

MA MAJOR RESEARCH PAPER

Social Networking Use and Environmental Engagement:
The Case of One Million Acts of Green

By: Jeffrey Biggar

Supervisor: Dr. Catherine Middleton

The Major Research Paper is submitted
in partial fulfillment of the requirements for the degree of
Master of Arts

Joint Graduate Program in Communication & Culture
Ryerson University – York University
Toronto, Ontario, Canada

Tuesday, August 31, 2010.

TABLE OF CONTENTS

EXTENDED ABSTRACT.....	1
INTRODUCTION.....	2
REVIEW OF LITERATURE.....	5
Motivations.....	5
Environmental communication.....	6
Online Networks.....	8
Summary.....	11
METHOD.....	11
Research Questions.....	12
CASE STUDY-OMAOG.....	13
Background.....	14
How it works.....	17
How it measures.....	19
People involved.....	21
RESULTS.....	23
Participant Profile.....	25
Framing of findings.....	26
Categorization.....	27
Principal themes.....	28
Research Questions Response.....	37
DISCUSSION.....	38
Maintaining collaborative efforts.....	43
Engaging different environmental audiences?.....	46
Summary and Recommendations.....	51
CONCLUSION.....	51
Major Findings and Implications.....	53
Theoretical Implications.....	55
Limitations.....	57
Contribution.....	59
Closing Remarks and Next Steps.....	60
REFERENCES.....	62
APPENDIX A: REB Approval.....	66
APPENDIX B: Participant Recruitment Notice.....	67
APPENDIX C: Focus Group Question Guide.....	68
APPENDIX D: Research Release Form.....	69

Extended Abstract

The increased attention to environmental issues of sustainability and green consumerism in the media has been accompanied by a rise in citizens' interest 'to do their part' for the environment. At the level of the consumer, 'going-green' has become a popular trend aimed at curbing environmental impact by using less and living in more responsible ways. To support this, there are an increasing number of content providers (e.g. web sites) that are combining green lifestyle tips, carbon calculator options, and community forums through interactive platforms. These measures are based on the belief that signing up with these sites and adopting environmentally sustainable behaviours will have positive influences on improving our environment (e.g., lowering green house gases). However, there have not been comprehensive studies to examine this proposition. Research efforts examining the ways in which networked communication and information technologies can foster environmental participation online are nascent, and there remain significant knowledge gaps as to how individual involvement with environmental initiatives can be leveraged by interactive technologies found on the web.

This Major Research Paper (MRP) illustrates a case study that aimed to encourage positive environmental outcomes through online support initiatives. It assesses the influence of the Internet as a tool for engaging people in environmental issues of emissions reduction, sustainable lifestyle choices, ecologically-friendly products, and consumer responsibility in the 'going-green' marketplace. This is illustrated through a review of literature and a qualitative case study. Research perspectives from environmental communication, psychology and climate change (behavioural and social psychological orientation), and Internet studies (Information and communication technology (ICT), new media theory, web 2.0 (the network society) are reviewed. Further, this paper maps dimensions between these knowledge areas, discuss sites of

engagement, and recommends future research questions based on the current research environment. The case study explores user motivations, barriers to participation, and member experience in Cisco-CBC's One Million Acts of Green (OMAoG) campaign.

Qualitative research methods are utilized to reveal the state of environmental consciousness in participants. Focus groups and interviews were conducted with individuals and groups involved in the OMAoG campaign. This occurred during a research internship with MITACS Ontario, Ryerson University, and GCI Canada during the fall of 2009. The purpose of this major paper is to (1) expose user experience, perceptions, and beliefs in the OMAoG campaign, (2) provide empirical insight into the functionality and impact of environmental social networking sites, and (3) lay the groundwork for more directive research on this knowledge intersection. It also offers important insight to environmental companies for engaging communities in 21st century environmentalism and improving the ways action-oriented environmental web sites function.

Introduction

Climate change and environmental sustainability are topical interests in government agendas, newswires, classrooms, and marketplaces across most of the developed world. There is growing global consensus from notable sources such as the Intergovernmental Panel on Climate Change (IPCC) that Canada and other industrialized nations must reduce their total greenhouse gas (GHG) emissions 20–40% by 2020 if there is to be any concerted effort to reaching tolerable global warming levels (Bramley et al 2009; Gupta et al 2007). While emphasis is placed on government initiatives towards the environment, and in this case greenhouse gas mitigation, the incorporation of the individual's relationship to these priorities is imperative to the implementation of these policies. Therefore, widespread collaboration from different facets of

society is needed to address pressing challenges. Because households are not seen as small polluters in a global context (Spaargaren and Mol 2008; Dietz et al 2009), ordinary citizens *are* significant in reducing GHG emissions. The development of social media tools to facilitate environmental tasks that support GHG mitigation is emerging, however, such practices are still in their infancy. Therefore, the degree to which social media tools offer an appropriate technology for harnessing households' collective emissions reduction measures by facilitating environmental participation for individuals and groups will be assessed.

This paper investigates the use of social networking platforms for environmentally focused projects online. Research shows that becoming involved with environmentalism on an individual level can be overwhelming due to the complexity of information surrounding environmental issues. The Internet can be helpful in circumventing some of these challenges, however, its capacity to keep strong network activity over time is doubtful (Kennedy et. al 2009; Cheung et al. 2009). My findings reveal that the Internet, specifically social networking platforms, are effective in initiating pro-environmental behaviours online, yet the barriers to normalizing these behaviours far outweigh the possibility of maintaining engaged attention towards these actions. Immediate, daily concerns often take precedence over prolonged interest in environmental efforts through ICTs. While the Internet is an important communication tool to jumpstart environmental campaigns, face-to-face communication for organizing groups, maintaining social support, and keeping people motivated is most effective in achieving long-term goals. The findings also provide background material for discussion on the democratic potential of communication-networked technologies; topics of infrastructure, literacy, and social capital will be considered.

This study examines how members involved with the OMAoG campaign perceive and experience online social platforms as an environmental engagement tool. It begins with a review of literature from the fields of environmental communication (specifically social psychology perspectives) and Internet Studies (new media). The next section provides a detailed case study of the OMAoG campaign. It highlights the development, operation, involved stakeholders, and overall outcomes of the program. This leads into the presentation of empirical accounts of members who participated directly in the campaign. From there, a discussion of key themes from interviewees is illustrated and connected to relevant theories, concepts, and literature. Finally, the limitations, implications, and research contribution of this study are considered in the concluding section. The central research questions guiding the study follow: How do people negotiate personal engagement with environmental issues and what factors best inform this level of engagement? Do the interactive possibilities of new media technologies motivate potential users to engage in environmentally focused projects online? What is the function of social networking tools in organizing environmental subgroups? The overall purpose of this research is to prompt discussion around ideas and practices that inform this developing research area.

The section below illustrates research perspectives from environmental and communication studies scholarship. Specifically, it draws upon selected work done on behavioural, social-psychological orientation, and new media technologies that engage users in the generation of content. In the case of the former, the field of behaviour change related to environmental issues is vast, complex, and multifaceted. For this purposes of this MRP, the intent is to offer an overview of current, relevant literature that reflects a short synopsis of part of the field. The central theme that connects these bodies of knowledge is, motivation. The objective of this section is to provide an overview of each knowledge area and draw attention to

connections between this knowledge intersection.

Motivations for environmental participation

Assessing how motivation, satisfaction, and social utility inform participation in emissions reduction strategies through online social networking sites is of interest. What motivates users to engage in environmentally focused projects online? In their exploratory study of green practice in households, Woodruff et al (2008) found that “participants’ motivations for taking environmental action were wide ranging: they included everything from religious values to a desire to save on home energy bills to new forms of patriotism that focus on reducing dependence on foreign oil” (p.315). Financial, altruistic, functional, status-enhancing, and reputational benefit are just some of the primary motivators for engaging in green-oriented activities (Griskevicius et al 2009). But for the most part, our knowledge of pro-environmental motivators is general. We do know that for communication to be effective towards environmental goals it must “sufficiently elevate and maintain the motivation to change a practice or policy and at the same time contribute to lowering the barriers” (Moser and Dilling 2007, 502). Perceived barriers to environmental participation include low environmental literacy, misguided information, and time constraints.

In their study, “*Why We Don’t “Walk the Talk”: Understanding the Environmental Values/Behaviour Gap in Canada*” by Kennedy et al., (2009), the authors explore the incongruent gap between our intentions and actions toward the environment. Intentions include practices such as composting and purchasing fair-trade products, however, finding a way to carry out these practices is not always discernible. The authors were concerned whether or not participants were conscious of a gap between what they said and what they did; 72.2 %

recognized a gap between their intentions and actions, 60% felt their behaviour was restricted by a perceived lack of knowledge, and 61% attributed lack of time to their inaction (Kennedy et al 2009). They conclude that we struggle with determining the proper action because environmental decision-making is not necessarily commonplace.

“individuals are presented with a constantly shifting constellation of scenarios and trade-offs. Thus, lack of knowledge or an abundance of contradictory information can play a significant role in limiting ESB (environmentally-supportive behaviour). The debate over paper versus plastic bags, incineration versus land-filling of waste, and idling versus restarting your engine while waiting in your vehicle represent a few examples where the environmentally responsible choice is not always intuitive” (p. 154).

Convincing individuals to adopt pro-environmental behaviours is an identifiable challenge, therefore an advanced understanding of motivations and perceived barriers is needed (Kennedy et al 2009). As will be discussed below, understanding the position of the audience is important when considering how to communicate around perceived barriers.

Communicating environmental messages

There is growing consensus in the literature that in order to make global environmental affairs relevant to multiple audiences, the issues must be made local and demonstrate the collective benefits of carrying out environmentally responsible actions (Moser and Dilling 2007; Leiserowitz 2007; Roser-Renouff & Nisbet 2008). Environmental messaging and imagery in the media are laden with ambiguous claims about impact, conservation, and economic tradeoffs. Therefore, negotiating these claims requires a deliberative approach to be taken by the audience. Michaelis (2007) argues that developing environmental habits, such as consumer responsibility, are difficult to negotiate with on an individual level because of the non-reciprocal nature of one-way communication methods. She states, “messages directed at individuals have little effect. The most effective strategies are those that engage people in groups, and give them opportunities for

developing their understanding and their narratives about consumption in dialogue together.” (Michaelis 2007, 254).

Collaborative and concerted efforts provide structure and ground people in the decision-making process. While some prefer to address environmental issues individually, others like to engage with these issues socially. Studies in environment and behaviour suggest that a level of competition between groups can improve social identities. People who identify with a particular social group become concerned with their “in-group” reputation and become motivated to contribute their individual skill-sets to a collective (Hardy & Van Vugt 2006; Milinski et al 2006; Van Vugt 2009). In both instances, what incentive should be provided to people to encourage engagement in green practices on a continual basis? Moser and Dilling (2007) observe that simply acknowledging environmental issues are of importance does not prioritize them as a concern to be acted upon. Instead, people should be afforded the opportunity to solve environmental problems. As will be discussed later on, OMAoG green tips are presented as solutions to everyday environmental concerns (energy, sustainable activity, and consumer habits) in the household. The design of these solutions makes it less taxing for individuals to integrate green practices into their daily lifestyle. Chess et al (2007) note that providing information that contains personal efficacy is more likely to translate into sizable remedial action. Working with existing cultural models and concepts (e.g., rebates for renewable energy) that are already familiar will further accelerate a campaign message because its direction focuses on altering existing behaviours, not creating unfamiliar actions.

Communicating calculated feedback motivates people to continue their actions because it affords the opportunity to measure impact immediately and put it in perspective. Moser and Dilling (2007) argue that when it comes to negotiating one’s impact receiving a response is

helpful: “Metrics of progress towards sustainability are needed that are meaningful to those who are making changes to provide periodic feedback and encouragement along the way and to serve as an evaluative yard stick” (Moser and Dilling 2007, 511). Maintaining this give-and-take communicative relationship with individuals becomes centrally important for environmental messaging to reach intended audiences. Studies on demographic-specific motivations combined with medium-specific communication strategies would improve awareness of how to best target specific groups.

Public debate around environmental issues consists of many divergent viewpoints that compete for audience attention. Research calls attention to a public discourse that is expanding beyond industry leaders, decision-makers, and pundits to include average citizens, reflecting growing public interest in both protecting the planet and adopting more sustainable behaviour patterns (Cox 2006; Johnston 2008; Moser and Dilling 2007; Russill & Nyssa 2009). In addition, academic and popular investigations are beginning to consider how interactive communication technologies are a means to provide leverage for individuals and small groups to maximize their contribution to environmental efforts (Hasbrouck and Woodruff 2008). The discussion below will illustrate research perspectives that provide a basis for examining new media technologies and their use for facilitating interest in the environment.

Online Participatory Culture

The dynamics of the Internet have become more distributed and interactive, furthering the tendency for users to become actively involved in the production of content. This is part and parcel of how the digital economy functions today. Terranova (2004) observes that the collective social and cultural knowledge put to work in online spaces is producing the conditions for new forms of grassroots activity to materialize. Customizing preferences and aggregating information

are becoming more prevalent as users tend to be network oriented and collaboratively focused (Luders 2008; Miller 2008; Spinuzzi 2009). On the web, ‘personalization’ was ranked as one of the top five trends of 2009 by Read Write Web, one of the world’s top 20 blogs according to Technorati.¹ Personalization can be defined as “the capacity of ICTs to be adapted to meet the needs and desires of its individual users...ensuring that the person is genuinely at the centre of service delivery” (Kennedy 2008, 308). Individual customization is the rationale guiding new media technologies today, requiring many content providers to invest in social software to meet this demand. Hasbrouck and Woodruff (2008) suggest these directions provide the possibility for participatory environmentalism in which social media tools serve as individual platforms where people can personalize environmental choices.

The impetus behind the web development of “personalization” arises from a shift to a participatory ethos embedded on the web. The current “web 2.0” environment seeks to “harness” the creative capacity of its users by affording them opportunities to interact and collaborate (O’Reilly 2005). Green and Jenkins (2009) suggest that an increase in the flow and development of content is changing the way we examine the effects of concentration (media industry) and convergence (participatory culture). Online services are more and more designed as shared platforms in which the audience is positioned as both a consumer of these services and an active agent in the production process. Social networking sites like Facebook and MySpace, and photosharing sites like Flickr, embody a greater reliance on the user to produce and distribute content. This practice is commonly known as “co-creation”, which is based on the notion of user as producer. Co-creative relations have signaled an influx in activity of user-generated content, whereby user-led innovation is the central component shaping the digital economy today.

¹ <http://technorati.com/blogs/top100>.

Social media tools – personal media forms such as microblogs, video sharing, instant messaging, and social networking sites – harness these connections, and are becoming widely used. On most SNS (social networking sites) individuals tend to associate with others who have similar tastes. In networks of like-minded members, people build social capital by sharing these interests with one another. Social capital becomes actualized through a variety of activities, such as civic engagement, interpersonal connection, and self-satisfaction (Boyd and Ellison 2007).

As of October 2009, it is estimated that close to 50% of American Internet users are engaging with social networks, with approximately 20% of these using status updating tools like Twitter (Pew Internet Project 2009). That said, the frequency of this engagement does not mean users are contributing to the circulation of content widely. While it appears many people engage with social web applications, most of the activity on a typical online social network is produced by a small contingent of users. In their study of Twitter usage patterns Piskorski and Heil (2009) examined the activity of 300,000 Twitter users and found that over half ‘tweet’ less than once every 2 ½ months. What’s more, they discovered that the most productive 10% of users account for 90% of “tweets”, or message content. A similar study by a Canadian research firm, Sysomos, investigated 11.5 million twitter accounts, and found that one in five people that initially signed up for the service had never posted anything (Cheung et al 2009).

The ability for web 2.0 applications like Twitter to fully resemble a two way, peer-to-peer communication network has yet to be fully realized as contributions are more concentrated among the top few users. From this perspective, research calls attention to the exponential expansion of networked communications technologies to be more redundant than useful at times. Dean (2008) suggests that the commodification of the web may create more opportunities for users to create and circulate content, but this does not necessarily mean one’s contribution will

elicit a response and be influential. In other words, messages contribute to a circulating content stream that may never reach a receiver. Similarly, Whittel (2001) and Miller (2008) argue that in making an effort to contribute, participate, and be heard, we find ourselves in a constant state of “catching-up networking” with our multiple nodes and networks. In most cases, users register with sites and networks, like Twitter, but fail to develop any long-term attachment.

Despite the possibility of ‘co-creation’ and ‘personalization’ through various online tools, there has been little empirical research that illustrates how to implement these activities through ICTs (Kennedy 2008). Therefore, developing a best practice model to contain and channel the proliferation of user-generated content is an underserved need.

The above section presented current and emerging research on user behaviours online. It looked at central perspectives of audience involvement and barriers from environmental communication and new media theory. It revealed that social, economic, and personal appeal are key factors that motivate people to engage with environmental practices through online networks. Further notable discussion points include:

- I. In order to keep people motivated in environmental issues, communicative strategies must consider ways to lower barriers to participate. Such barriers include environmental literacy, time constraints, money, and contradictory information.
- II. Framing environmental problems in a way that demands collective solutions by groups is more influential than soliciting individual responses to large and complex issues.
- III. Social networking platforms are enabling people to learn more about environmental issues and share ideas with others. However, the wealth of information, tendency to customize practices, and opportunistic logic pervasive on the web does not always mean users will retain an attachment to their various networks.

METHOD

This qualitative study offers insights into motivations and behaviour patterns by individuals and groups that support environmental efforts using personalized web tools. In order to provide the necessary empirical insights to address this inquiry, qualitative research methods

were employed to learn from actual individuals who engaged with the OMAoG campaign in a similar capacity. A total of 12 interviews (face-to-face/phone/Internet) and 1 focus group (8 people) were conducted between September 2009 and December 2009 during a research internship I undertook with MITACS Ontario, Ryerson University, and GCI Canada—a leading communications group that specializes in delivering digital media strategies to their clients. All gathering of materials, recruitment of participants, and initial constitution of data were completed under the supervision of GCI Canada, and adhered to their professional guidelines. Since research activities took place outside the university at GCI's offices, REB approval by Ryerson was not required (see appendix A).

A recruitment notice was sent to prospective participants involved with the OMAoG campaign (see appendix B). Some participants were responsible for organizing the OMAoG campaign in their respective workplaces, schools and communities, and others were ordinary participants who actively pledged and committed 'acts of green.'² Participants were requested to complete a research consent form and asked general questions about their involvement during and after the campaign (see appendix C and D). This research internship provided an opportunity for me to conduct my own scholarly research in a professional setting and form relationships with OMAoG partners. Between January and March 2010, the responses were coded, categorized, and themed to be presented as findings in my MRP.

The primary question guiding the qualitative study below is: Was OMAoG effective at maintaining pro-environmental behaviour in those who participated following campaign completion? To address this question, a more thorough understanding of motivations, barriers to participation, online social network dynamics, and the capacity of the Internet to sustain long-

² Participants were ensured they would remain anonymous for the purposes of this study.

term interest was needed. Based on the review of literature, the initial research questions were slightly modified and will be addressed later on in the paper in relation to participant accounts of their experience with OMAoG.

RQ 1: How do participants describe their attitudes towards environmental engagement and what factors best facilitate this interest?

RQ 2: Do the personalized features of OMAoG website motivate interest in the campaign?

RQ 3: What was the role of social networking tools in organizing OMAoG subgroups?

The following section provides an overview of an environmental campaign that combines social media tools with emissions reduction strategies. Considering what the research has shown about the motivations to adopt environmentally sustainable behaviours, my objective in the next section is to explore whether motivations and barriers to participation can be lowered through social networking sites. We do know that there is increased emphasis on individuals to take environmentally responsible measures, and that effective environmental communication is necessary for these measures to be acted upon.

CASE STUDY – ONE MILLION ACTS OF GREEN (OMAoG)

As a part of the environmental landscape online, the web-based *One Million Acts of Green* campaign sought to encourage environmental participation by providing green solutions to everyday environmental problems for ordinary individuals at home, school, and in the workplace. In thinking about this environmental model this case study considers the following: How do people negotiate personal engagement with environmental issues and what factors inform this level of engagement? Do the interactive possibilities of new media technologies

motivate potential users to engage in environmentally focused projects online? What is the function of social networking tools in organizing environmental subgroups?

BACKGROUND

One Million Acts of Green (OMAoG) was launched in Canada in October 2008 by Cisco – a multinational telecommunications company – in partnership with the CBC (Canadian Broadcasting Corporation), and GreenNexus, an online environmental company that provides software solutions for environmentally focused projects. The goal was to connect Canadians to environmental issues by engaging them in conversation with one another, and encouraging them to complete ‘green acts’. Promoted as opportunities to help the environment, these ‘acts of green’ included actions that lower energy spending, reduce water use, encourage recycling, and support responsible consumption. Figure 1 shows a few suggested acts of green.

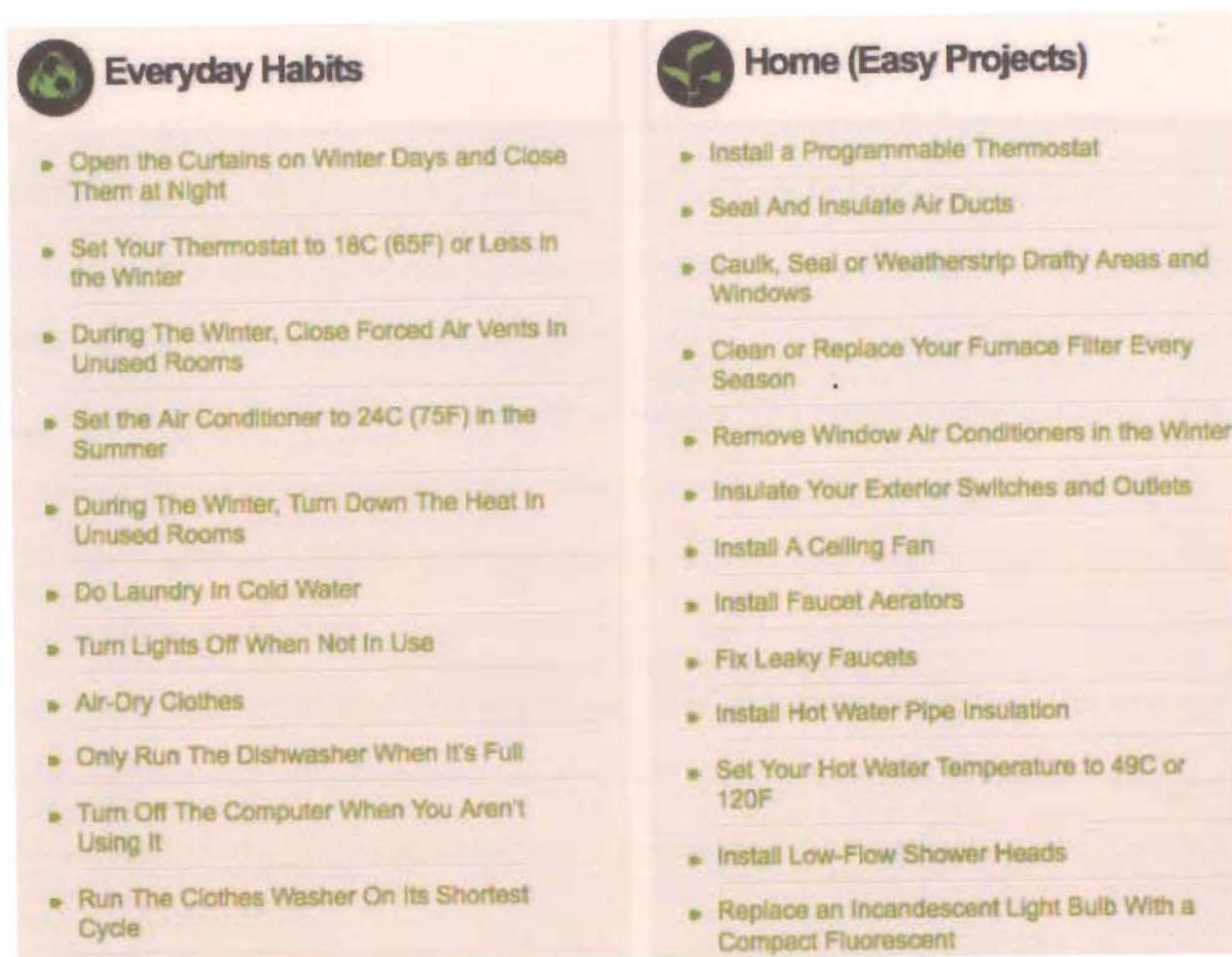


Figure 1 Sample Acts of Green from the Canadian campaign
Source: <http://green.cbc.ca/ActsList.aspx>

This activity was primarily enacted through online social networking (e.g. the OMAOG web site, <http://green.cbc.ca/> and a Facebook group) and social media tools (twitter).³ To engage people in conversation and extend the reach of the program, the campaign web site featured social networking elements. User profiles, network groups, messaging and blogs, photo sharing, and video tools were available for members to contribute content. Traditional media, such as CBC television's daily broadcast of news and talk show called *The Hour*, showcased the

³ <http://www.facebook.com/group.php?gid=86277625499&v=wall&ref=search>.

program through promotional segments. Overall, the campaign surpassed its national target of one million acts in just over one hundred days, with 65,000 Canadians going on to pledge 1.8 million acts to date. Through these individual acts of green, the OMAoG website claimed that more than 100 million kilograms, or one hundred thousand metric tonnes (t), of greenhouse gases were reduced⁴ (CBC online 2009; Corbyn 2009b).

While pledges were made to carry out activities to reduce emissions, there is no verifiable evidence to fully guarantee that these reductions were realized. The campaign does rely on members to be honest in reporting the green acts they commit. However, there isn't a foolproof way to refrain members from exaggerating their green acts. Corbyn (2009a) of GreenNexus says that the website does monitor IP address activity to catch accounts that look suspicious, and noted that there were some cases where exaggeration was obvious so they had to adjust the numbers accordingly. Considering this, discretion should be taken when assessing the larger impact on GHG reduction.

The final outcome of the campaign in engaging Canadians in pro-environmental behaviour on a mass scale was relatively minor. A small number of Canadians, approximately 2/1000, contributed to OMAoG. Nonetheless, Cisco has rolled out the project internationally and in the United States with a strictly viral, online platform. The hope is to generate similar project execution without the influence of a traditional media partner (Black 2009b). However, this might prove to be challenging. Willa Black (2009a) of Cisco attributed the momentum of the Canadian campaign in large part to the popularity of *The Hour* host, George Stroumbouloupoulos, who attracted a diverse list of campaign endorsers. Guests to the show included music celebrities, well-known environmental advocates, industry representatives, and federal

4

1000 kilograms equals 1 metric tonne (t) or 1 kilogram equals 0.001 tons.

politicians. Figure 2 illustrates the key players involved with OMAoG and what their role was.

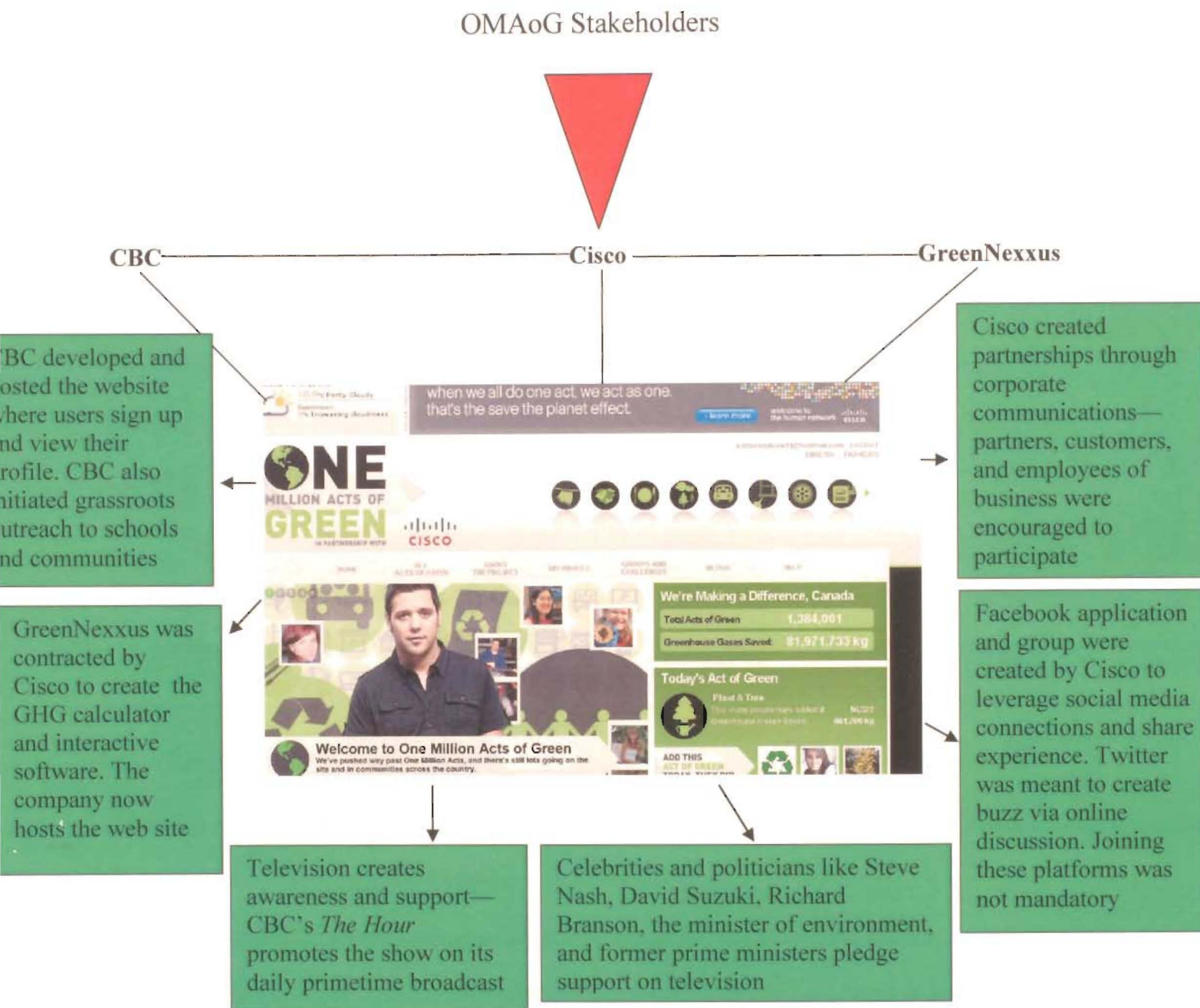


Figure 2: Screen shot from OMAoG website
Image source: <http://green.cbc.ca>

HOW IT WORKS: THE NEXUS OF SOCIAL NETWORKING AND GOING GREEN

OMaG encouraged consumers to become socially conscious and environmentally aware by positioning consumption in terms of environmental responsibility, and making campaign participation a network oriented activity. Its online interface is user-friendly and action-oriented in design as it quickly guides interested participants through a basic sign up procedure to start their acts of green. Corbyn (2009b) notes that in order to ensure a high participation rate, CBC, Cisco, and GreenNexus agreed that the sign up process had to have a low barrier to entry. Participant names, e-mail addresses, province, and age range were, and still are, required. In the July 2009, the OMaG campaign in Canada came to a close. At this time, the CBC-OMaG web domain expired and was transferred to the US site under the domain of GreenNexus. Only 15% of all initial OMaG members transferred their accounts to the current site (Corbyn 2009b).

The location-specific information required by GreenNexus helped determine the carbon footprint of electrical consumption. The grams of GHG emissions vary from region to region because their electricity generation grids differ. For example, the grams of GHG (per kWh) generated are quite high in provinces such as Alberta and Saskatchewan, for their primary sources of electricity generation are fossil fuel based. Conversely, GHG emissions from electricity consumption in provinces such as Manitoba and Québec are lower as most of their electricity is generated by hydro power.

A built-in GHG calculator tallies members' emissions reductions based on their particular act and transfers the data into a points system. Specific acts of green include: replacing incandescent light bulbs with compact fluorescents, installing a programmable thermostat, composting, and taking public transportation. Certain acts grant more points because they

produce greater reduction in greenhouse gases than others.⁵

Members are encouraged to spread their progress via the site's 'my green pages' section, as well as cross-post their activity through the Facebook application for other networks to view. On the OMAoG website, users have the option to build a personal profile, share and discuss green tips, read blogs, and post ideas to the interactive web forum. The blog feature illustrates themes of environmental design, retrofitting suggestions, green business ideas, and sustainability perspectives to be shared with other members. On Facebook, members can communicate their impact through status updates and linking their OMAoG profile to their Facebook page. In addition to these preferences, users can join localized environmental communities and/or enter into a green competition with registered groups through the "my groups and challenges" section. The 'challenge' feature promotes competition between groups through a head-to-head style event of building green acts. The group that attains the most acts of green is declared the winner. All 'challenges' had to officially register online to be considered warranted.

Specific groups were encouraged by representatives of Cisco and CBC to enroll in a competition with similar institutions and businesses. For example, an Ontario University, a Toronto private girls school, and a major bank (BMO) all created challenges respectively. Cisco contacted prospective business, whereas CBC was responsible for schools and communities (Black 2009). Challenges lasted anywhere from 1-3 months and collectively these bodies contributed significantly to the total acts of green (1.8 million). The 'challenge' component between schools and workplaces was seen as a key motivator for people to become involved. Once the challenge was officially launched in these areas it was reported that participation

5

It should be noted that members are given the option to suggest "green acts", however, most of the acts are largely determined ahead of time due to the complexity of making particular acts match up with GHG formulas. Although a proposed act might be a considered a sustainable activity, it might not fit into GreenNexus' GHG calculator

skyrocketed. For instance, respondents from a Toronto private girls school noted that it fit well with an existing sports rivalry and a deep-seated tradition of fun and competition.

The web site architecture enables members to navigate the site effortlessly. OMAoG design clearly demonstrates the connection between everyday actions, energy consumption, and the resulting ecological impact at the click of a mouse. It does not bombard users with an information campaign to change their behaviour radically, but rather provides a simplified social tool that offers suggestions to examine and alter existing behaviours. The site's social features (like those of Facebook) also allowed many to view and compare their individual results with others through real time updates. Like the larger challenges, many respondents said tracking and comparing 'acts of green' with others encouraged them.

HOW IT MEASURES UP

As noted, in the Canadian campaign participants committed to individual acts of green that would result in the elimination of one hundred thousand metric tonnes (t) of greenhouse gas emissions. On a large scale, these total GHG reductions are the equivalent of taking 43,000 cars off the road for a year, planting just over 200,000 trees, or replacing 8.4 Million regular light bulbs with CFL's (compact fluorescent light bulbs).⁶ The average Canadian household emits approximately 20 metric tonnes per year of GHG. To put this in perspective, the total savings identified during OMAoG in Canada is the equivalent of reducing the emissions of about 5,000 typical Canadian homes to zero (Corbyn 2009b). Corbyn (2009b) notes that although the OMAoG carbon calculator is *not* always 100% accurate, its developers are confident that the overall quantification of GHG emissions identified in the campaign are exact within a few

⁶It should be noted that these figures were received from GreenNexus without hard evidence to support these claims. There is therefore no possible way of verifying this data beyond accepting GreenNexus's information.

percentage points.⁷ The OMAoG calculator was peer reviewed by environmental non-profit organizations that believe the overall calculations to be accurate en masse.

On top of reducing environmental impact, the campaign also identified ways to reduce costs for individuals. For example, replacing one 60-Watt regular bulb with a 15 Watt CFL can save about \$10 per year, or just under \$1 per month. Replacing the majority of light bulbs in one's home (approximately 10) would afford savings of \$100 to \$120 per year. That said, some variance in accuracy occurs. For example, the calculator assumes that light bulbs are used on average 4 hours per day. Undoubtedly, certain homes fall below and above this range, however, the average total number will remain accurate as long as household energy usage stays proportionate.

WHO GOT INVOLVED: MOBILISATION OF INDIVIDUALS AND SMALL GROUPS

There were over eighty participating communities (schools, universities, youth organizations, environmental organizations, cities, towns) and thirteen businesses that actively promoted the campaign through their employee and customer outreach programs (Black 2009b). Some of these stakeholders (e.g, Tim Hortons coffee shop, Toronto Dominion Bank, and Home Depot hardware store) promoted the campaign through online homepage placements. In some instances, individual acts were pledged through certain communities. For example, campaign organizers at an Ontario University and small Canadian town facilitated the sign-up procedure by initiating centralized computer terminals in accessible spaces to encourage and assist people to join. Once registered, members could log their acts of green from their preferred fixed or mobile location. In most cases, people entered their acts and updated their profiles from a household location. Figure 3 shows the age range of all registered participants.

⁷Peter Corbyn is a P.Eng and Co-Founder of GreenNexus

Age	Total % of Participants who registered green acts
Under 13	2
13-17	12
18-21	18
22-29	22
30-39	16
40-49	19
50-59	8
60-69	2
70-79	1
Total	100

Figure 3 Demographics of Canadian campaign
(Source: Corbyn 2009b)

The Bank of Montreal (BMO – one of Canada’s five major banks) was an early adopter of the program in the workplace, encouraging staff to challenge one another in friendly competitions of building green acts. Many participating businesses and schools attributed an increase in morale during involvement with the campaign (Black 2009b). For example, neighbouring small towns in the province of Alberta entered into a three-month competition initiated by the mayors of each town. Linda Bruce, mayor of Airdrie, utilized her online social networks to disseminate the challenge: “I blitzed everybody, I spammed people. It was terrible, shameless really” (Globe and Mail 2009). Participating communities and businesses demonstrated the online social networking capacity of the campaign. Figure 4 shows a

chronological timeline of the OMAoG campaign.

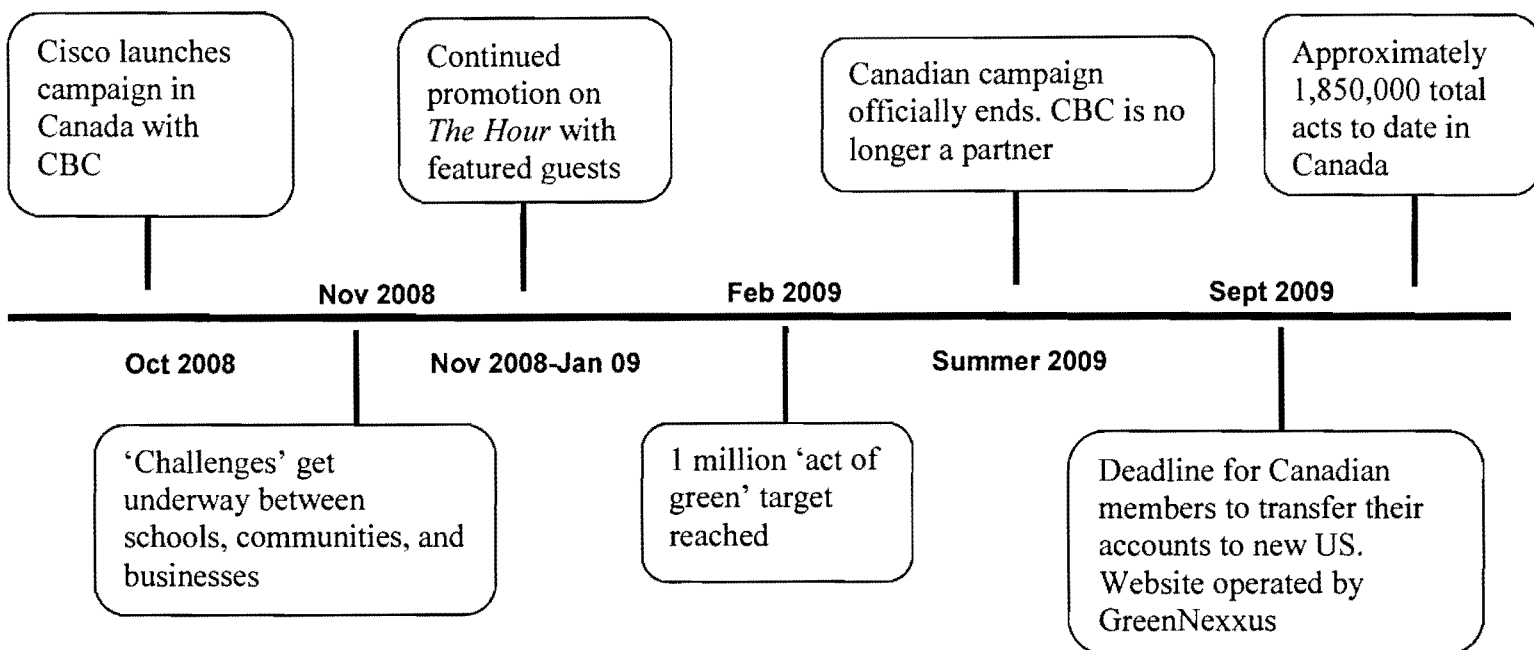


Figure 4: OMAoG timeline

Source: (Black 2009a)

Results

Participation numbers demonstrate the wide-reaching effect OMAoG had in Canada.

While numbers per region are unknown, it is clear that it reached audiences in most provinces.

Based on media representation of OMAoG, participation appeared to be a meaningful and enjoyable activity for groups involved. The section below evaluates whether the positive campaign rhetoric matched the actual engagement and experience by members. It does so by examining user perceptions of OMAoG as a tool for active engagement in the context of environmental issues of sustainability, energy conservation, sustainable transportation, and responsible consumption. Based on the review of literature, the initial research questions were

slightly modified and will be addressed.

RQ 1: How do participants describe their attitudes towards environmental engagement and what factors best facilitate this interest?

RQ 2: Do the personalized features of OMAoG website motivate interest in the campaign?

RQ 3: What was the role of social networking tools in organizing OMAoG subgroups?

The above set of research questions reflects the knowledge intersection and object of study—online-networked technologies and environmental communication, particularly social-psychological orientation. In the environmental arena, wider consideration of environmental issues by the public has challenged the category of environmental activist—typically ideologically and politically classified—to include more of an advocacy stance (Cox 2006; Johnston 2008). In this instance, one does not necessarily have to identify as an activist, but rather could opt to be an environmental advocate that focuses efforts on a smaller scale. For example, promoting environmental awareness in the workplace by establishing a composting program. Exploring these research questions will help foster a better sense of the types of environmentalism people identify with. From this perspective, they will help determine whether the OMAoG case constitutes new engagements with environmental issues that previously would not have existed outside this context, or if it should be viewed as merely a movement of these arrangements from other spheres to a digitally mediated and networked context.

In thinking about the function of online platforms, these questions address the pervasiveness of social web applications to become more specialized and individualized. In a modern, highly mediated setting communicative dynamics are constantly changing, requiring new frameworks and strategies to accommodate growing adoption rates, interests, and practices.

However, while there has been much celebratory rhetoric devoted to participatory opportunities on the web (O'Reilly 2005; Tapscott and Williams 2006), a closer look at what value people perceive from engaging with various social tools online would strengthen this line of argument by offering critical insights. In the case of OMAoG, gaining a sense of user habits will provide a basis to comment on the websites' overall utility, influence, and audience function. As well, bridging levels of interest from different points of time provide a comprehensive overview of OMAoG's impact. The below table indicates the participants who enrolled in this study.

Participating members	Level of involvement	Role and Responsibility
Senior executive at BMO	Workplace organizer	<ul style="list-style-type: none"> - Promote and manage campaign internally in the workplace. - Send e-mail reminders to staff about registering acts of green. - Report to Cisco about challenge status
Sustainability coordinator at Nova Scotia University	University organizer	<ul style="list-style-type: none"> - Liaison between student groups, university administration, and challenge opponents - Prepare and disseminate communication and advertising materials on campus
Sustainability coordinator, small town in Alberta	Municipal organizer	<ul style="list-style-type: none"> - Compose promotional campaign to be distributed across the town (e.g. posters, radio spots, newspaper ads, etc) - report to CBC and handle communications with challenge component
Employee, Ontario University	Campus coordinator	<ul style="list-style-type: none"> - Integrate campaign into campus community development initiatives

		<ul style="list-style-type: none"> - Seek out student, staff, and faculty representatives to promote the campaign - Report to CBC
Private Toronto Girls school (Focus Group)	Contributing OMAoG members	<ul style="list-style-type: none"> - Pledged and committed acts of green online
Ontario University	Contributing OMAoG members	<ul style="list-style-type: none"> - Pledged and committed acts of green online
Public engagement employee from ENGO (environmental non-government organization)	Campaign endorser	<ul style="list-style-type: none"> - handled communication between ENGO and CBC - ENGO endorsed OMAoG on <i>The Hour</i>

Framing research findings

Diffusion and Innovation theory provides a helpful framework to evaluate an individual's decision to adopt a particular technology for personal use. Rogers (2003) outlines five essential attributes that explain the rationale behind one's decision to adopt, which will be helpful for this study. They include:

1. Relative advantage: the degree to which the benefits from an innovative technology outweigh the costs. This can be measured economically, through social benefit, and personal efficacy.
2. Compatibility: to degree to which the innovation is recognized as being streamlined with one's existing values, experiences, and needs.
3. Complexity: the perceived difficulty of using the innovation
4. Trialability: the period to which the innovation can be used on a testing basis
5. Observability: the time to which the innovation can be observed before a decision is required to adopt it.

Rogers (2003) cautions researchers of the "pro innovation bias" that comes with utilizing this conceptual framework. By and large, diffusion theory reflects tendencies of adopters, rather than non-adopters. It is therefore necessary to reduce the technologist's input and factor in people's subjective perceptions of a particular innovation. Revealing individual user experience with the OMAoG campaign will help to reduce this bias and better determine the actual

innovation behaviour of participants. The first three attributes (relative advantage, compatibility, and complexity) are the most applicable to the participants under study, and will therefore be the focus going forward.

For this study, I wanted to know how people who participated in OMAoG perceived the campaign, and whether they considered the social networking platforms of the OMAoG website as effective engagement tools that could facilitate their environmental interests. The findings reveal that the Internet, specifically social networking platforms, are effective in initiating pro-environmental behaviours online, yet the barriers to normalizing these behaviours far outweigh the possibility of maintaining engaged attention towards these actions. Immediate, daily concerns often take precedence over prolonged interest in environmental efforts through ICTs. That being said, the findings also reveal that the functionality of the website was easily compatible and interactive, citing the personalized features of the website to be effective in communicating individual feedback. The following represents passages that illustrate participants' experiences of this study's primary topic areas, and their relation to initial research questions, observations, and theories.

Categorization of Research Questions

Across groups, participants implied confidence in their ability to reduce their GHG emissions through small actions. They were surprised to see how simple habits such as turning off the lights and using less water were often overlooked prior to participating in OMAoG. Many, however, also suggested that regardless of their efforts external factors prevented them from achieving their goals. At times, issues they described reflected back on principal barriers surrounding citizen engagement with environmental issues: lack of time, contradictory

information, and a feeling of powerlessness and indecision (Kennedy et al 2009).

Four primary themes regarding environmental engagement, online social network features, and user motivations emerged from focus group and interview participants' discussions: 1) Personalization 2) Collaboration 3) lack of communication 4) questionable future. The following table provides example passages that reflect each principal theme. From there, discussion on how these findings are connected to relevant literature and theories is presented.

Table 1: Principal themes detailing one's level of commitment to OMAoG

Theme	Description
Personalization	Most participants felt the website was simple to navigate and understand. Many attributed its high functionality to the personal feedback given through the GHG calculator. That said, making the site more accessible for those without access would improve its overall utility
Collaboration	Sharing environmentally responsible actions with others was rewarding. Engaging in friendly competition garnered personal motivation and self-satisfaction
Poor Communication	Lack of digital communication from OMAoG staff to members has resulted in low transfer rates to the new site. When "challenges" came to an end so did general engagement with the website.
Long-term challenges for participation	Replicating a campaign of similar scale is unforeseeable for organizers. Lack of time/resources is a factor. Adding new and more challenging acts as well as including incentive based components would improve motivation.

Personalization

Many participants attributed their interest in the campaign to the user-friendly design of the OMAoG website. Its capacity to offer personal feedback of environmental impact, be

interactive through forums, and provide helpful information were all factors that contributed to its high functionality. In addition, its resemblance to popular social networking sites made it less complex. One participant noted:

“I found the website very easy to use. To me it was much like Facebook, in that it was set up in an easy to use format—everything you needed to access was on one page. You had your friends list on one side, your acts on another, and new pledges in another area on the same page”

As mentioned earlier, it was the intention of GreenNexus to include similarities of the social networking site Facebook into the design of the site. That being said, some participants noted that the provision of access to technology and the required levels of digital literacy needed excluded some people from accessing and/or understanding how to properly use the website. For example, in a small Alberta town senior citizens had difficulty navigating the site and comprehending the sign-up procedure. While some had a computer, many did not have an e-mail address, which was a prerequisite to register with OMAoG. To accommodate this, the town created in-person sign up stations where interested citizens could sign up, pledge, and commit acts of green through the assistance of a volunteer. Similarly, at an Ontario university campaign organizers set up computer terminals across campus to instruct people through the process. While the sign up stations were viewed as a positive and effective way to engage those without the technological capacity in the Alberta Town, some participants at an Ontario university were more skeptical of the accuracy and fair reporting of this approach. The various access points across campus accelerated the process of registering ‘acts of green’ that some questioned the legitimacy, or honesty, in people’s claims. The campus organizer for this university said the challenge with a Nova Scotia school lasted approximately 24 hours. This prompted some to question the credibility of the competition and the engaged level of attention of people who

participated. When asked what he/she thought about the website features, one participant observed that the ability to exaggerate or exploit ‘acts of green’ for the sake of winning the competition might have been more sought after than actually committing these acts:

“The campaign for OMAoG was heavily based on getting as many people as possible signed up on the CBC website. Whether or not those students actually followed through with their acts of green is also up for interpretation”

The pushback from those involved regarding the website illustrates that there were obstacles and limitations encountered. However, on the whole most participants praised its user-friendly and compatible attributes. Many participants valued the personal GHG calculator that visualized the environmental impact of their daily actions, and the required steps to reduce and remedy such impacts. One participant noted that the personal metrics feature served a double function of informing and encouraging.

“I think most participants would know, for example, that using a clothesline is more environmentally sustainable, but most wouldn’t know the effect on greenhouse gases, and most wouldn’t be reminded or challenged to do it.”

Collaboration

Effective collaboration is dependant on the strength of social networks and the perceived value in these networks. Participant descriptions were consistent with literature that suggested competition between groups can nurture self-fulfillment, boost morale, and form social ties (Griskevicius et al 2009; Van Vugt 2009). The majority of participants cited strong peer and community support as a contributing factor to making their participation in OMAoG an eventful experience. Many participants noted that tackling environmental issues solo can be defeating given the many ‘unknown unknowns’ that surround the discourse. Therefore, taking

environmental actions with others lessened the feeling of powerlessness among complex and conflicting issues. Participant descriptions of how forming collaborative bonds was essential to the overall experience follow:

“It was encouraging to be able to say, look at the impact my university had.”

“Because we were doing it as a school, it helped to be able to talk to one another, so if you didn’t know what you were doing, someone could help you”

Participants also noted the importance of authoritative figures that ushered in the campaign and legitimized OMAoG in their respected environments. For example, at a private Toronto girl’s school, all participants stated that their teacher’s leadership role in promoting OMAoG captured their attention. While most noted that the broadcast of *The Hour* as essential to raising awareness, most participants did not claim to be motivated by the show to complete acts of green.

Many respondents learned about the campaign *not* through media outlets, but rather from familiar figureheads in their personal surroundings. In short, the school community and teachers were primary motivators for many. A respondent from BMO said it was encouraging for employees to see others on the OMAoG website while at work because many were unsure how to balance the initiative with their daily work tasks: “...things shifted from, can I do this at work, is this just something on the side of my desk? to this is a collective, chummy, lets all gather around and do this type of thing.” At an Ontario university, the campaign was well underway before the CBC approached them about entering into a challenge with a University in Nova Scotia. Hence, a combination of peer support, active leadership roles, and media outlets (to a lesser degree) illustrated confidence in those involved to participate actively.

Fewer participants acknowledged *The Hour* as a principal factor in creating a strong sense of community, however, some did acknowledge its importance in legitimizing OMAoG, and environmental issues in general, to a larger public audience. One participant noted that, “without a major media presence such as the CBC, it remains in a grass roots mentality.” Despite few comments on the role of television specifically, there was a general sense external factors like *The Hour* created good publicity and awareness for the campaign, but nothing more substantial than this.

Overall, participants spoke favourably of the efforts made by their workplaces, schools, and communities to encourage support for OMAoG through building relations with others and promoting actions that reflect shared responsibility. In addition, some participants noted that prior to OMAoG they did not consider themselves to be environmental stewards or advocates. Ultimately, participants revealed that while they were personally aware of general environmental issues, they exuded more confidence in their own ability to take action towards the environment by doing it with others.

Inactive Status: Poor communication from OMAoG staff

All participants were asked whether they transferred their account to the current site. The majority of responses indicated very few people had taken this step. Those who did transfer their account reported low amounts of activity, which was primarily attributed to the campaign being completed in Canada. Inactive member groups and challenges combined with the slow introduction of the new OMAoG website⁸ discouraged people to return as the current site lacked updated content and profiles. On the whole, the immense amount of investment by these groups

⁸ After July 2009 the website under the domain of GreenNexus

soon lost momentum once the campaign ended. All groups reported that activity and interest in the campaign fizzled out and life returned to a normal order. In total, only 15% of all initial OMAoG members have transferred their accounts to the current site (Corbyn 2009b).

Some participants were supportive of OMAoG's entry into the United States and globally, yet feel the campaign should have been more accountable to existing users by better communicating the option to continue as a registered member. Most participants said they were unaware of the option to transfer their accounts to the current site, and suggested they would have performed this task if properly informed. Other factors that explain a reluctance to adopt the current OMAoG campaign include resource management and lack of personnel. Some participants noted that managing, promoting, and disseminating OMAoG in their schools, workplaces, and communities was a strictly volunteer effort that relied on having able bodies supportive of the cause. When asked if they would consider future OMAoG challenges, one participant stated that those involved were burnt out and relieved to return to existing work/life priorities. One participant from a small Alberta town stated, "at the end of the day, people come home from work and don't have energy to do these things." These remarks reflect back on earlier mention in the literature surrounding external barriers to participation in environmental acts (Kennedy et al 2009). In this instance, continuing efforts on a similar scale does not take priority over one's immediate tasks, such as personal work and household priorities.

Interestingly, while many perceived the website to be an effective tool initially, most participants did not express any advantages of being connected to the current site in terms of carrying out pro-environmental behaviours. Some responses from participants suggest that those who did not transfer their accounts may still be continuing 'acts of green.' In other words, just because some members are no longer active on the website, this doesn't mean they are not

making environmentally responsible choices. One participant described the futility of the website now that the initial campaign is over:

“I do not need to register my acts of green on a website to feel that I am doing the right thing and I do not need a networking website to connect me with environmentally conscious people, I do that on my own. For these reasons I have no use for the OMAoG website.”

Equally, frequenting the website was only one of many factors that enabled members to become involved with OMAoG. Most participants spoke positively about the web site’s capacity to encourage environmental consciousness, yet believe unless user activity increases there is no “relative advantage” or incentive to return (Rogers 2003).

Questionable Future—long term challenges for OMAoG

While many participants spoke strongly about the ‘compatibility’ of the OMAoG website and the value found in collaborating with peers, they also described a range of notable impediments when thinking retrospectively. Participants believed the redundancy and simplicity of green acts, lack of competition, and the websites’ low activity impede efforts to unite people and communities to take environmental action over time. When asked what could be improved upon, one participant suggested that the lack of enduring thinking by OMAoG has contributed to its reduced utility. “The campaign solely promoted short term acts rather than long term things. When our university competed against [another university], it was a short term challenge and in the end there were not a lot of plans made in order to keep the motivation rolling.” Other participants suggested acts should be more challenging and representative of their need to address long-term considerations.

Many respondents stated they were taking environmentally responsible measures prior to

OMaOG (i.e., substituting an incandescent light bulb for a CFL, installing a programmable thermostat, etc), and therefore wanted actions that would challenge them meaningfully, not just in the interest of boosting the campaign numbers and saving money on their utility bill. To many, the campaign was directed towards “new greens”, not seasoned environmental advocates. In this instance, OMaOG might have limited their audience reach with too narrow an appeal by not catering their environmental messaging to longstanding advocates.

These findings reflect back on the literature discussing motivations and audience communication. It becomes challenging for environmental messaging to appeal to multiple audiences when the scope of motivations is both nuanced and conflicting (Roser-Renouff & Nisbet 2008; Woodruff et al 2008). Many ‘acts of green’ are ambiguous as to why doing them is beneficial. Some have more economic and social benefit, and others are strictly environmental. For example, acts like installing a programmable thermostat saves money and therefore has an economic appeal, whereas restoring an abandoned brown field has a more environmental/green appeal. The meaning conveyed by OMaOG’s acts might have seemed facile, and with little appeal, to more experienced members because they are environmentally predisposed to think green. Conversely, newcomers might be more economically predisposed to think savings and therefore would find value in the smaller acts.

Participant descriptions of improvements to OMaOG also linked to their concerns of sustaining environmental engagement in the absence of volunteer personnel and organizational support. Greater competition between communities and assigning ownership were cited as necessary steps to maintain interest over time. For example, one participant who played a leadership role for OMaOG at BMO suggested:

“Having someone take ownership of communications (social media, etc) to drive the

project internally and maintain interest within an organizational culture[...] A full time position to manage internal initiatives and build a tool kit for future use”

Other participants cited the need to establish incentive-based initiatives in existing OMAoG spaces to encourage the continuation of pro-environmental behaviour and decision-making. While some participants did note they were still making an effort, most observed that people around them (school, workplace, etc) ceased action. Phrases such as “environmental messaging needs to be in your face all the time”, “competition is key”, and “developing a coupon and/or points system to encourage people by providing incentive” illustrate participants’ perception of the directive solutions conducive for maintaining interest. These approaches reflect a change in mindset to address environmental issues long term. Many participants acknowledged the overwhelming effort required to engage people as environmental topics are often challenging to negotiate. In addition, increased budgets and additional resources were cited as key obstacles in allowing such initiatives to materialize.

The above section presented central themes that addressed this study’s initial research questions. Responses from participants were particularly helpful in addressing questions 1 & 2. The below points will outline the answers to these questions. Question 3 (“what is the function of social networking tools in organizing environmental subgroups?) is less answerable based on the data as it is more general in nature. It will therefore be commented on in connection with discussion on social network mobilizing in the next section.

RQ 1: How do people negotiate personal engagement with environmental issues and what factors best inform this level of engagement?

Based on findings presented above, people negotiate environmental participation most effectively with others or in groups. People prefer combined efforts because they find it

challenging to manage their personal and environmental responsibilities simultaneously. Tackling environmental issues collectively is therefore more motivating and manageable.

Collaborative measures such as fun competitions, organized peer groups, and the involvement of well-known authority figures are influential factors that inform people's interest. Other factors like legitimacy, accountability, and personal appeal are also important. In this context, knowing that there is a genuine rationale behind stakeholders' interest in promoting the importance of engaging with environmental issues motivates people to become involved. Further, people are more likely to participate if the level of engagement accommodates their existing relationship with the environment.

RQ 2: Do the interactive possibilities of new media technologies motivate potential users to engage in environmentally focused projects online?

Interactive elements of new technologies encourage initial interest in environmental initiatives by providing use-friendly features. However, they serve more as a springboard into subsequent action on-the-ground. Interactivity is most effective when people identify with features of a web site they are familiar with. Personal feedback, easy-to-use features, along with high network volume, status and profile updates, and frequent communication to users is more likely to motivate people to adopt and use online technology.

Without these activities visible, the use-value for environmental sites evaporates and digital technologies become secondary. Over-reliance of technologies, like social networking, as the central moderator of environmentally-focused projects can impede future interest. Ultimately, on-the-ground peer initiatives, face-to-face communication, and a host of other collective measures outweigh all the positive features technologies provide in terms of sustaining interest. That being said, as shown in the case of OMAoG, there are partial benefits associated with the

realignment of environmental activities to a digitally mediated context. They can be influential in motivating new users who had no previous involvement with environmental engagement to become involved.

Discussion

Personal accounts from users who participated in the OMAoG campaign in Canada reveal a new set of findings in regards to how the program was received initially and what capacity—or level of activity—members are currently engaging at. The responses prompted a sub-set of research questions to address the findings. Firstly, how important is the OMAoG website in initiating and maintaining interest in both the campaign and in environmental responsibility generally? (2) How to unite psychological and social factors at play in motivating participation with campaign/design solutions that leverage these factors to be effective and (3) was the campaign instrumental at attracting newcomers to environmental issues? Of interest for this research is to develop an understanding of what value people perceive when engaging in green practices. The discussion below will address these questions based on the actual accounts of members in connection with relevant literature.

From the outset, Cisco's primary strategy for OMAoG was to use social media tools to harness connections online (Black 2009b). The findings above suggest this strategy worked to a degree because the site wasn't overly 'complex' to navigate and was 'compatible' to existing preferences at home and in the workplace. That said, the 'relative advantage' or "the degree to which an innovation is perceived as being better than the idea it supersedes" has shifted since the Canadian campaign ended (Rogers 2003 p. 229). According to diffusion theory, people adopt technological innovations based on particular characteristics the technology affords them. The activeness of the OMAoG website in general appears to have declined since the campaign shifted

to the United States and internationally. In thinking about the staying power of sites such as OMAoG, continued activity by its users is a must for it to be a priority network. The initial campaign ended in Canada in mid-2009. Canadians had until the end of September 2009 to transfer their accounts to the global site if they wished to continue committing and pledging ‘acts of green.’ If they failed to do this, their accounts would be terminated. As mentioned above, approximately 15% (or just under 10,000) of Canadian members transferred their accounts to the current site (Corbyn 2009b).

Forecasting whether innovation will sustain demand in the online media market is unpredictable at best (Whittel 2001). Will users of SNS feel gratified from an online service over time? In the context of OMAoG, most participants cited “relative advantage” and “compatibility” towards the attributes of the website (personal GHG calculator, informational resources, blog, etc), however, it was the lack of general activity by other users that made them unmotivated to subsequently adopt the site. While many participants stated ‘poor communication’ as the rationale behind not transferring their accounts, it is unclear as to whether this action would motivate people to pledge and commit acts of green. For example, one participant stated: “I haven’t actually done anything on the site.” I transferred my account but my activity remains fairly dormant; “I keep getting the newsletters, but haven’t done anything”. This viewpoint isn’t surprising given the lack of activity on all of OMAoG online platforms.

While approximately 8,000 members on the original Canadian campaign joined the Facebook group, adoption rates by users on the US Facebook group are lower at approximately 850 members even though Facebook’s overall user base continues to grow rapidly.^{9 10} Since the initial campaign shifted to the United States in July 2009, members have only registered

⁹ <http://www.facebook.com/group.php?gid=51230871229&v=info>

¹⁰ Facebook has approximately 400 million users worldwide. Half of these users log into their accounts at least once a day. <http://www.facebook.com/press/info.php?statistics>

approximately 130,000 acts.¹¹ What's more, upon visiting the website, most discussion forums remain inactive and no new 'challenge' initiatives have been developed. The failure of the campaign to gain traction and acquire new users in the US is partially related to fewer resources and promotional efforts in place. A smaller budget by Cisco, no middle-media partner (like the CBC) to promote the campaign and encourage challenges, fewer endorsers, and lack of group adoption (schools, workplaces) are all factors that have decreased the scale and importance of OMAoG (Black 2009a). In terms of engagement, it appears that Cisco is not taking further initiatives to reach out to businesses and communities to encourage green challenges.

On the surface, the current OMAoG site appears to be a social network failure as it contains little circulation of content and lack of collaboration from its users. That being said, the low transfer rates and usage patterns are not overly surprising given low levels of attachment users generally have to their multiple networks. These patterns described reflect back on user activity trends mentioned in the literature surrounding the gap between signing up for a social media service like Twitter and actually contributing through this service (Cheung et. al 2009; Piskorski and Heil 2009). In this context, Dean (2008) characterizes this occurrence as the "registration effect." She argues that when people join networks (blogs, forums and social media platforms) initially they believe their thoughts and ideas are registering with other users and networks. However, when such contributions fail to coalesce into dialogue and feedback, one's ability to remain optimistic towards these networks wanes. Therefore, even though the majority of respondents in this study appreciated the user-friendly features (and low complexity) of the OMAoG website, its lack of popularity and user activity ultimately trumps these assertions as key communication elements are now absent.

¹¹ <http://www.greennexus.com/omaog/>

Considering most social network members gravitate towards their own interests and what their friends are doing, the variability of network dynamics makes both keeping existing members and attracting new ones challenging (Boyd and Ellison 2007). According to Rogers (2003), the act of trying out and experimenting with an innovation (“trialability”) and the ability to observe others’ use of it (“observability”) shape adoption rates and establish social norms within the innovation (p. 258). Strong social networks are important for diffusion of new media technologies and the subsequent adoption by new users. The OMAoG website and Facebook group have fallen short in retaining existing users and ushering in new ones. Although some participants under study noted that they are still registered members, they were unmotivated to contribute to the site (e.g., updating profile, engaging in discussion) due to its inactivity. Hence, there is no longer any personal efficacy or social capital to be leveraged from visiting. One participant touched upon this tension: “there has to be something daily that makes you want to come back.” Like I go on Facebook because I can pretty much expect that there is going to be a message there.” Based on the ‘observability’ of the website activity and accounts of former users, existing connections and social ties have subsided. However, as will be made clear below, this does not necessarily suggest people remain inactive in their commitment to making environmentally responsible choices.

Motivations for taking environmental action and adopting new media technologies are wide-ranging and divergent (Griskevicius et al 2009; Woodruff et al 2008). Thus far, the literature and research data has shown the limitations of networked communication to support people’s interest in engaging with environmental issues. The Internet is the locus of activity, and having access facilitates the use of social networking tools that encourage participation. The initial OMAoG campaign demonstrated that high connectivity and interaction online enabled a

set of social actions and practices that resulted in improved environmental outcomes, in this case through the reduction of greenhouse gas emissions. But while Internet access is a central component of the OMAoG campaign, the majority of green acts committed by participants make use of Internet connectivity to simply enable GHG reductions. The Internet is used as a means of engaging with the campaign rather than realizing acts of green. In this instance, prolonged motivation to commit acts of green is not wholly dependent upon further adoption of the OMAoG site and other social networking tools like Facebook. Many participant responses suggested that repeated access and profile-updating is not necessary to maintain motivation toward making environmentally minded choices:

“I would like to think that I am a very environmental conscious person, my friends all call me a tree hugger, but I do not feel the need to post them on a website. I do what I can within my own life for myself, not recognition from others.”

“Once the milestone of 1,000,000 acts was reached, my motivation to continue tracking my ‘acts of green’ was greatly reduced. I still take environmentally friendly actions, but I don’t track them on the website”

Few participants in the interviews and focus group conducted suggested that they took environmentally responsible actions on a consistent basis prior to their engagement with OMAoG. Thus, despite the low activity on the website it is accurate to suggest that the campaign demonstrated the environmental benefits of taking small actions to those who weren’t environmentally predisposed. However, while the initial OMAoG campaign might have motivated some members to continue acts of green, their lack of online presence deters future interest by new users. Rogers (2003) notes that once a particular technology has been adopted by a majority of users, others observe and evaluate this technology and decide whether it might

benefit them and makes enough sense to adopt. All of the features that first attracted the majority of users (active ‘challenges’, updated blogs and profiles, and the campaign-wide GHG calculator) have diminished. It is therefore apparent why new users see no benefit given the current reality. While it is not the responsibility of older OMAoG members to encourage new users by remaining active, there is an important connection to be made: Being solely reliant on a web-based model that depends on high levels of activity to garner additional support for a campaign has notable limitations in attracting newcomers. Conversely, as illustrated above, the web-based model does not necessarily prevent early adopters from keeping their commitments to the environment.

Maintaining Collaborative efforts

Passages and descriptions from participants suggested that peer support and competition made campaign participation a self-satisfying activity. These outcomes match literature on social and psychological factors, particularly the role social bonds play in influencing and motivating environmental action. (Van Vugt 2009). OMAoG encouraged communities, schools and businesses to participate in reducing their collective environmental impact by setting targets and initiating friendly competition. That being said, many, if not all, of these collective initiatives ended once the 1,000,000 target was reached. Without the organizational capacity in place, keeping people in groups and maintaining seamless connections with others is challenging.

As mentioned above, there were various personnel that took leadership roles in establishing peer relations in their respected environments. Considering that most participants cited social/peer support as a primary motivator to participating in OMAoG, the absence of this has contributed to little group action and uncertainty towards environmental issues generally. One participant described her current relationship to the environment as precarious and ill-

informed: “.... But I’m unsure that my actions are that effective. Sometimes I feel like I am just one person.” Similarly, another participant observed that lack of structure and literacy can leave one aimless: “The market is telling us its all your fault... hard to know what your efforts did. I feel like you're just doing what people are telling you to do, but not really doing anything for yourself.”

The literature, participant observations, and theories thus far signal that people understand and engage with environmental issues when they are made local and presented in the form of a problem to which they can offer solutions. That said, this can also lead to a fleeting sense of commitment due to a host of external factors that prevent these solutions from being enacted. Embedded in participants’ discussion of OMAoG’s limitations was a clear sense that participation cannot be forced involuntarily. Instead, potential benefits must be customized, especially when encouraging new participants.

Determining a method to unite the social and psychological factors that motivate people to participate in action-oriented campaigns like OMAoG into future design models should not be overlooked. In saturated information markets audiences are selective of environmental authority because of repeated patterns (talking heads) and negative outlooks (irreparable doomsday events and fear mongering). As evidenced in the literature, communication campaigns with an environmental focus must provide a reason—or incentive—to garner attention and sustain engagement (Chess et. al 2007). When asked what ideas could improve OMAoG, one participant suggested implementing reward programs in her school: “.... we were thinking about coupons. If you reached a certain amount of acts of green you could be sent an electronic coupon for organic food at Loblaw’s.” While such measures sound hopeful and reflect integrative thinking, there are external obstacles to consider before adopting these design solutions in communities, schools,

and workplaces.

Across interview groups, participants believed OMAoG was influential at getting individuals to engage in pro-environmental behaviours, make sustainable choices, connect with groups, and share resources across green networks. That being said, providing these elements to encourage support is largely determined by having sufficient resources at one's disposal. While the campaign boosted apparent success in the near-term from a business perspective (reaching its 'acts of green' target), the likelihood of maintaining long term emissions reduction through engaging in green acts online is questionable. For example, competing towns in Alberta vowed that they will keep up the challenge and make it into an annual green competition (Globe and Mail 2009), yet evidence of this is still to come.

One respondent, who is the sustainability co-coordinator for one of these towns, mentioned that the town integrated the project through the municipal government in an impromptu fashion, requiring staff to adjust their schedules and develop methods to execute the campaign on short notice. It wasn't in the budget, but the town invested in full communication and promotional materials (website, radio/newspaper, postcard handouts, staff manning sign up tables) to reach its citizens. It was estimated that they spent approximately \$5,000, but this did not include staff hours, which would add up to a significantly larger amount, many of which were done pro bono. Similarly, the campaign organizer for BMO noted that time and resources were unforeseen challenges that acted as the primary barriers to convincing people that OMAoG was a worthy personal investment. Although BMO's participation reflected well for their corporate image, internally such initiatives were often met with ambivalence from employees. Positioning the campaign as a "need-to-do" instead of a "nice-to-do" was identified as a major obstacle to overcome when trying to incorporate OMAoG into the workplace culture.

OMaOG proved influential in short-term community building, but there is currently little evidence to celebrate its lasting impact. Participants that suggested little collective effort and incentive-based initiatives contribute to lack of interest reinforce this common view. In order to continue to realize acts of green, and environmentally friendly actions in general, individuals must create their own initiatives that build on past successes, and distribute them across networks and social spaces. Considering few participants interviewed claimed to be self-motivated, uniting social and psychological factors (e.g, collaboration, and reward-based incentives) that create prolonged outcomes are necessary for future campaigns to achieve momentum on a similar scale as OMaOG. These descriptions touch upon earlier mention of the importance of developing metrics of progress (Moser and Dilling 2007). Maintaining initiatives like composting programs demonstrate to people that their community is serious about continuing environmental efforts in the future.

Engaging different environmental audiences? An In-depth look at OMaOG

Cisco suggested that on the surface their primary interest wasn't profit, but rather brand engagement with an environmental purpose (Black 2009b). The company claimed they weren't selling a product, but rather an environmental lifestyle to those who were interested. However, in light of recent trends for corporations to jump on the green bandwagon, it is important to assess this stance critically. The following discussion will introduce a new set of literature on green capitalism, and participant observations that connect to this topic.

It is important to speculate whether or not the campaign was perceived as a clever marketing gimmick or a program designed to meet environmental outcomes. Who did the OMaOG campaign speak to, and how inclusive was the brand or 'lifestyle' to citizens? Across groups, participants viewed the OMaOG web site as an effective web tool, yet there was notable

pushback toward the depth, utility, and classification of green acts. Phrases like, “there was nothing really *new* to me...most of the acts were obvious, and “most people are green or definitely try to be green in their daily lives and these sort of initiatives make it seem futile, and “the current website is not appealing...its too corporate... like its saying, look we care more about ourselves, as opposed to the original CBC site which was more of a community check-in point” demonstrate participants’ view of OMAoG primarily as both superfluous and superficial. While fewer participants criticized the corporate presence reflected in the OMAoG brand, those who claimed to be longstanding environmental advocates expressed skepticism toward the integrity and motive of Cisco’s commitment to the environment. These viewpoints are undoubtedly validated for they are representative of a growing debate around the problems of corporations claiming to be environmental citizens.

Having a successful environmental reputation and maintaining ethical integrity is challenging as the public is growing wearier of corporate environmental practices. The environmental movement has generated the phenomenon of ‘going green’ at both the level of the consumer and producer. ‘Going green’ is a practice that promotes an ethical shift in behaviour by focusing consumer choice and corporate strategy on environmental sustainability. Corporations strongly implement this by adopting the language of sustainable development and environmental sustainability into their slogans (Baer and Singer 2009).

With this, corporations prescribe environmental values and imagery to products and services at all levels of business through green-marketing. This has opened the doors to green consumerism, the belief that purchasing environmentally sensitive – or friendly – products contributes to reducing the environmental degradation of the planet (Cox 2006; Baer and Singer 2009). It has also sparked skepticism by critics, scholars, and the general public because many

corporations are guilty of “greenwashing.” This is a finely crafted communications strategy of distorted information used by an organization or company so as to present an environmentally, socially, and culturally responsible public image. Conversely, they are often covering up unsustainable and environmentally destructive habits while making profits (Corbett 2006; Cox 2006; Munshi and Kurian 2005). Capitalism’s expansion into the green marketplace and influence on green discourse is pervasive. This activity demands an important set of questions around social justice and equity issues to be raised.

While the green movement appears to be advancing, it is increasingly limited by market modes of ecological regulation that merely moderate environmental problems rather than address them systemically. Corporate advertisings’ attempt to remedy environmental degradation by positioning consumption to be ethical (e.g., fair trade products) and lifestyle choices to be empowering (local food production/organic gardening) represent class-based solutions that negate larger, structural problems. Ethical consumption refers to making consumption decisions based on issues of human rights, environmental responsibility, and fair trade work practices. However, it has been widely argued that this form of consumer-based participation or, “voting with your dollar” does not constitute democratic action as it is only feasible among concentrated social groups that are economically privileged (Banaji and Buckingham 2009; Johnston 2008).

OMaOg set out to show Canadians that being an environmentally responsible citizen is not a challenging task, yet it is shallow to claim this opportunity was made available to all members of society. Consumer-based solutions to environmental problems are undoubtedly class-based as they require substantial purchasing power, or capital, that only a marginal sector of society can attain. What’s more, this approach largely ignores environmental effects engendered by capitalism such as resource depletion, overproduction, and ignored externalities

such as health impacts, food insecurity, and socio-economic inequality. While some are afforded the luxury to consume green products to reduce emissions reduction, most citizens cannot do this consistently. Although these perspectives go slightly beyond the scope of this paper, they are important considerations to include when theorizing a campaign that claims to target *all* Canadians. To address this assertion democratically, corporations must factor in the question of how social, environmental, and economic well-being can be maintained for *all* citizens within ecological constraints (Rosenwarne 2002).

The above discussion of corporate environmentalism is not intended to downplay the overall efforts of OMAoG, but rather it is included to reflect differentiated perspectives of individual participants and the larger debates occurring in the environmental arena critiquing such practices. OMAoG isn't over reliant on promoting the consumption of green products as emphasis is placed on energy and GHG reduction, not pure consumption. However to improve their approach to communicating environmental solutions, OMAoG would benefit from addressing participant concerns that enhance the utility of green acts for seasoned environmental advocates, new greens, and those of less-privileged communities who have high rates of poverty and poor access to public services.

To accommodate new audiences, acts of green that are community focused such as, "start a composting program at your school, home, or work", should be encouraged in low-income communities and priority neighbourhoods where residents don't have the resources to complete such acts. These initiatives require more attention to social circumstances and should not be overlooked. In the Kennedy et al (2009) study of environmental behaviours illustrated in the literature review, the authors found that 85% of those surveyed had access to local fair-trade commodities, while only 18% knew of composting stations/community gardens in their area. In

other words, the ability to consume is more readily available than to join local efforts that require shared responsibility and provide mutual benefit. Combining social justice with environmental purpose is an inclusive approach to community building and bodes well for engendering environmental awareness to those less fortunate.

Youth: A Hopeful Generation?

While some participants found contributing acts of green somewhat redundant, the campaign was most effective at reaching a younger audience. The diffusion of OMAoG through online platforms resulted in high uptake from the youth (18-25) population. Figure 3 showed that 22% of participants fell between the ages of 22-29. The integration of the campaign across University campuses (particularly challenge contenders at Ontario and Nova Scotia Universities) was well-received. A respondent from an environmental organization said that OMAoG was successful at reaching young people, something environmental organizations have been trying to do for years:

“The partners legitimized the issue and positioned environmental consciousness as “the new normal.” They made it fun and hip and reached a far younger demographic than most ENGOs (Environmental non-government organization) normally speak to. They built something amazing, and surprise: the people came!”

The respondent also noted that the popularizing effect of the campaign was enabled by a combination of key elements: a burning issue (the environment) an immediate and do-able call to action, a committed and visionary partner (Cisco), and a multimedia platform with easy-to-use tools. These factors provided a platform and created a space for Canadians to collaborate on a scale unavailable to most organizations. It is clear that OMAoG had the cool and flashy element to attract young people through its marketing materials, but such high uptake from youth isn't overly surprising given that young people have the highest Internet access rates (Statistics

Canada 2009). The question, then, is whether or not environmental consciousness lives on in those who participated. As evidenced through the findings, having a 'multimedia platform' is important, but there are many other factors more essential than a website. To this effect, a campaign organizer from an Ontario University believes OMAoG was appealing because it facilitated two key components of youth participation—investment and ownership. She stated, "that youth generally respond to group norms, are receptive of grass roots and 'the next best thing' its easy to pull them in, but not easy to invest them." The continuation of these norms is largely contingent on developing deep-seated principals of collaboration and other peer-based initiatives that reflect a variety of rich interests.

The discussion portion of this study above suggests that OMAoG was successful at appealing to young audiences, but needs to work harder at reaching older demographics, reflecting the needs of experienced environmental advocates, and improve outreach to less-privileged communities. Further notable discussion points include:

- I. Few OMAoG members have transferred their accounts to the current website, yet some still continue environmentally responsible actions daily.
- II. People engage with OMAoG most positively in groups. Lack of motivation can be attributed to the absence of peer competitions, incentive-based initiatives, and lower compatibility of OMAoG's online platforms
- III. To maintain interest among a variety of audiences, OMAoG needs to modify acts of green to be more meaningful, more community-oriented, and inclusive of differentiated groups.

Conclusions and Next Steps

Summary

This qualitative research study was designed to explore whether online environmental networks view and use social networking platforms as a tool for environmental engagement. In-depth interviews and focus groups from a wide range of individuals revealed explicit accounts of the importance of new media technology and face-to-face communication in their lives, as well as in their community. These activities were important in terms of building interest in environmental issues of emissions reduction, sustainable lifestyle choices, ecologically-friendly products, and consumer responsibility in the 'going-green' marketplace. Overall, this study calls for a reconsideration of current environmental social networking practices to ensure that the diverse needs of their audiences are considered if such practices are truly interested in improved environmental outcomes.

The objective of this study was to investigate the utility of social networking tools for informing interest in environmentally responsible actions. The analysis of members who participated in the campaign revealed that networked communication technologies are not an end-all solution to preserving connections and maintaining environmental communities. Instead, strong social support systems and peer relations outrank the importance of going online and maintaining network connections. The findings demonstrated that respondents were only motivated to use the OMAoG web platforms insofar as they remained an active hub of activity.

The following section discusses the major findings and implications of the study. Included into this discussion is an explanation of how these findings contribute to current theoretical understandings of new media technologies and how this phenomenon affects their use of environmentally-focused platforms. In addition, it will reflect back upon the literature discussed earlier in the paper by illustrating similarities and differences between the literature

and the study's findings. It will end with some concluding remarks about what the findings mean for the research area of Communication studies, the OMAoG program, as well as environmental companies interested in developing similar programs.

Major Findings and Implications

Motivation, resources, competition, collaboration, and social utility are all persistent factors associated with effective use of environmental social networking campaigns (Hashbrook and Woodruff 2008; Moser and Dilling 2007; Van Vugt 2008). Motivation, or lack thereof, was an important characteristic of this study. Based on the findings, it can be concluded that a host of factors motivate people to participate and are required to keep people interested in belonging to environmental networks over time. The OMAoG campaign provided a platform for people to circumvent barriers (immediate priorities, time constraints, and environmental literacy) to participating with environmental issues, yet much of this effort was dependant upon the sustained action of the campaign, particularly a connected and active user base, strong peer relations, and promotional leverage from workplaces, schools, and communities.

For the majority of those respondents who participated in this study, these variables are not currently in place. Low adoption rates by both old and new users suggest online platforms (e.g., Facebook group, OMAoG website) are less frequented and lack comparable volume to when the campaign began. As a consequence, OMAoG is less visible and has a much narrower reach, making it no longer the hub of activity it once was. Ultimately, the findings reported above suggest that it is not the adoption of social networking technologies in the household, community, and workplace that enhance motivation per se but interactions between peer groups and dependence on collective measures which should be cause for concern and the focus for

research going forward.

The study's findings speak to theoretical debates in environmental communication (particularly behavioural/social psychological orientation). The findings were consistent with the literature presented on motivations, perceived barriers to participating, and communicating environmental messages. That being said, it built on the research of Kennedy et al (2009) by showing that support mechanisms of collaboration, organized competitions, and social capital incentives are key elements that could narrow the gap between intention and action, or thinking and doing. Further, the literature on audience communication specifically reinforced the importance of not limiting message delivery to only certain types of environmentalism. The selective criteria that determined the composition of 'acts of green' was too narrow of an appeal for more experienced environmentalists who had completed the smaller acts. Integrating acts that provide meaningful involvement for those environmentally predisposed would improve the adaptability of OMAoG to its members by accommodating factors that motivate them (i.e., environmental/green appeal over economic appeal).

In addition, the results are fairly consistent with scholarship reviewed on new media, particularly arguments that explicate the difference and gap between registering, or signing up for causes online, and actually contributing through these sites. The research presented on usage patterns, status updating, and creating content suggests that people who join sites and networks don't necessarily re-visit and contribute (Dean 2008; Piskorski and Heil 2009). Once user activity lessened on the OMAoG website many stopped returning. More importantly, some members who transferred their accounts revealed they were no longer pledging acts of green or updating their profile. Further, the findings build on the literature of (Kennedy 2008) by offering empirical research that reveals how "personalization" strategies function through ICTs. What's more, the

findings extend research that celebrates “personalized environmentalism” online by challenging the strength of social media tools to produce measurable outcomes (Hasbrouck and Woodruff 2008). It was made apparent that personalized web platforms are encouraging for garnering interest, but their longstanding utility is redundant and not essential for continuing to make environmentally responsible choices.

Theoretical implications

The OMAoG campaign provides a backdrop to examine some of the more crucial and critical questions facing those concerned with the impacts of new media technologies on society. On the one hand, the growth of the web has been celebrated as a site of consumer empowerment and unfettered creativity. On the other hand, the sheer ubiquity of content, speed of software development, and media literacy is contributing to an unbalanced ideal of what counts as equal access and involvement. The growing tendency for ideas and practices on the web to become monetized is merging notions of democracy and capitalism, further narrowing the opportunities for all citizens to exercise their agency. While the Internet may facilitate causes that are environmentally minded, it is questionable whether such practices uphold the democratic promise they claim to represent.

An equal amount of research in the field of Communication and new media theory, and Environmental studies has been devoted to uncovering digital divides, inequities, and injustices that surround these developments. Platforms like OMAoG are built on the assumption of open, communicative access, yet cater to a homogenous and privileged demographic. As new technology empowers already experienced and motivated groups (e.g., environmentally and technologically predisposed), there is a better chance their agenda will prevail. This agenda, which typically reflects white, middle-upper class concerns has failed to meet the needs of

historically marginalized communities (Bucy & Newhagen 2004 ;Dean 2008;Melosi 2006). In the case of OMAoG, the core challenge groups (private girls school, small town Alberta, a large financial institution) fit this agenda. In this instance, it is not surprising that some respondents saw OMAoG as a shallow, corporate effort— that is, a marketing campaign to boost the reputation of a company, instead of addressing the long-term steps needed for improving environmental and democratic relations.

Taking a large, global problem like the environment and making it specialized and individualized negates emphasis on collaboration and inclusion as it ignores larger structural problems. On the one hand, the ‘personalization’ of the web attracts individuals to important causes like the environment. On the other hand, it also promotes an appeal to individualism that can quickly come unconnected from any larger collective practice. Web 2.0 critic Clay Shirky expands upon this schism:

“Participation in online communities often provides a sense of satisfaction that actually dampens a willingness to interact with the real world. When you’re communicating with like-minded souls, you *feel* like you’re accomplishing something by arguing out the smallest details of your perfect future world[....]both the way the online environment flattens interaction and the way everything gets arranged for the convenience of the user makes the threshold between talking about changing the world and changing the world even steeper than usual.” (Dean, 2008, pg. 40)

An increasing self-reliance on the web is changing the way we position and prioritize new media. A growing participatory culture (e.g., user as producer) and the continuing diffusion and growth of the Internet is facilitating a grassroots expansion of social, political, and environmental activity. That said, it’s imperative to consider who benefits from these developments and who gets left behind. In order to fully realize the democratic potential of networked technologies—or of a digital commons—campaigns that claim to reach ‘ordinary people’ must consider those citizens and communities that lack the infrastructure, literacy, and

capital required to participate. While ‘acts of green’ may empower users to improve their own environment, they must also transform poverty-stricken communities through improving environmental conditions and building social ties. Put differently, we are all in this together.

As such, celebratory rhetoric of web 2.0 should be taken with a degree of caution. A campaign like OMAoG cannot support a movement of and through new media. Environmentalism demands much more than networked communication to advance its message. Without building diverse relationships and organizing groups, eventful environmental efforts lack the fundamental and dutiful elements that shape and guide sustained democratic action.

Limitations of OMAoG campaign

While Cisco praised OMAoG to be successful, they also sensationalized the overall outcome, or impact, OMAoG had on the environment. Although the campaign claimed to reduce over one hundred thousand metric tonnes (t) in emissions, we don’t have a comprehensive indicator as to how accurate these numbers are. That is, there is no finite way of knowing how many green acts were exaggerated and how many were actually committed. What’s more, while Cisco claims that over 65,000 Canadians were involved, it is not accurate to suggest that all of these members pledged and/or committed acts of green. This number reflects the amount of people who registered through the OMAoG site, not necessarily total contributions.

Further, it raises concerns over where the self-efficacy lies for individuals now that the campaign is over. If people used the site to merely register and pledge green acts, where is the staying power in keeping them there long-term? As evidenced through OMAoG member accounts, none of the active groups who competed in challenges are using the website or taking emissions reduction measures in the same capacity. While the campaign reached its goal in the

near-term from a business perspective (reaching its ‘acts of green’ target), the likelihood of maintaining long term emissions reduction through engaging in green acts online is questionable.

There are other limitations worth noting. Although the website provides educational resources about climate change and environmental issues, members are not required to inform themselves before committing ‘acts of green.’ While a low barrier to entry is effective for pulling people in, committing ‘acts of green’ doesn’t necessarily make one more knowledgeable about these acts or promote critical thinking (i.e., make connections between individual action, and wider social, political and environmental implications).

OMaOG demonstrated that traditional media and new media have the promotional capacity to reach a national audience, yet whether these efforts keep traction online without the support mechanisms of collaboration, organized competitions, social capital incentives, and other action on the ground will determine the longer-term adoption of the campaign in the United States and around the Globe. To see this through, OMaOG needs to re-evaluate their program direction to prioritize these considerations, create ways to make participation meaningful for differentiated groups, and expand green acts to accommodate the range of motivations environmental advocates are influenced by. While the intention was to model the OMaOG website after Facebook, it seems clear that this approach is only advantageous and compatible when the site is frequented. Facebook is a busy hub of activity—if you can’t reflect this in a similar model than it could work against you. As shown through some participant passages, people expect a response (message) when they log onto Facebook and other platforms, otherwise they lack motivation to return.

It is clear that some ‘acts of green’ are less onerous than others due to their low-risk

involvement. Therefore, improving methods to engage people in more challenging acts should be considered. Acts such as ‘telecommuting’ will become more accessible for average households as the speeds of broadband networks increase to support bandwidth demand. Cisco is committed to developing technology solutions that mitigate emissions from air and car travel. Their championing of “TelePresence” allows for businesses and organizations to collaborate via an online network with high quality video and audio. Cisco has established multiple public TelePresence locations internationally (Cisco 2009). Rewarding active businesses that participate in OMAoG with TelePresence technology would be an effective incentive to harvest support and encourage companies to adopt more sustainable measures.

Contribution

This study contributes to a nascent area of scholarship that combines networked communication and information technologies with individual involvement in environmental issues. The major findings established the following outcomes (1) put forth a theoretical and critical background for a larger project examining the impact of information and communication technologies on facilitating environmental issues, specifically their role in breaking down barriers to involvement and incorporating democratic goals (2) contributed empirical work to new media scholarship that focuses on “personalization” and (3) broadened discussion of networked communication and information technologies by demonstrating that unless sufficiently motivated to act emerging technologies will not necessarily give individuals and groups the platform to continue their environmental efforts.

Closing Remarks and Future Research

This Major Research Paper (MRP) discussed the ways in which the Internet was used to support citizens interested in environmentalism. It particularly highlighted the relationship

between online social networking tools and environmental initiatives that promote emission reduction strategies. This was illustrated through a case study of actions being taken by individuals across households in Canada to reduce GHG emissions. It suggested that online environmental campaigns are effective at simplifying barriers to entry and provide opportunities for individuals to integrate environmentally responsible behaviours into their lifestyle. However, it also demonstrated that in the absence of high user activity and group efforts these barriers are reenacted, making committing environmental acts less likely. In addition, it also showed that corporate sector promotion of environmentalism comes with its problems. Cisco tended to romanticize OMAoG as an authentic, grassroots project that inspired Canadians to mobilize environmental efforts. Inversely, it wasn't a bottom-up effort, but rather a campaign with many top-down measures. Cisco and CBC's efforts of soliciting businesses, communities, and workplaces was essential to gaining the support it did. At best, it was an exercise in reputation enhancing for Cisco's corporate environmental image that provided short-term gains. As it stands, the company seems less interested in extending similar resource capacity to the US campaign.

On a larger scale, impending efforts ultimately fall on the backs of individuals, communities and decision-makers to unite social, economic and psychological factors. While reducing household emissions is an important step, lack of government movement and action towards climate change magnifies factors of powerlessness and ambiguity, making people question once again their individual ability to take environmental action and feel like they are making a difference.

Communicating environmental issues objectively has therefore never been more important given the expressed uncertainty in the media, which has provided leverage for climate-

change skeptics to advocate their agenda. In speaking to the success of OMAoG one participant suggested “you need strong partners, usual and sometimes unusual ‘suspects’, to tackle the big issues of the day.” This study offered a detailed overview of a large-scale environmental campaign that had a diverse range of stakeholders involved. More research is needed that addresses how corporate environmental initiatives can continue once their business goals have been reached. This research could be helpful for environmental organizations interested in cross-industry partnerships for sustainability that include the use of online, social media platforms. Specifically, the major findings could be formulated into a best practice document that would be valuable for existing and future stakeholders involved with OMAoG. Although of small impact, campaigns like OMAoG are very much essential to informing and normalizing these issues in the wake of widespread attention, debate and criticism.

References

- Baer, H A; Singer, M, eds. 2009. *Global Warming and the Political Ecology of Health: Emerging Crises and Systemic Solutions*. Walnut Creek, CA: Left Coast Press.
- Banaji, Shakuntala; David Buckingham. 2009. 'The Civic Sell: Young people, the Internet, and Ethical consumption.' *Information, Communication, and Society*. 12(8): 1197-1223.
- Black, Willa. 2009a. 'Interview by Author. E-Mail. Toronto, Canada. 29 September '.
- Black, Willa. 2009b. 'One Million Acts of Green'. Proceedings of the ITAC (Information Technology Association of Canada Digital Business Forum; Toronto.
- Boyd, Danah M.; Ellison, Nicole B. 2007. 'Social Network Sites: Definition, History, and Scholarship'. *Journal of Computer-Mediated Communication* 13 (1): 11.
- Bramley, Matthew; Sadik, Pierre; Marshall, Dale. 2009. 'Climate Leadership, Economic Prosperity: Final Report on an Economic Study of Greenhouse Gas Targets and Policies for Canada'. Toronto: Pembina Institute and The David Suzuki Foundation.
- Bucy, E.P., & Newhagen, J.E. 2004. *Media access: Social and psychological dimensions of new technology use*. Mahwah, NJ: Lawrence Erlbaum Associates
- Cheng, Alex; Mark Evans; Harshdeep Singh. 2009. 'Inside Twitter: An In-depth look inside the Twitter World. Sysomos Inc. Available online: <http://www.sysomos.com/insidetwitter/>
- Chess, Caron; Johnson, Branden B. 2007. Information Is Not Enough. In *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, edited by Moser, S. C and L, Dilling. Cambridge: Cambridge University Press. 223-233.
- Cisco. 2009. 'Cisco TelePresence Solutions'. Accessed 8th December 2009. Available from: http://www.cisco.com/en/US/netsol/ns669/networking_solutions_solution_segment_home.html

- Corbett, J B. 2006. *Communicating Nature: How We Create and Understand Environmental Messages*. Washington, DC: Island Press.
- Corbyn, Peter. 2009a. 'Interview by Author. Telephone. Toronto, Canada. 25 September'.
- Corbyn, Peter. 2009b. 'Interview by Author. Telephone. Toronto, Canada. 30 October'.
- Cox, J R. 2006. *Environmental Communication and the Public Sphere*. Thousand Oaks, CA: Sage.
- Dean, Jodi. 2009. *Democracy and Other Neoliberal Fantasies: Communicative Capitalism and Left politics*. Duke University Press, Durham. 19-48.
- Dietz, Thomas; Gardner, Gerald T.; Gilligan, Jonathan; Stern, Paul C.; Vandenberg, Michael P. 2009. 'Household Actions Can Provide a Behavioral Wedge to Rapidly Reduce U.S. Carbon Emissions'. *Proceedings of the National Academy of Sciences of The United States of America* 106(44).
- Green, J. and H. Jenkins. 2009. 'The Moral Economy of Web 2.0: Audience Research and Convergence Culture', in J. Holt and A. Perren(eds) *Media Industries: History, Theory, and Method*. Malden, MA: Wiley-Blackwell: 213–225
- Griskevicius, Vladas; Tybur, J. M.; Bergh, B. Van Den. forthcoming. 'Going Green to Be Seen: Status, Reputation, and Conspicuous Conservation'. *Journal of Personality and Social Psychology*.
- Gupta, Sujata. 2007. Policies, Instruments and Co-Operative Arrangements. In *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by Metz, B. Cambridge, UK and New York, NY: Cambridge University Press. 776.
- Hardy, C L; Van Vugt, M. 2006. 'Nice Guys Finish First: The Competitive Altruism Hypothesis'. *Personality and Social Psychology Bulletin* 32 (10): 1402-1413.
- Hasbrouck, J; Woodruff, A. 2008. 'Green Homeowners as Lead Adopters: Sustainable Living and Green Computing'. *Intel Technology Journal* 12 (1): 39-48.
- Heil, Bill and Mikolaj Piskorski. 2009. 'New Twitter Research: Men Follow Men and Nobody Tweets.' Available Online. http://blogs.hbr.org/cs/2009/06/new_twitter_research_men_follo.html
- Johnston, J. 2008. 'The Citizen-Consumer Hybrid: Ideological Tensions and the Case of Whole Foods Market'. *Theory and Society* 37 (3): 229-270.
- Kennedy, E H; Beckley, T M; Mcfarlane, B L; Nadeau, S. 2009. 'Why We Don't "Walk the Talk":

- Understanding the Environmental Values/Behaviour Gap in Canada'. *Human Ecology Review* 16 (2): 151-160.
- Kennedy, Helen. 2008. 'New Media's potential for Personalization.' *Information, Communication and Society*. 11(3): 307-325.
- Leiserowitz, Anthony. 2007. Communicating the Risks of Global Warming: American Risk Perceptions, Affective Images, and Interpretive Communities. In *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, edited by Moser, S. C and L, Dilling. Cambridge: Cambridge University Press. 44-63.
- Luders, M. 2008. 'Conceptualizing Personal Media'. *New Media & Society* 10 (5): 683-702.
- Mankoff, J; Matthews, D; Fussell, R; Johnson, M. 2007. *Leveraging Social Networks to Motivate Individuals to Reduce Their Ecological Footprints. Proceedings of the 40th Hawaii International Conference on System Sciences. 3-6 January*; . Big Island, Hawaii: Waikoloa.
- Melosi, M.V. 2006. Environmental justice, ecoracism, and environmental history. In D. Glave & M. Stoll (Eds.), *To love the wind and the rain: African Americans and environmental history*. University of Pittsburgh Press. 120-132.
- Michaelis, L. 2007. Consumption Behavior and Narrative of the Good Life. In *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, edited by Moser, S. C and L, Dilling. Cambridge: Cambridge University Press. 251-265.
- Milinski, M; Semmann, D; Krambeck, H; Marotzke, J. 2006. 'Stabilizing the Earth's Climate Is Not a Losing Game: Supporting Evidence from Public Goods Experiments. *Proceedings of the National Academy of Sciences, USA*, 103, 3994– 3998.'
- Miller, V. 2008. 'New Media, Networking and Phatic Culture'. *Convergence* 14 (4): 387-400.
- Moser, S. C; L, Dilling. 2007. *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*. Cambridge: Cambridge University Press.
- Munshi, D; Kurian, P. 2005. 'Imperializing Spin Cycles: A Postcolonial Look at Public Relations, Greenwashing, and the Separation of Publics'. *Public Relations Review* 31 (4): 513-520.
- Online, CBC. 2009. 'One Million Acts of Green'. Accessed 5 November 2009. Available from: <http://green.cbc.ca/>
- O'Reilly, Tim. 2005: "What is Web 2.0?" Accessed 8th March 2010. Available From: <http://oreilly.com/web2/archive/what-is-web-20.html>
- Pew Internet Project. 2009. 'Twitter and Status Updating, Fall 2009'.

- Rogers, E.M. 2003. *Diffusion of Innovations*. Fifth Ed. New York: Free Press.
- Rosenwarne, Stuart. 2002. 'Towards an ecological political economy'. *Australian Journal of Political Economy* 50: 179-199.
- Roser-Renouf, C; Nisbet, M. C. 2008. 'The Measurement of Key Behavioral Science Constructs in Climate Change Research'. *International Journal of Sustainability Communication* 3: 37-95.
- Russill, C; Nyssa, Z. 2009. 'The Tipping Point Trend in Climate Change Communication'. *Global Environmental Change* 19 (3): 336-344.
- Spinuzzi, Clay. 2009. 'Starter Ecologies: Introduction to the Special Issue on Social Software'. *Journal of Business and Technical Communication*, 23: 251-262.
- Statistics Canada. 2009. 'Canadian Internet Use Survey, 2009'. Accessed 28th May 2009. Available from: <http://www.statcan.gc.ca/daily-quotidien/100510/dq100510a-eng.htm>
- Tapscott D., & Williams, A. 2006. *Wikinomics: How mass collaboration changes everything*. New York: Portfolio.
- Terranova, T. 2004. *Network Culture: Politics for the Information Age*. London: Pluto Press. 39-71.
- The Globe and Mail. 2009. 'One Million Acts of Green: Information Feature'.
- Van Vugt, Mark. 2009. 'Averting the Tragedy of the Commons: Using Social Psychological Science to Protect the Environment'. *Current Directions in Psychological Science* 18 (3): 169-173.
- Wittel, A. 2001. 'Toward a Network Sociality'. *Theory, Culture & Society* 18 (6): 51-76.
- Woodruff, A; J, Hasbrouck; S, Augustin. 2008. 'A Bright Green Perspective on Sustainable Choices'. *Proc. CHI* 313-322.

APPENDIX A: Research Ethics Board (REB) approval

From View message header detail alex.karabanow@ryerson.ca
Sent Wednesday, September 16, 2009 2:02 pm
To j2biggar@ryerson.ca
Subject Comment RE: REB 2009-NIL Building environmental interest online: Research into 'Going Green' media strategies

Dear Jeffrey Biggar,

Jeffrey Biggar
Joint Graduate Program in Communication and Culture

Building environmental interest online: Research into 'Going Green' media strategies

The Board has deemed your project to be considered a professional practice endeavour and therefore not subject to Research Ethics Board review. Your project can begin at any time as Research Ethics Board approval is not required.

Best of luck.

If you have any questions regarding your submission or the review process, please do not hesitate to get in touch with Sharon Wong (ext. 6931, <rebchair@ryerson.ca>) or Alex Karabanow (ext. 7112, <alex.karabanow@ryerson.ca>).

Record respecting or associated with a research ethics application submitted to Ryerson University.

Yours sincerely,

Alex Karabanow on behalf of
Sharon Wong, Ph.D.
Interim Chair, Research Ethics Board

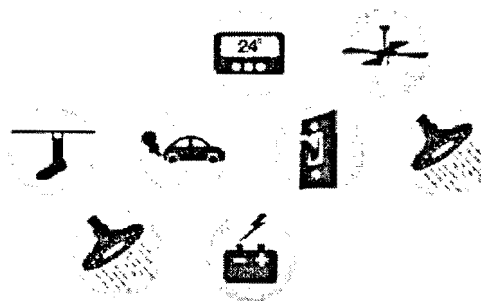
Alexander Karabanow
Office of the Vice President, Research and Innovation
Ryerson University, 350 Victoria Street, Room YDI 1154
Toronto, Ontario, Canada M5B 2K3
Phone: (416) 979-5000 Ext. 7112, Fax: (416) 979-5336
Email: alex.karabanow@ryerson.ca Web: <http://www.ryerson.ca/research>

APPENDIX B: Interview Participant Recruitment Letter

Interview Notice

QuickTime™ and a
BMP decompressor
are needed to see this picture.

- Did you participate in the OMAoG campaign?
- We want to hear about your experience to inform the future of the campaign and make it stronger
- OMAoG is now an international environmental effort
- We kindly ask for 15 MINTUES of your time to hear your side of the OMAoG story.



Date: Tuesday, December 15th from 6:00-6:15

Location: comfort of your own home: Online web forum

If interested, please contact Jeff Biggar for details:

jeff.biggar@gcicanada.com or 416-486-5924

APPENDIX C: Sample Focus Group Question Guide

Focus Group Guide

Background (15 minutes):

- current status of OMAoG campaign
- approx. 8,000 members have transferred their accounts
- open discussion about student's transfer accounts and current acts of green
 - o **Have you transferred your account?**
 - o **Do you have the same level of commitment as 1 year ago?**
 - o **Did you find you were given enough notice to transfer in time**

Getting the word across (15 min)

- degree of difficulty in acts of green
 - o **Did you find these acts to be challenging?**
 - o **Did you find the site easy to use?**
 - o **How did you manage including green acts in your day-to-day schedule**
 - o **Was CBC's *The Hour* a part of your OMAoG experience**

Participation variables (10 min)

- discussion about being green/environmentally friendly and staying committed
- **Did you take environmentally responsible actions prior to OMAoG?**
 - **did your school's involvement influence your participation?**
 - **What factors made your experience enjoyable, or not?**
 - **Were your families on board?**

Suggestions (10 minutes)

What are some negative factors?

What do you think could be improved?

Are there any incentives that might motivate you to participate more?

APPENDIX D: Research Release Form

Consent Agreement

Exploring user experience in the One Million Acts of Green campaign: Lessons learned and Developing Solutions for future environmental campaigns online

You are being asked to participate in a research study. Before you give your consent to be a volunteer, it is important that you read the following information and ask as many questions as necessary to be sure you understand what you will be asked to do.

Investigators:

Jeff Biggar
Research Officer
GCI Group
46 Spadina Ave 4th floor
M5V 2H8
Telephone: (416) 486 5924
E-mail: jeff.biggar@gcicanada.com

Purpose of the Study:

This study is about how people participate in action-oriented environmental programs online. In this particular case, the focus will be on member involvement with CBC-Cisco's OMAoG. There are many reasons why it is important to understand how the Internet can be used to encourage environmentally sustainable behaviour. More and more people are utilizing social media tools—social networking sites, blogs, etc—to access information and form niche communities. Meanwhile there is growing global consensus that environmentally destructive habits (overuse of energy, high Co2 emissions from cars) need to be reduced by everyone, including individuals. There are an increasing number of content providers (e.g. web sites) that are combining “going green” tips, “carbon calculator” options, and community forums similar to OMAoG. All of this is based on the belief that signing up with these sites and adopting sustainable behaviours will have positive influences on improving our environment (e.g, (lowering Green house gases). However, there have not been comprehensive studies to examine this proposition. This study will provide answers to help understand the impacts of initiatives like the OMAoG campaign, to encourage future program decisions and improve the ways action-oriented environmental web sites function.

Description of the Study:

You are being asked to participate in a focus group. It is expected that the focus group will be approximately 1.25 hours in length, and will be held at GCI Group. No further time commitment is required on the part of participants.

Sample questions include:

- Why did you choose to participate in the OMAoG campaign?

- Have you transferred your account to the current web site?
- Did you take environmentally responsible actions prior to OMAoG?
- What do you think could be improved?

What is Experimental in this Study:

None of the procedures used in this study are experimental in nature. The only experimental aspect of this study is the gathering of information for the purpose of analysis.

Risks or Discomforts:

You will be asked to discuss your participation in the OMAoG campaign and your environmental habits in general. If you feel uncomfortable doing this, you may withdraw from the focus group at any time.

Benefits of the Study:

This research provides benefits for creators of web-based environmental sites and users who participate with these sites. The results of the study will be used to influence the design of future action-oriented environmental campaigns, make recommendations for user motivations, and to inform decision making about investments in new models. By participating, you will contribute to an understanding of how these sorts of campaigns work and how to make them better. While there are benefits for users and environmental organizations as a whole, the research team cannot guarantee that you will personally receive any benefits from participating in this study.

Use of Focus Group Findings:

The information that is collected in this focus group will be used for academic and industry research purposes only. This information may be used in peer-reviewed publications or presentations, and corporate executive summaries for OMAoG partners (e.g., GreenNexus).

Information will generally be presented in summary form, but some individual responses will be presented as part of the findings. Individual responses will be included as direct quotations, with no identifying information provided.

Confidentiality:

All project files (audio or video recordings of focus groups, text-based transcripts) will be archived electronically, and kept by the researchers in a secure location for five years.

You will not be identified in any project reports, documents and published materials. Information provided to the research team will be shared with project partners on an anonymous basis. While the researchers will promise confidentiality, they cannot guarantee this on behalf of the other focus group participants, although it will be requested.

Incentives to Participate:

You will not be paid to participate in this study, however lunch and transportation will be provided.

Costs and/or Compensation for Participation:

There is no compensation for participating in this project.

Voluntary Nature of Participation:

Participation in this study is voluntary. If you decide to participate, you are free to withdraw your consent and to stop your participation at any time without penalty or loss of benefits to which you are allowed. At any particular point in the study, you may refuse to answer any particular question or stop participation altogether.

Questions about the study:

If you have any questions about the research now, please ask prior to beginning the group and/or on the day of. If you have questions later about the research, you may contact.

Jeff Biggar, Principal Investigator
(416) 486-5924

Agreement:

Your signature below indicates that you have read the information in this agreement and have had a chance to ask any questions you have about the study. Your signature also indicates that you agree to be in the study and have been told that you can change your mind and withdraw your consent to participate at any time. You have been given a copy of this agreement.

You have been told that by signing this consent agreement you are not giving up any of your legal rights.

Name of Participant (please print)

Signature of Participant

Date

Please initial here to indicate consent to audio tape your focus group. _____

Signature of Investigator

Date