Research Article

Are There Good Metrics for Evaluating Web 2.0 Campaigns?

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Abstract: Web 2.0 is a type of Internet communication that allows users to create and share content online as well as socialize with one another. Web 2.0 has been described as a vital tool for social marketing and health promotion practitioners to utilize in order to reach and engage with target audiences in real time. Yet, little published literature exists pertaining to accepted metrics and measurement strategies for formative, monitoring, and evaluation efforts of health promotion and social marketing campaigns. This article examines the current approaches being undertaken by health promoters and social marketers working with Web 2.0 platforms. A framework is provided outlining the overall purpose, research questions, key performance indicators, and metrics, research methods utilized, and potential research questions for the future pertaining to formative, monitoring, and outcome evaluation research of health promotion and social marketing campaigns using new media channels.

Keywords: Internet, research agenda, formative, monitoring, evaluation

1. Introduction

1.1. Introduction to Web 2.0

Web 2.0 is a relatively recent form of Internet-based communication that allows for a “continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an ‘architecture of participation’ ... to deliver rich user experiences” (O’Reilly, 2007, p. 17). Key benefits of Web 2.0 are that it reaches a geographically broad audience, it is cost-free, and it is easy to use (Korda & Itani, 2011).

1.1.1. Elements of Web 2.0: Social Media, User-Generated Content and Interactivity

The main components of Web 2.0 are interactivity and collaborative content sharing (Korda & Itani, 2011). Web 2.0 differs from Web 1.0, the earlier form of the Internet, because of its two-way interactive nature that allows Internet users to socialize online and create their own content (Lefebvre, 2007; Thackeray, Neiger, Hanson, & McKenzie, 2008). Web 1.0 was far less interactive than Web 2.0, allowing only users with specialized skills to update web pages and create their own content online (Thackeray et al., 2008).

A multitude of cost-free Web 2.0 interactive technologies facilitate user-generated content...
and social media (Kaplan & Haenlein, 2010). These platforms include, but are not limited to: blogs (e.g., Blogger.com and Livejournal.com; Eason, 2007; Thackeray et al., 2008), wikis (e.g., Wikipedia; Kennedy et al., 2007), social networking sites (e.g., Facebook, MySpace, and Twitter; Lefebvre, 2007; Uhrig, Bann, Williams, & Evans, 2010), and file-sharing sites (e.g., Flickr or Fotolog for photo sharing and YouTube for video sharing; Eason, 2007; Kennedy et al., 2007; Thackeray et al., 2008).

1.2. Health-Related Web 2.0 Campaigns

Web 2.0 provides an important set of tools for marketers to use in order to engage and create a dialogue, with target audiences in real time (Miller & Lammas, 2010). Social marketing and health promotion professionals have recognized the potential for Web 2.0 to facilitate reaching and empowering target audiences in their health-related decision making and have started to utilize these channels to disseminate their campaign messages (Korda & Itani, 2011). Despite the recent uptake of Web 2.0 platforms for social marketing and health promotion efforts, very little has been published about its appropriate role for health promotion; even less has been published on how research is being used to inform, monitor, or evaluate these efforts (Neiger et al., 2012). Neiger et al. (2012) argue that it is increasingly important for social marketing and health promotion campaign managers to track both key performance indicators (KPIs) and metrics for Web 2.0 campaigns. They define KPIs as a “unique form of a metric identified by an organization as central to [a campaign] assessment” (p. 159) and a metric as a “single variable that gets measured” (p. 159).

Miller & Lammas (2010) also identify the key problem being faced by marketers targeting users of Web 2.0 platforms: the lack of “uniform measurements” available to monitor and evaluate their efforts (p. 3). They compare Web 2.0 channels to traditional channels of communication (such as television) and argue that established and accepted means exist to inform, measure and manage marketing campaigns for these traditional channels but to date not for Web 2.0 (Miller & Lammas, 2010).

1.3. Identifying the Problem

In the case of Web 2.0 social marketing and health promotion campaigns, the lack of accepted metrics and measurement strategies for formative, monitoring, and evaluation efforts has resulted in marketing efforts that tend to be experimental (Miller & Lammas, 2010). Korda and Itani (2011) recently conducted an environmental scan of evidence-based social marketing campaigns to determine whether Web 2.0 research methods resulted in health-related behavior change. They found that evaluation metrics varied widely in focus. A key finding of their research was that social marketing and health promotion campaigns which used Web 2.0 channels were generally not designed with assessment in mind.

2. Frameworks for Social Marketing & Health Promotion Practice

This paper aims to examine how formative, monitoring, and outcome evaluation research are currently being approached by health promoters and social marketers working with Web 2.0 platforms. Frameworks are provided for formative, monitoring, and outcome evaluation research using new media channels across the key content areas of: overall purpose, research questions, KPI’s and metrics, research methods utilized; and potential research questions are proposed for the future research (see Table 1, 2, & 3).

2.1. Formative Research

Table 1. summarizes key content areas discussed under a framework for Web 2.0 formative campaign research.
2.1.1. Research Purpose

Formative research allows social marketing and health promotion practitioners to better understand target audiences and their perceptions of health promotion or social marketing campaign offerings (Grier & Bryant, 2005; Wymer, 2011). The purpose of formative research — undertaken during the initial stages of campaign planning — is to determine which target audience should be selected and the key factors that should be used in a campaign to encourage actual or intended health-related behavior change (Andreasen, 1995; Grier & Bryant, 2005). The end goal is to devise a strategy where the target audience perceives that the benefits of healthy behavior exceed the benefits of unhealthy behavior (Wymer, 2011).

2.1.2. Research Questions

Formative research addresses overarching questions to aid social marketing and health promotion campaign planning, such as: Which factors motivate healthy behavior? What processes can be used for effective campaigns? What is the segment at risk? What are the target audience’s needs, values, and aspirations? (Andreasen, 1995; Donovan, Egger, & Francas, 1999; Gittelsohn et al., 2006; Grier & Bryant, 2005; Wymer, 2011).

2.1.3. KPIs, Metrics, and Research Methods for Formative Research on New Media Channels

During the formative research stage, KPIs are broadly defined by social marketers and health promoters working with new media channels as target audience insights. Associated metrics include existing needs, wants, beliefs, and barriers to behavior change (Neiger et al., 2012; Social Marketing National Excellence Collaborative, 2003). Neiger et al. (2012) defines target audience insights as “feedback from social media applications that can be derived from practices such as sentiment analysis or data mining that use algorithms to extract consumer attitudes and other perspectives on a particular topic from social media sites” (p. 162).

Formative research can involve both qualitative and quantitative methods and two types exist (Andreasen, 1995; Gittelsohn et al., 2006; Grier & Bryant, 2005): primary research (undertaking original research to inform a campaign) and secondary research (the use of existing data). For primary research on Web 2.0 platforms, instead of using traditional qualitative methods (such as focus groups or in-depth interviews) or quantitative methods (e.g., surveys), Web 2.0 platforms are used as a research tool to elicit input or feedback about potential campaign strategies directly from target audiences (Author, YYYY; Neiger et al., 2012). These data are often retrieved from analyzing social media insights (Author, YYYY; Neiger et al., 2012). For secondary research on Web 2.0 platforms, existing Web 2.0 data are used to inform campaigns, often using content analysis of posts and comments on new media channels by the target audience. These posts and comments are typically derived from Internet comment threads and posts (Author, YYYY; Neiger et al., 2012).

Table 1. Formative research metrics for Web 2.0 social marketing campaigns

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<td>Metrics</td>
<td>Needs, wants, beliefs, and barriers to behavior</td>
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2.1.4. Questions for the Future

The use of Web 2.0 is relatively recent to the field of marketing and communications and much remains unknown regarding the appropriate use of formative campaign research for these channels. Examples of unresolved questions that exist for formative Web 2.0 campaign research include:

**Representativeness of Web 2.0 Samples**: To what extent are Web 2.0 Internet users representative of the target audiences that health promoters or social marketers may seek for their campaign planning? For example, Web 2.0 channels tend to dominate usage by young audiences in comparison to older generations (Blank & Troisdorf, 2012).

**Reliability of Web 2.0 Insights**: When conducting secondary research analysis of posts and comments from new media channels for formative campaign research, another emerging question is: How reliable and valid is this information? For example, recent evidence suggests that content produced on Web 2.0 channels (such as posts or comments) is most often from Internet users who are of socio-economic status (Blank & Troisdorf, 2012; Schrader, 2011; Zillion & Hargittai, 2009).

**Reliability of Web 2.0 Insights for Health-Related Behavior Change**: To what extent can conclusions about online patterns in new media behavior inform the campaign planning stages of a social marketing campaign aimed at actual or intended health-related behavior change? Health-related behaviors are difficult to change because they are motivated by personal, cognitive, economic, social, cultural, and structural factors (Wymer, 2011).

By examining these research questions, health promoters and social marketers will be better equipped to identify the key strengths or limitations of formative research as it pertains to campaigns conducted on Web 2.0 platforms.

2.2. Monitoring

Table 2. summarizes key content areas discussed under a framework for Web 2.0 monitoring campaign monitoring research.

Table 2. Monitoring research metrics for Web 2.0 social marketing campaigns

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<td>Purpose</td>
<td>Campaign adjustment</td>
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</table>
| Questions                    | • Which campaign efforts should be continued?  
                                | • Which campaign efforts need to be revised?  |                          |
| KPIs                          | • Exposure: degree to which campaign content is viewed  
                                | • Reach: degree to which target audience comes into contact with a campaign  | • How realistic is it that monitoring data will be used to improve or adjust a social marketing or health promotion campaign?  
                                | • Exposure: visits, views, click-throughs, number of comments, and number of ratings  | • To what extent are exposure and reach adequate Web 2.0 monitoring metrics?  |
| Metrics                      | New media insights and Web 2.0 posts |

2.2.1. Research Purpose

Monitoring research allows social marketing and health promotion program planners to examine the effectiveness of campaign efforts during execution (Andreasen, 1995). Monitoring data can be
used to identify which factors are contributing to success or failure of a campaign; and to inform how the campaign should be adjusted over time (Andreasen, 2012; Neiger et al., 2012).

2.2.2. Research Questions

When health promotion or social marketing campaigns are implemented, characteristics related to the campaigns are monitored to determine whether the efforts are effective (therefore should be continued) and to determine which activities or efforts may require midcourse revisions (Grier & Bryant, 2005). Monitoring serves to answer the following research questions: Which campaign efforts should be continued? Which campaign efforts need to be discontinued or revised?

2.2.3. KPIs, Metrics, and Research Methods for Monitoring Research on New Media Channels

The KPIs associated with campaign monitoring on new media platforms include: exposure (the degree or number of times that the content of a campaign on a Web 2.0 platform is viewed by the target audience) and reach (the degree or number of people from the target audience who have come in contact with the Web 2.0 campaign; Andreasen, 1995; Neiger et al., 2012).

To measure campaign exposure on new media channels, metrics typically include: visits, views, click-throughs, number of comments, and number of ratings (Neiger et al., 2012).

Web 2.0 metrics utilized to measure campaign reach include: number of fans/page likes, number of people participating in discussions, unsubscribed fans, number of followers or subscribers, demographics of subscribers/fans/followers, and growth rate of fans, followers, and friends (Neiger et al., 2012).

New media monitoring research methods for examining exposure and reach are similar to the formative research methods – new media insights or Web 2.0 posts are often analyzed as the research method to determine campaign success (Miller & Lammas, 2010).

2.2.4. Questions for the Future

Very little academic data exists regarding how Web 2.0 Internet users interact with Web 2.0 channels. The data that does exist has often not been collected in a systematic way (Blank & Troisdorf, 2012). Thus, questions remain related to monitoring on Web 2.0 channels for health promotion or social marketing campaigns:

* Ease of Adjusting Campaigns using Real-Time Data: A key question which arises regarding campaign monitoring data is how realistic is it to expect that this data will be used to improve or adjust a social marketing or health promotion campaign? Recent evidence suggests that practitioners working in the fields of social marketing and health promotion are still learning how to use new media channels; the degree to which monitoring data will be used to refine campaigns over time remains to be resolved (e.g., Author, YYYY).

* Exposure and Reach as Adequate Monitoring Measures: To what extent are exposure and reach adequate metrics for monitoring a Web 2.0 campaign? Measures of exposure and reach can provide great depth to Web 2.0 campaigns (Blank & Troisdorf, 2012); for example, by examining who was exposed to a Web 2.0 campaign, measures can be obtained about both the intended and unintended audiences reached – such as whether older audiences are engaging with a Web 2.0 message (Blank & Troisdorf, 2012).

With the availability of real-time Web 2.0 monitoring research sources (such as Twitter Insights), there is substantial potential for health promotion and social marketing campaign planners to access extensive and detailed data for monitoring campaigns (Author, YYYY; Neiger et al., 2012).

2.3. Outcome Evaluation

Table 3. summarizes key content areas discussed under a framework for Web 2.0 outcome evaluation research relevant to health promotion and social marketing campaigns.
2.3.1. Research Purpose

Campaign outcome evaluation is used to determine the cause and effect links (both intended and unintended) between a social marketing or health promotion effort and health-related behavior changes (actual or intended) after the campaign has been executed (Andreasen, 1995; Nutbeam, 1998). Due to the complex nature of behavior change, social marketing and health promotion campaign outcome evaluations typically consider three factors: (a) who received the campaign message/intervention, (b) what impact did the campaign have on the target audiences (before and after exposure), and (c) what, if any, changes in healthy behavior and health status can be directly attributed to the campaign (Korda & Itani, 2011; Nutbeam, 1998).

2.3.2. Research Questions

Web 2.0 social marketing and health promotion campaign outcome evaluations attempt to link campaign engagement to behavior change measures and social action (Neiger et al., 2012). The overarching research question for campaign outcome evaluations is: Did the campaign effort result in raising awareness, changing attitudes, and ultimately in changing health-related behaviors (Andreasen, 1995; National Social Marketing Centre, NSMC, 2010)?

2.3.3. KPIs, Metrics, and Research Methods for Outcome Evaluation Research on New Media Channels

KPIs associated with Web 2.0 campaign outcome evaluations include: engagement (degree of Web 2.0 campaign participation) and behavior change (Andreasen; 1995; Neiger et al., 2012).

2.3.4. Outcome Evaluation Research in New Media Campaigns: Metrics and Research Methods

Outcome evaluation metrics for Web 2.0 social marketing and health promotion campaigns

Table 3. Outcome evaluation research metrics for Web 2.0 social marketing campaigns

<table>
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</table>
| Purpose | Campaign effectiveness | KPIs | • Engagement: campaign participation  
• Behavior change: healthy behavior change |
| Questions | How successful was the campaign at achieving awareness, attitude changes, and ultimately behavior change? | Metrics | • Low engagement: ratings, likes, frequency of favorites, and number of threads  
• Medium engagement: user-generated content, comments on posts, comment rate, number of threads, frequency of new discussions, new topics, downloads/uploads, and number of post/video/link shares  
• High engagement/behavior change: number of registrants for services, number who participate in off-line advocacy, and events participation |
| Research methods | New media insights, Web 2.0 posts, and program data | |

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range from low, to medium, to high campaign engagement and are measured by analyzing new media insights, Web 2.0 posts, and program data. *Low Web 2.0 campaign engagement* is defined as engagement where the participant is merely acknowledging an agreement to Web 2.0 campaign content (Neiger et al., 2012). Examples of low engagement Web 2.0 metrics include: ratings, likes, frequency of favorites, and number of threads. *Medium Web 2.0 campaign engagement* is when Internet users create or share the campaign content and may thereby influence others into social action (Neiger et al., 2012). Examples of medium Web 2.0 engagement metrics include: user-generated content, comments on posts, comment rate, number of threads on discussion topics, frequency of new discussions, new topics, downloads, uploads, and the number of times a post/video/link was shared. Lastly, *high Web 2.0 campaign engagement* occurs when Web 2.0 social marketing and health promotion campaign participation continues off-line through behavior change initiatives (Neiger et al., 2012). Examples of high engagement Web 2.0 metrics include: number of people who register for services/make an appointment, number of people who participate in off-line advocacy, and number of people who participate in events.

2.3.5. Questions for the Future

Links between health actions and outcomes are complex and difficult to trace (Nutbeam, 1998). With Web 2.0, both actual and intended behavior change is increasingly difficult to measure and unresolved questions exist regarding outcome evaluation research on these channels:

*Validity and Reliability of Web 2.0 Outcome Evaluations*: Is internal validity possible for Web 2.0 outcome evaluations of health promotion and social marketing campaigns? For example, best practices in drawing conclusions about behavior change as a result of a social marketing or health promotion campaign typically employ control conditions to increase the merit of causal inferences (e.g., Bauman, Smith, Maibach, & Reger-Nash, 2006). Yet, Web 2.0, the "architecture of participation" increases its value as more people participate and in doing so it is largely uncontrolled (Blank & Troisdorf, 2012; O’Reilly, 2007). With Web 2.0 measures, high internal validity from controlled experiments may not be possible.

*Behavior Change: What are the differentiating factors between the Web 2.0 platforms that receive higher engagement and those which do not?* According to Blank & Troisdorf (2012) a research question which remains unresolved is what motivates Web 2.0 users to participate in content creation given the time-consuming nature of the medium. A challenge Web 2.0 social marketing and health promotion practitioners may face is identifying why target audiences participate in campaigns in different ways: ranging from low, to medium, to high campaign engagement.

By examining these research questions, health promoters and social marketers will be better equipped to identify the key strengths or limitations of Web 2.0 outcome evaluation metrics. Potentially, greater knowledge will be achieved to help determine the merit of outcome evaluation metrics with regard to the ability of Web 2.0 social marketing and health promotion campaigns to impact actual or intended health behavior changes.

3. Conclusions and Lessons Learned

Although Web 2.0 is increasingly popular, some experts working in the field argue that new media channels should not be viewed “as a solution to the complexities of behavior change and improved health outcomes though there are certainly applications that can support the change process” (Neiger et al., 2012, p. 162).

Frameworks for conducting formative, monitoring, and evaluation research of Web 2.0 campaigns are indeed at their early stages (Korda & Itani, 2011). Over time it will be interesting to observe whether any established approaches that are utilized traditionally in health promotion evaluations are adapted and used for Web 2.0 campaign efforts. An example is the 1999 RE-AIM framework for evaluating population-based impacts of online health promotion interventions and behavior change programs (Glasgow, 2007; Korda & Itani, 2011; RE-AIM, 1999). This framework incorporates formative, summative, and outcome evaluation and looks at reach, campaign effectiveness, adoption, implementation, and maintenance. RE-AIM has been cited as particularly useful for translating research into real world settings (RE-AIM, 1999).

This article lays the foundation for a Web 2.0 campaign evaluation research framework and attempts to identify questions which, if examined and strategically researched over time, could contribute to improvements in the ways that health promoters and social marketers implement Web 2.0 campaigns.
References


