

Investigating Social Software as Persuasive Technology

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Abstract. Social software (SSW), nowadays increasingly widespread, has excellent potential for use as persuasive technology. What differentiates it from many other persuasive technology platforms is that it is inherently collective, making group dynamics a powerful factor in any SSW context of persuasion. Based on the psychology of groups, persuasion, and cross-cultural theory, we discuss *affiliation*, *access*, and *participation* as themes that are important in understanding SSW's use as a persuasive technology platform.

1 Introduction

Social software (SSW), according to Wikipedia, describes “software that enables people to rendezvous, connect or collaborate through computer-mediated communication and to form online communities” [1]. It is inclusive of Usenet, mailing lists, forums, Yahoo groups, and more recently, blogs, wikis, and social bookmarking applications. Over the last few years, SSW has become mainstream. *Slashdot*, in existence since 1997, and home of the slogan “News for nerds. Stuff that matters”, relies on contributors posting articles and links to what *they* find interesting [2]. During the 2004 American presidential campaign, bloggers were the first to publicly question the authenticity of the “Killian Documents” [3]. In July 2005, hours after the first wave of London terrorist attacks, the blog werenotafraid.com was launched as a demonstration of citizen unity [4]. Although SSW foremostly describes software that enables the formation of online communities, it can also serve in a powerful, persuasive function, as illustrated by the aforementioned examples. But unlike many existing persuasive technologies, SSW is inherently collective, therefore bringing into effect group dynamics, which have been shown to have a significant effect upon persuasion [5]. In this paper, we seek to clarify the relationship between groups and persuasive strategies from a SSW perspective.

2 Social software and its persuasive potential

SSW brings together people with *any* sort of converging interests, and its content involves constant negotiation between contributors. Arguably it supports customisation of users' tastes more than any other medium. The Elaboration Likelihood Model of persuasion shows that if information is personally relevant, people find it more worthy of consideration [6]. SSW therefore has excellent potential as a persuasive technology platform, as its members are already invested in the application's relevance. Unlike many existing persuasive technologies which tend to be designed from a context of individual use, SSW is collective, relying on networks of people collaboratively developing content. Collective problem solving is a common phenomenon in many Eastern, collectivist countries, but also appears in some Western, individualist countries. For example, Alcoholics Anonymous and Weight Watchers are both highly successful organisations that require their members to attend regular support group sessions. These organisations are relying on persuasive mechanisms that naturally operate in group settings, since people are instinctively motivated to behave in particular ways in groups [5]. Already, some SSW applications take advantage of the persuasive potential of group dynamics. The weight loss website *3 Fat Chicks* provides a community blog for its members [7]. In a related, but controversial vein, *Project Shapeshift*, a pro-anorexia forum, encourages members to "support" one another [8]. Clearly SSW has the potential to serve as a powerful persuasive technology, but little research investigates why and how it functions in this capacity.

3 Persuasion triggers

Social psychology presents us with various ways of analysing the social mechanisms underlying SSW. Referencing persuasion, cross-cultural, and group psychology literature [5, 6, 9–13], we discuss some aspects of group identity, interaction, and motivation, that we believe affect persuasion in group contexts. Our discussion is divided into the themes of *affiliation*, *access*, and *participation*.

Affiliation An interesting feature of SSW communities is that their members join voluntarily. The cross-cultural psychologist, Masaki Yuki, argues that when this style of community formation occurs in the offline world amongst Western participants, they take pride in the characteristics of the group, relative to other groups [9]. These characteristics then contribute to feelings of affiliation, that can enhance motivation to carry out actions [10]. Affiliation in this context plays a similar role to relevance, in that people who affiliate to a community are likely to be engaged with the thoughts and actions of other community members. Enhancing affiliation to a SSW community may therefore enhance people's willingness to be persuaded by the SSW community's goals.

Access SSW communities generally allow members to access each other's contributions, whether these take the form of ideas, opinions, or perhaps experiences.

For people to find value in the contributions of others, however, they need not *actively* participate in contribution themselves, but they probably do need to feel at least a low level of affiliation in order for the contributions to seem meaningful, relevant, and useful [14]. Being able to access opinions and experiences of others enables *social comparison*, where people are interested in comparing other people's experiences with their own [11]. But in order to perform the comparison, people need to perform the behaviour themselves, which is where persuasion takes place. This access also facilitates *social learning*, where people learn and are persuaded by the experiences of others performing particular behaviours [12]. Recent thinking also points to crowds being very good at discerning optimum choices or solutions from pools of possibilities [15]. Therefore *crowd wisdom*, an almost inevitable outcome of SSW communities, is another persuasive advantage that access to diverse opinions and experience enables. In contrast to the diversity of group opinions is *normative influence*, when group-established norms, whether they be attitudinal or behavioural, become so internalised by individual members that they continue upholding them independently of the group's presence [5]. So if a SSW community is founded upon its members sharing various common motivations, then individual members might come to rely on the group's beliefs as a whole as motivation.

Participation Active participation in SSW communities elicits a variety of other motivators that impact upon persuasion. Many of these are related to members' feelings of concern about upholding group identity and maintaining group harmony. One of these is *social approval*, where people are persuaded to behave in particular ways to obtain the approval of others [5]. In a SSW context, contributors might perform behaviours to obtain respect, encouragement, and/or feedback from other members. *Group reputation* is another powerful motivator relating to identity: people are often persuaded to act in particular ways to either maintain or increase the reputation of their group [13]. Therefore a SSW contributor who knows her group identifies itself on the basis of *not* performing certain behaviours will also feel persuaded to not perform those behaviours herself, in order to uphold the group's reputation. Related to group reputation is *inter-group comparison*, where group members will compare their own group against others, and experience feelings of competition with members of other groups [9]. Inter-group comparison can therefore function as a persuasive motivator to mobilise SSW community members to perform behaviours that constitute competing against other SSW communities. An integral part of SSW philosophy is the idea of collective content development [1], or *co-operation*. Co-operation reduces the burden upon single group members, while culminating in more progress than could have been achieved by an individual [15]. Remembering the larger pay-off that results as a consequence of small input can serve as motivation for people to perform behaviours. An associated notion is *self-regulation*, commonplace practice in many SSW communities, describing situations where community members do their own "policing". Members may feel motivated to behave in certain ways so as to uphold group standards, but equally, since they themselves "police" the community, group standards may become internalised

for reasons of consistency. Self-regulation also brings into effect *reciprocity*, where people feel compelled to pay back favours others have done for them [10]. In a SSW community, if a member feels other members have supported her, she may feel persuaded to behave in ways that will support those who have supported her, or more generally, the community at large.

4 Conclusions and future research

Social software has characteristics that make it suitable for use as a persuasive technology platform: it can cater to any interest, its content can be rapidly modified, and its members engage with its content. Unlike many other persuasive technologies, it is collective, therefore calling into effect group dynamics that impact upon persuasion. Based on these characteristics, we have identified three themes of SSW persuasion. *Affiliation* looks at how community identification increases motivation, while *access* focuses on how the beliefs and opinions of other members serve in a persuasive role even to non-contributors. Finally, *participation* relates to how contributing members are persuaded to act in particular ways to uphold group identity and maintain group harmony. Focusing on these themes and their underlying motivations during the design process of SSW may improve the likelihood of intentional persuasion. Future steps for this research include identifying the best ways to maximise the persuasive “pay-offs” of the aforementioned motivations in the design of SSW, and measuring the persuasion effects of motivation-designed SSW against that of regular SSW.

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