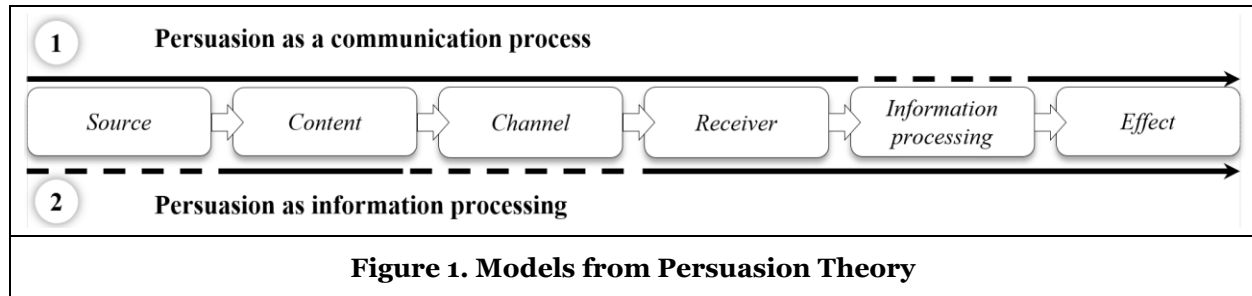
## Theoretical Background

### *Persuasion*

Because using a website to encourage prosocial behaviour involves changing users’ attitudes and behaviours, it necessarily involves persuasion: “creating, reinforcing, modifying, or extinguishing beliefs, attitudes, intentions, motivations, and/or behaviours within the constraints of a given communication context” (Gass and Seiter 2011, p. 33). Accordingly, we use models of the process of persuasion to provide a lens for this research.

The process of persuasion is generally modelled in two ways (see Eagly 1987; Kruglanski and Thompson 1999; Stiff and Mongeau 2003) as either (i) communication, or (ii) information processing. When treated as a communication process (e.g., Lasswell 1948; McGuire 1972), persuasion is generally examined through consideration of five components: a *source* (e.g., a website) that communicates *content* (e.g., the website’s content) via a *channel* (e.g., ICT) to a *receiver* (e.g., a website user) to cause an *effect* (e.g., engaging in prosocial behaviour). When persuasion is treated as information processing (e.g., Cacioppo and Petty 1984; Chaiken 1980; Eagly 1987; Kruglanski and Thompson 1999; Stiff and Mongeau 2003), scholars pay more

attention to examining how a receiver of information processes that message (e.g., attends to and interprets content) to produce an effect (e.g., for that user to engage in a behaviour). The focus of these models is summarised in Figure 1. In Figure 1, the solid lines are intended to indicate components that are emphasised by a particular approach, while the dotted lines indicate components that are not emphasised by that approach.



Over time, each of the components shown in Figure 1 has come to represent a category of variables that persuasion researchers have studied extensively (see McGuire 1972; Stiff and Mongeau 2003). The *source* component relates to understanding the effects of varying characteristics of the source of the persuasion, for example, changes in their appearance (e.g., Wilson and Sherrell 1993). The *content* component is concerned with understanding the effects of varying what is communicated, for example, changes in the cues presented (e.g., Chaiken 1980). The *channel* component refers to understanding the effects of varying how information reaches the receiver, for example, changes in the type of media used (e.g., Bator and Cialdini 2000). The *receiver* component relates to understanding the effects of varying characteristics of the recipients of the persuasion, for example, differences in their motivations (e.g., Cesario et al. 2004). The *information processing* component involves understanding the effects of varying characteristics of the recipient's processing of the message they received, for example, their emotions (e.g., Nabi 1999) or goals (e.g., Aaker and Lee 2001). Finally, the *effect* component relates to understanding the outcome of the persuasion process, such as changes in intentions, attitudes, and behaviours (Ajzen 1992).

Here, these components are used as a conceptual framework to theorise the model. Factors relating to the website user are categorised as "receiver factors". Factors relating to interpretations from visiting the website are categorised as "information processing factors". Factors relating to attitude and behaviour change as an outcome of visiting the website are categorised as "effect factors".

## Website Perceptions

While our review of the literature revealed that remarkably little IS research has addressed prosocial behaviour, IS research provides a general causal logic for website-related behaviour through the examination of perceptions. As expressed and epitomised by Tan et al. (2013), much IS research invokes perceptions in developing theory explaining how different behaviours are best facilitated by ICTs with different designs (e.g., Li and Ku 2011; Recker et al. 2011). Table 1 presents a summary of some of the models that explain behaviour using perceptions.

<b>Table 1. IS Literature addressing how Website Perceptions influence Behaviour</b>		
Foundation(s)	Perceptions of websites used/found	Source
Technology acceptance model	Ease of use, usefulness, attitude, intention to use	(Davis et al. 1989)
I/S Success.	System quality, information quality, use, user satisfaction, individual impact, organizational impact	(DeLone and McLean 1992)
WebQual	Usability, design, information, trust, empathy, quality	(Barnes and Vidgen 2002)

Unified Theory of Acceptance and Use of Technology	Effort expectancy, performance expectancy, facilitating conditions, social norms, intention to use, voluntariness of use	(Venkatesh et al. 2003)
Meta-analysis results	Ease of use, responsiveness, fulfilment, security/privacy, personalization, visual appearance, information quality, trust, interactivity	(Park and Gretzel 2007)
Meta-analysis: Unified web evaluation factors	Ease of use, responsiveness, fulfilment, security/privacy, personalization, visual appearance, information quality, trust, interactivity, advertising / persuasion, playfulness, technology integration	(Chiou et al. 2010)

Essentially, while the models outlined in Table 1 involve using different perceptions to examine how ICT encourage behaviour, they highlight a common causal logic that IS researchers invoke: that a behaviour can be better understood through assessing the influence of individuals' perceptions on that behaviour. By doing this, the models provide a causal logic for using perceptions to examine how websites encourage prosocial behaviour in the absence of existing theory.

However, despite providing this casual logic, current models do not provide perceptions that are tailored for explaining prosocial behaviour as they relate to other domains of investigation (i.e., commercial behaviour). As a result, most of the perceptions in Table 1 appear to involve supporting a user's ability to perform a behaviour rather than making them desire to perform it. Consequently, to identify perceptions of websites that have been demonstrated to influence prosocial behaviour, the study draws on Slattery (2016) which used insights from prior literature to explain how six live volunteering websites encouraged prosocial behaviour through reference to features, perceptions, and motivational triggers. The seven perceptions outlined are shown in Table 2.

<b>Table 2. Relevant Perceptions of Prosocial Websites (Slattery 2016)</b>	
<b>Construct</b>	<b>Definition</b>
<i>Ease of use</i>	The extent that the process of using the artefact was perceived as effortful (Venkatesh 2000).
<i>Organisational Trustworthiness</i>	The extent that the artefact created trust beliefs, such as integrity, benevolence, ability, and predictability, toward the entity or entities that it is associated with (Gefen et al. 2003).
<i>Negative affect</i>	The extent that the artefact created unpleasurable emotional engagement, such as sadness and guilt (Watson et al. 1988).
<i>Positive affect</i>	The extent that the artefact created pleasurable emotional engagement, such as excitement and happiness (Watson et al. 1988).
<i>Aesthetics</i>	The extent that the artefact is aesthetically pleasing to the eye (van der Heijden 2003)
<i>Information quality</i>	The extent that the artefact conveyed timely, accurate, reliable, relevant, and complete information (Byrd et al. 2006).
<i>Argument strength</i>	The extent that the arguments made are convincing or valid (Cacioppo et al. 1983).

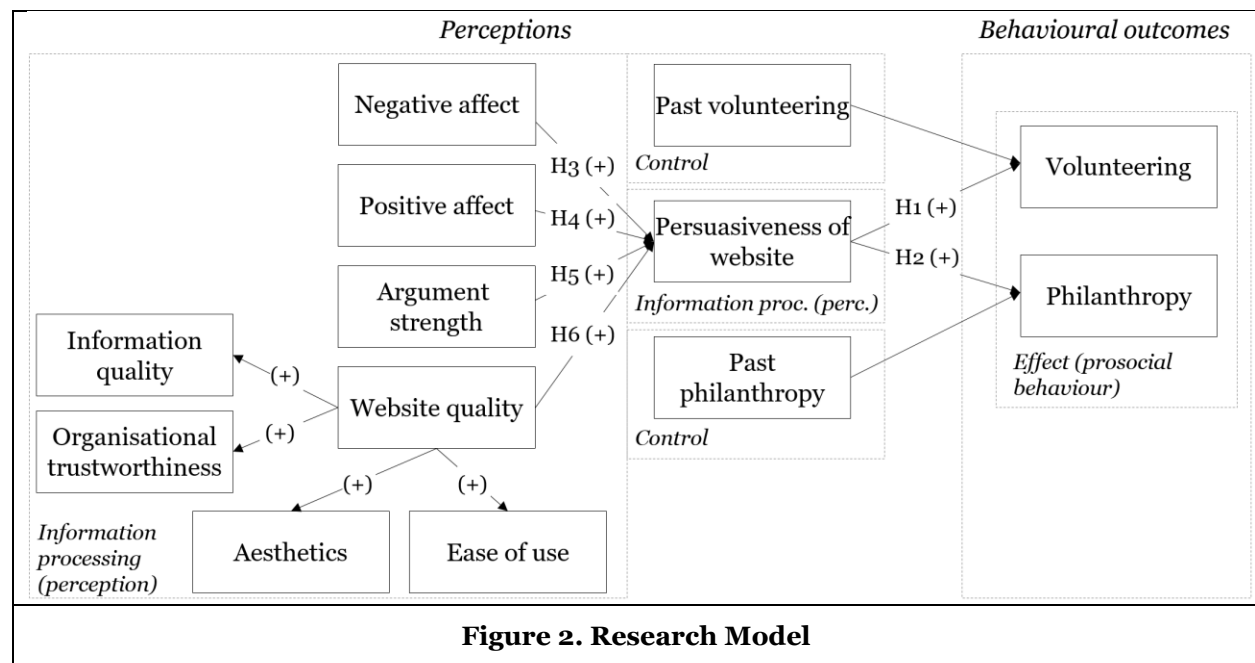
While the findings reported in Slattery (2016) provide a body of evidence for the validity of these perceptions within prosocial domains, they also have several limitations, which the current study aims to address. First, the qualitative research method used did not examine actual behaviour. Thus, as research shows that individuals are often inaccurate at predicting their behaviour (see Bowers 1982; Nisbett and Wilson 1977; Nolan et al. 2008), this study attempts to reinforce the findings by assessing if the perceptions measure actual behaviour. Second, as they emerge from qualitative research, the findings do not quantify the effects of the perceptions identified. Thus, it remains to be determined whether these perceptions have equally minor or major effects on prosocial behaviour or differ greatly in their effectiveness at encouraging

it. Third, the findings do not account for potential contextual effects that may have influenced the perceptions found within the research. Persuasion research suggests that many contextual factors affect behaviour (Gass and Seiter 2011). Thus, it is of further interest to understand the extent to which the perceptions identified are widely relevant or limited to the research setting in which they were developed.

Given the above, this study attempts to extend the research in Slattery (2016), first by identifying measures for the seven perceptions identified therein, and second by testing these constructs within a theoretical model. The theoretical model then assesses the degree to which the perceptions identified can predict prosocial behaviour, and the degree to which contextual changes, such as differences in users or websites viewed, affect these relationships.

## Research Model Development

Figure 2 shows the research model. The hypotheses for the model are outlined from right to left, beginning with the effect factors - the behavioural outcomes that occur from the website's attempt to change attitudes or behaviours. In this study, the effect factors examined are two behaviours: volunteering and philanthropy. Volunteering involves giving time to a socially beneficial cause (James 2006) whereas philanthropy involves giving money (Basil and Erlandson 2008). The study used these two behaviours because they are recognised prosocial behaviours (e.g., van Laer and van Aelst 2010; Varadarajan and Ganz 2008) that involve different forms of contribution (giving time versus giving money) and are targeted by many prosocial websites. We have two control factors for behaviour, both of which control for the effects of past behaviour: past volunteering and past donation. We chose these controls as research generally shows that people who have previously engaged in a specific behaviour – including behaviour mediated by ICT (e.g., Chiu et al. 2012) and prosocial behaviour (e.g., Frey and Meier 2004) – are more likely to perform that behaviour in the future (e.g., Aarts et al. 1998).



The study next examines how the website impacts individuals' attitudes and behaviours – in other words, its persuasiveness (see Stibe and Oinas-Kukkonen 2014). Research suggests that the more persuasive a source is perceived to be, the more effective it will be at changing individuals' attitudes and behaviours (Stibe and Oinas-Kukkonen 2014). Accordingly, to assess if and how persuasiveness of the website corresponds with prosocial behaviour, the study proposes the following hypotheses:

*H1: The persuasiveness of the website has a positive impact on volunteering behaviour.*

*H2: The persuasiveness of the website has a positive impact on philanthropic behaviour.*

Having argued that the persuasiveness of the website will affect individuals' probability of engaging in prosocial behaviour, the study next examines factors that may lead to a source being seen as more or less persuasive. While a considerable amount of research has examined what factors make a source persuasive in different contexts (see McGuire 1972; McGuire 1973), most of this research has examined human sources rather than websites. Thus, when examining how volunteering websites persuaded users, this study draws from the findings of Slattery (2016), which identified seven perceptions that encouraged prosocial behaviour. Based on Slattery (2016), it therefore argues that the persuasiveness of a website encouraging prosocial behaviour will be increased by at least seven perceptions: *negative affect*, *positive affect*, *argument strength*, *ease of use*, *organisational trustworthiness*, *aesthetics*, and *information quality*.

First, the study argues that experiences of positive and negative affect (i.e., both positive and negative emotional experiences) will increase the persuasiveness of a website encouraging prosocial behaviour. Negative affect is defined as the extent that the artefact created unpleasurable emotional engagement such as sadness and guilt (Watson et al. 1988). Positive affect is defined as the extent that the artefact created pleasurable emotional engagement such as excitement and happiness (Watson et al. 1988). Considerable research has shown that experiences of affect influence individuals' behaviour (see DeSteno et al. 2004; Liu and Aaker 2008; Nabi 2002). Some of this research has shown roles for affect in causing prosocial behaviour. For example, it has been noted that experiences of negative affect can encourage prosocial behaviour, as the individual may engage in prosocial behaviour so as to feel better (see Cialdini et al. 1981). In contrast, causing experiences of positive affect can also lead to individuals having a positive mood, and also a greater willingness to help others (Guéguen and De Gail 2003). Further, research has shown that affective experiences impact on website related behaviour (Cyr et al. 2009; Deng and Poole 2010). Accordingly, to capture the influence of positive and negative affect on the perception that the website is persuasive, the study proposes the following hypotheses:

*H3: Negative affect has a positive impact on the persuasiveness of the website.*

*H4: Positive affect has a positive impact on the persuasiveness of the website.*

Second, the study argues that strong arguments will increase the persuasiveness of a website encouraging prosocial behaviour. Argument strength is defined as the extent that the arguments made are convincing or valid (Cacioppo et al. 1983). Considerable research has examined argument strength to the extent that it may be the most commonly examined variable within research on the process of persuasion (Johnson et al. 2005). This research shows that stronger arguments are generally associated with increased change in attitude and behaviour (e.g., Zhao et al. 2011), and that this is also the case for arguments made in online domains (Zhang et al. 2014). Accordingly, to capture the influence of argument strength on the perception that the website is persuasive, the research proposes the following hypothesis:

*H5: Argument strength has a positive impact on the persuasiveness of the website.*

Third, the study argues that a website's quality will influence its persuasiveness at encouraging prosocial behaviour. IS research has extensively demonstrated that a website's "quality" influences individuals' behaviour (e.g., Barnes and Vidgen 2000; Chiou et al. 2010; Park and Gretzel 2007). For example, the WebQual literature (e.g., Barnes and Vidgen 2000; Barnes and Vidgen 2002) posits that website quality can be measured through examining a website's *usability*, *trust*, *design*, *information*, *empathy*, and *quality*. Based on this literature, it is clear that conceptualisations of "website quality" within IS literature subsume four of the perceptions identified in Slattery (2016): *ease of use*, *organisational trustworthiness*, *aesthetics*, and *information quality*. *Ease of use* is defined as the extent that the process of using the artefact was perceived as effortful (Venkatesh 2000). *Organisational trustworthiness* is defined as the extent that the artefact created trust beliefs (such as integrity, benevolence, ability, and predictability) toward the entity or entities that it is associated with (Gefen et al. 2003). *Aesthetics* is defined as the extent that the artefact is aesthetically pleasing to the eye (van der Heijden 2003). *Information quality* is defined as the extent that the artefact conveyed timely, accurate, reliable, relevant, and complete information (Byrd et al. 2006). Given the WebQual literature (e.g., Barnes and Vidgen 2000; Barnes and Vidgen 2002), these four perceptions are conceptualised as dimensions of a second order construct called "website quality" to maintain continuity with the IS literature. To capture the influence of website quality on the perception that the website is persuasive the study proposes the following hypothesis:

*H6: Website quality has a positive impact on the persuasiveness of the website.*

In summary, H1 and H2 examine the impact of the persuasiveness of website on two prosocial behaviours: volunteering and philanthropy. To understand why websites are persuasive, H3 to H6 examine the role of different perceptions of the website in creating an impression of source persuasiveness.

## **Data Collection and Methods**

The research method involves using a survey to evaluate the hypotheses proposed within the model. This research method was chosen because the research objective (to examine the importance of different perceptions of websites in encouraging prosocial behaviour) requires testing the impact of several perceptions (within a model) on behaviour across a wide range of participants, and assessing the degree to which context might affect these relationships. In alignment with these needs, a survey is chosen as it could both examine the aggregate effects of multiple perceptions on multiple subjects' prosocial behaviours and test if there were differences between specific groups of participants. Additionally, using a survey is a common way of assessing emotional responses (e.g., Karim et al. 2011; Price et al. 1995).

Testing the model will involve asking participants to use two live websites encouraging prosocial behaviour before completing a questionnaire. To identify pairs of websites that could potentially be used to test the model, the researcher will search the Internet for websites targeting volunteering and/or philanthropy that are (i) referenced by reputable organisations (e.g., Alexa; a service that categorises websites by type; Perez 2013), (ii) providing recent reports, and (iii) mentioned in news, blogs or other forms of independent media. These websites will be assessed during the pretesting.

Replicating Gardiner and Iarocci (2014), participants' intention to engage in volunteering will be measured by recording whether participants submit their email to a volunteer mailing list to explore volunteering opportunities in their area. Their engagement in philanthropy will be measured by recording whether they donate a percentage of their earnings for participating in the survey to the organisation whose website they had viewed. The study will measure the latent constructs using scales. Argument strength will be measured using five items adapted from Zhang (1996). Negative affect and positive affect will be measured using five items taken the well-established positive and negative affect schedule (PANAS) (Watson et al. 1988). Ease of use will be measured with four items adapted from Venkatesh (2000). Information quality will be measured using three items adapted from Wells et al. (2011). Organisational trustworthiness will be measured using three items adapted from Gefen (2000). Finally, aesthetics will be measured using four items adapted from van der Heijden (2003). New scales will be developed to measure past volunteering, past philanthropy, and persuasiveness of website.

All constructs were modelled as reflective as they used interchangeable items (cf. Petter et al. 2007) and had been modelled as reflective in prior research. We modelled website quality as a second order reflective construct. We did this as we were influenced by research which models website quality (e.g., Barnes and Vidgen 2000; Barnes and Vidgen 2002) and similarly broad constructs (e.g., SNS flow; Kwak et al. 2014) as being reflected (rather than caused) by set of reflective (i) indicators or (ii) first order constructs. Additionally, a reflective model is appropriate, because we believe that Slattery (2016) captured some of the most important perceptions that reflect website quality rather than identifying all of the factors that create website quality. Website quality was modelled using the repeated indicator approach (e.g., Chin et al. 2003) where the indicators for each first order construct (e.g., Ease of use) are also used as indicators for the second order construct (e.g., Website quality).

To limit common-method bias we followed the advice of Chin et al. (2008) to use mixed measurement scales. We therefore will measure two constructs using fast-form scales while the other constructs will be measured using Likert scales. Argument strength and aesthetics will be measured using fast-form scales as they were the easiest to convert based on the source scales and the guidelines suggested by Chin et al. (2008).

The participant sample will be recruited from Mechanical Turk (MT), an online crowdsourcing market owned by Amazon. MT has been widely used as a source of research participants for questionnaires (Chen et al. 2011; Mason and Suri 2012; Mason and Watts 2009; Turner et al. 2012) and samples from MT have been found to provide similar results to samples from other populations such as students (Steelman et al. 2014). MT is selected for recruitment as it provides a diverse range of participants.

Pretesting is an essential part of questionnaire development (Collins 2003; Hunt et al. 1982), and the questionnaire development for this study will involve multiple stages of testing using several different methods, ranging from cognitive interviews to statistical analysis and q-sort tests (Krosnick 1999; Nahm et al. 2002; Nanda et al. 2013). In accordance with Straub (1989) we will first assess the content validity of constructs and items (that is, their representativeness and comprehensiveness for capturing the phenomena of interest) before preparing an initial questionnaire to be used in pilot tests. Once these assessments are complete, the questionnaire instrument will be pretested with five individuals from an appropriate sample demographic using cognitive interviews. Having assessed content validity, the survey will then be pre-tested on a small sample size to test for convergent and discriminant validity, following which final adjustments will be made and the full survey administered to a larger sample. SmartPLS 3.0 (Ringle et al. 2014) will be used to assess final data by performing a confirmatory factor analysis (CFA) using partial least squares (PLS).

To maximise the quality and validity of the data we collect, will use two quality control processes. First, we will discount questionnaire responses if they fail one or more of three attention traps. Attention traps are questions asking participants to give a certain response to an item to determine if they are paying sufficient attention (see Guin et al. 2012; Miller and Baker-Prewitt 2009; Smith 2013). Second, we will discount questionnaire responses where participants have (i) previously completed a questionnaire for a pilot test, (ii) completed the questionnaire in less than five minutes, or (iii) given inadequate answers to the question about the website they had viewed.

In terms of the procedure involved, the data will be collected by posting a survey response task on MT. After opening the questionnaire, participants will be given instructions. To ensure they understand the questions involved in the survey, participants will be informed that "prosocial behaviour refers to volunteering, donating money, or supporting a prosocial cause by other means". After this they will be asked about their demographics and past volunteering and philanthropy. Participants will then be prompted to open a website (randomly chosen from the two websites selected) in a new tab on their browser, and asked to visit this website to investigate an opportunity for prosocial behaviour. They will be informed that they can expect questions about the prosocial opportunity and about the website. They will also be informed that they should review the website for at least two minutes to prepare. To encourage this, we will program the "next page" button on the questionnaire to remain hidden for 120 seconds. Once participants have viewed the websites and answered the follow up questions, they will be able to answer the remainder of the questionnaire.

## **Conclusion**

This paper outlines a planned study to examine how ICT can be used to encourage prosocial behaviour. The next phase of the research will test whether this model can predict participants' volunteering and philanthropic behaviour subsequent to their usage of a website that encourages prosocial behaviour. The findings are expected to contribute to research in several different capacities. The model outlined will be the first (to the best of the authors' knowledge) to provide quantitative evidence for the role of perceptions of websites in encouraging prosocial behaviour. The study will therefore contribute by giving researchers novel insight into the specific perceptions that apply within prosocial contexts. Through showing how ICT can leverage different types of affect to encourage prosocial behavior, the paper will also contribute by better explaining the roles of negative and positive affect in ICT domains. Finally, the findings will contribute by developing a "persuasiveness of website scale", which will help IS researchers to measure this construct.

Considering the general lack of research on the use of websites to encourage prosocial behaviour (Zhang et al. 2010), the findings are also expected to contribute to practice by informing practitioners about the aspects of the website user experience that are most important to optimise for (i.e., which perceptions created by the website are most important). The paper also highlights some opportunities for further research for examining persuasion in prosocial contexts: (i) to identify which aspects of affect (e.g., guilt, inspiration, sadness and so on), are most important, and (ii) to examine whether mixing positive and negative experiences of affect is more or less effective than using one type of emotional appeal. As the data were collected using MT, one limitation of the research is that the conclusions may not necessarily hold true for generalization into country-specific populations (Steelman et al. 2014).



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