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Kay Noyen
ETH Zurich, knoyen@ethz.ch

Felix Wortmann
University of St. Gallen, felix.wortmann@unisg.ch

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USER CONTRIBUTION IN ONLINE COMMUNITIES – THE INFLUENCE OF ADVERTISING ON THE EFFECTIVENESS OF SOCIAL NORMATIVE FEEDBACK

Kay Noyen, Chair of Information Management, ETH Zurich, Zurich, Switzerland,
knoyen@ethz.ch

Felix Wortmann, Chair of Technology Management, University of St. Gallen, St. Gallen,
Switzerland, felix.wortmann@unisg.ch

Abstract

Online communities are common means to maintain and extend private social networks. In addition, they also offer new ways for enterprises to connect and collaborate with customers, employees, and business partners. However, key challenge for online communities is engaging community members thereby keeping the community successful and alive. This is especially true for communities, which leverage advertising as a source of revenue. A potential means to compensate negative participation effects and foster contribution is social normative feedback being known as one of the most powerful levers of behavioral change. However, we want to challenge the power of this instrument in the context of communities building upon advertising and propose a respective field experiment with 600 participants. Our findings will be important for the design of online communities considering or relying on advertising as a source of revenue.

Keywords: Online Communities, Advertising, Participation, Mobile

1 INTRODUCTION

Advances of information technology have led to the creation of platforms digitalizing many parts of modern life. The evident worldwide adoption of Facebook, Twitter and the like does not only show the significant value created for users of such systems, it also unlocks massive economical potential, thereby transforming traditional businesses and creating new opportunities. However, unlike for e-commerce enterprises like Amazon, it is not the service providers who create the core value for users of these platforms. The users themselves create it. While some popular platforms struggle to find a viable business model, Facebook renders to be economically successful relying on advertisements as a source of revenue.

The recent past has shown the dependency of online communities on advertising revenue to survive economically (Zeng et al., 2009). Thus, the impact of advertising in online communities is of high importance for the long-term sustainability of these communities (Hart, 2007). While this is straightforward thinking from an economic perspective, it is also known that communities could be destroyed by introducing advertising (Mesure and Griggs, 2007). Members might feel exploited by introducing ads, so that they reduce their participation effort and finally quit the community. Obviously, online communities and their providers face a major dilemma: advertising money or active members. A means to compensate negative participation effects and foster contribution is social normative feedback known as one of the most powerful levers of behavioral change (Loock et al., 2011). Users are confronted with feedback on the basis of their contribution in comparison to others. While social normative feedback has been applied successfully in various domains, we challenge its power in the context of communities building upon advertising. More specifically, this paper is dedicated to the research question “Does advertising have an impact on the effectiveness of social normative feedback in the context of user contribution in online communities?” Thereby, our study is relevant to an information systems, behavioral economics, and socio-psychological audience and further has important managerial implications due to its practical relevancy.

To explore the mechanics of online communities guided by our research question, we propose a field experiment based on a mobile application. The application Travel Safety is developed in cooperation with a Swiss national automobile club. The primary purpose of Travel Safety is to inform its users about travel risks and provide real-time travel warnings. Therefore, it integrates travel related information from multiple Twitter channels to provide a holistic picture about the risks involved visiting a specific country or region. To sort out non-travel related information and provide a more structured overview on travel risks, users can mark content as irrelevant and classify the messages on the basis of predefined risk categories, e.g. as “crime” or “natural hazard”. Thereby, the application is promoted as “Travel Safety Community” where users help other users. The community is built on the experiences of other European automobile clubs having established huge traffic jam communities where users can submit traffic disruptions. The experiment involves 600 participants.

The next section reviews existing research in the context of community participation and advertising and social normative feedback. The third section states our hypotheses. Section four describes our empirical study. Section five presents our potential contribution and conclusion.

2 RELATED WORK

2.1 Research on community participation

Today, the dominating paradigm leveraged to explain contribution is motivation and Self-Determination Theory (SDT) (von Krogh et al. 2012). According to SDT formulated by (Deci and Ryan, 1985) motivations can be split in two major types: intrinsic and extrinsic motivation. While an

action is intrinsically motivated when it is done for the inherent interest or joy of performing it, it is extrinsically motivated when it is performed to obtain some desired outcome. Motivation in crowdsourcing communities is subject to an in depth analysis of (Kaufmann et al., 2011). In the context of communities, von Krogh et al. (2012) provide a more elaborated overview on motivation in the context of open source communities. The latter distinguish between intrinsic motivation (e.g. fun, altruism), internalized intrinsic motivation (e.g. reputation, learning), and extrinsic motivation (e.g. career advancement, payment). Internalized extrinsic motivations are motivations that are by definition extrinsic but community members could internalize them, so that they are perceived as self-regulating behavior rather than external impositions (Deci and Ryan, 1987).

Von Krogh et al. (2012) challenge SDT being an effective means to explain open source communities. They argue that individual motivation rooted in people's search for immediate outcomes is important but does not sufficiently explain critical facts of the open source phenomena. In contrast to SDT, they point out the importance of social practice as a context and driver for motivation, including the ethics and virtues that guide work of the community members. In particular, they promote a logic of unity of life, i.e. individuals do not necessarily act to achieve some immediate reward, because they want to maximize use-value or gain favors, but act to achieve consistency of action through their life. In contrast to SDT, the focus of the social practice view is good rather than product, unity of life rather than reward, standards of excellence rather than use-value.

By introducing the concept of social practice von Krogh et al. (2012) build upon the importance of type of exchange and relationship (individual/use-value vs. social/unity of life) in a given situation. The importance of these factors is well investigated in behavioral economics. In their seminal work Heyman and Ariely (2004) point out the difference between social markets and monetary markets. They hypothesize and provide evidence that monetary markets are highly sensitive to the magnitude of compensation, whereas social markets are not. Two real-behavior experiments and one hypothetical-behavior experiment were actually carried out. When payments were given in the form of gifts (candy) or not mentioned at all, experimental task effort seemed to stem from altruistic motives and was hardly influenced by the monetary value of the gifts. In contrast, when payments were given in the form of cash, effort was dependent on the magnitude of the payment and seemed to stem from reciprocation motives. Finally, in mixed markets (payment was in the form of gifts but cost was mentioned), the mere mention of payment was sufficient to switch the perceived relationship from a social-market relationship to a monetary-market relationship. This is particularly important for our context, as we investigate community participation under the influence of induced monetary signals through advertising. Wasko and Faraj (2005) and Maloney-Krichmar and Preece (2005) conducted further studies on community participation, although in their specific context.

2.2 Research on advertising in online communities

While there are very successful, high-profile online communities, many others fail (Ren et al., 2012). Empirical studies revealed that most business efforts to build online communities failed to attract a critical mass of members, even when firms spent over \$1 million in the effort (Worthen, 2008). Key challenge for communities is engaging community members (Ren et al., 2012). The underlying phenomenon is well known from communities like Wikipedia. The majority of people who visit online communities contributes little and leaves quickly. Many organizations had to learn, that simply adding social or group features to a company's website does not guarantee a vibrant community (Ren et al., 2012). The problem of engaging community members gets worse when the community is subject to advertising. More specifically, members might feel annoyed or exploited by ads (Mesure and Griggs, 2007) so that they reduce their effort or even quit. Though, community providers often rely on advertising revenue to survive economically. Therefore, they face a fundamental "advertising money vs. active members" dilemma. However, despite the hype about advertising in online social networking communities and the obvious dilemma, few studies try to understand the unique characteristics of advertising in the community context (Zeng et al., 2009). Being very close to our

work, Zeng et al. (2009) investigate how two key social characteristics of online communities, i.e. social identity and group norms influence members' responses to advertising. Zeng et al. (2009) ultimately provide evidence that social identity (individual's identification with the community) and group norms (shared goals, values, beliefs, and conventions) affect community members' group intentions to accept advertising in online communities, which could lead to more positive behavioral responses to advertising. More specifically, they offer concrete guidance on how to facilitate advertising in online communities. Online community providers that want to build upon advertising revenue must first build a strong sense of group identity and a vivid group benefit norm. As an example they propose to run educational campaigns to install a sense of belonging among users. They also propose to propagate the benefits of accepting advertising for the long-term survival of community web sites to enhance the group benefit norm. However, while the work of Zeng et al. (2009) sheds light on the acceptance of advertising and proposes means to foster acceptance of advertising, it does not focus on the impact of advertising on user contribution.

2.3 Research on social normative feedback

One very successful way of fostering a desired behavior is social normative feedback. Loock et al. (2011) provide an overview on social normative feedback by depicting the difference between normative social influence and informational normative influence as well as descriptive and injunctive norms. Whereas normative social influence captures the influence of other individuals that leads us to conform in order to be liked and accepted, informational normative influence occurs when we conform because we are convinced that another's understanding of an ambiguous situation is more accurate than ours and will help us choose an appropriate course of action (Deutsch and Gerard, 1955). The 'Focus Theory of Normative Conduct' (Cialdini et al., 1991) refines the concept of social norms by distinguishing descriptive and injunctive norms. Descriptive norms depict what most people do (the norm of 'is'), whereas injunctive norms depict what most people approve or disapprove of (the norm of 'ought') (Cialdini et al., 1991).

Social normative feedback has been applied in a variety of contexts (Baeriswyl et al., 2011), e.g. the provision of normative feedback causes people to reduce littering (Cialdini et al., 1991), foster recycling (Cialdini, 2003), and intensify towel reuse when staying in hotels (Goldstein et al., 2008). Overall, it is known to be one of the most powerful levers of behavioral change (Loock et al., 2011), as individuals often take social norms as a basis to gain an accurate understanding of and effectively respond to social situations (Cialdini, 2001). Furthermore, individuals adapt their own behavior to social norms in order to be liked and accepted by other individuals (Aronson et al., 2009). In the context of communities and user engagement, several studies have reported the positive effect of providing people with information about the level of engagement of their peers. Sukumaran et al. (2011) for example studied online commenting as a fundamentally social activity. By perceiving others as following a particular standard of thoughtfulness, people could be induced to reflect that standard in their own comments. Loock et al. (2011) as another example successfully apply social normative feedback to induce energy savings by leveraging an online energy community.

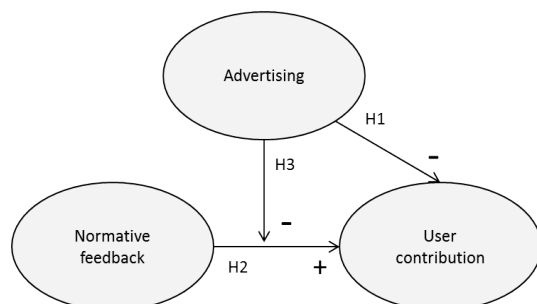


Figure 1. Graphical summary of hypotheses

3 HYPOTHESES

Platforms like Facebook, Twitter and the like create fundamental value from their respective online communities. Facebook without friends and Twitter without tweets would be worthless to their audience. However, users need to be motivated in some way to contribute to the community and ultimately to the underlying value of the platform. The motivation of the users, perception and response to advertising has been explained in the literature to some insightful extend (Zeng et al., 2009). We intend to show that a negative effect of advertising can also be anticipated on user contribution, as monetary signals like advertising could undermine intrinsic motivation of respondents (Deci and Ryan, 1985). Therefore, our first hypothesis is:

H1: Exposure to advertising decreases user contribution

Drawing from (Heyman and Ariely, 2004), in a situation without advertising and corresponding monetary signals, we expect all relationships to be dominated by social interactions (social markets). However, as the community provider pushes ads into the community his economic interest becomes obvious. The fundamental exchange between the community provider and the other stakeholders changes to “community infrastructure for ad revenue”. Only the relationship between a community user and the community (other community users) is still dominated by social interactions. However, we expect the social exchange between users to be impacted by the economic exchange between community provider and community user. By knowing that she is “used for making money” we expect the user to change her community behavior, e.g. by reducing her community effort or limiting social exchange. Facebook can serve as a great example for the conceptualization at hand. Facebook started off without any advertising. However, as they introduced advertising a lot of users felt misused changing their community behavior or even quitting Facebook (Measure and Griggs, 2007).

Normative feedback is used on many platforms to engage users. Facebook shows friend activities to foster favorable behavior. Twitter displays a tweet count for every user. Generally, normative feedback is known to be a very powerful means and there is strong evidence that this is especially true in environments with close personal ties (e.g. Loock et al. 2011). Therefore, we hypothesize for communities without advertising:

H2: Providing normative feedback increases user contribution

However, recent studies have also shown that social norms are not a universal remedy to change any behavior. Costa and Kahn (2010) for example provide evidence that people’s preferences have an impact on the effectiveness of peer comparison. The researchers found that persons with pro-environmental and liberal preferences are more responsive to peer comparison than the average person. The authors concluded that a “one size fits all” feedback approach for environmentalists and conservative individuals is rather ineffective. We believe that not only personal traits can interfere with a user’s responsiveness to normative feedback, but also the exposure to advertising. Therefore, we hypothesize that advertising by sending a “money signal” will induce a monetary-market relationship causing social feedback to become ineffective:

H3: Advertising undermines effectiveness of normative feedback

However, Heyman and Ariely (2004) have shown that in relationships where money is involved, people might not act on the basis of these social cause-effect-relationships. Instead their behavior is driven by magnitude of payment and reciprocation motives. The mere mention of money is sufficient to switch the perceived relationship from a social-market relationship to a monetary-market relationship (Heyman and Ariely, 2004). Figure 1 provides a graphical depiction of our hypotheses.

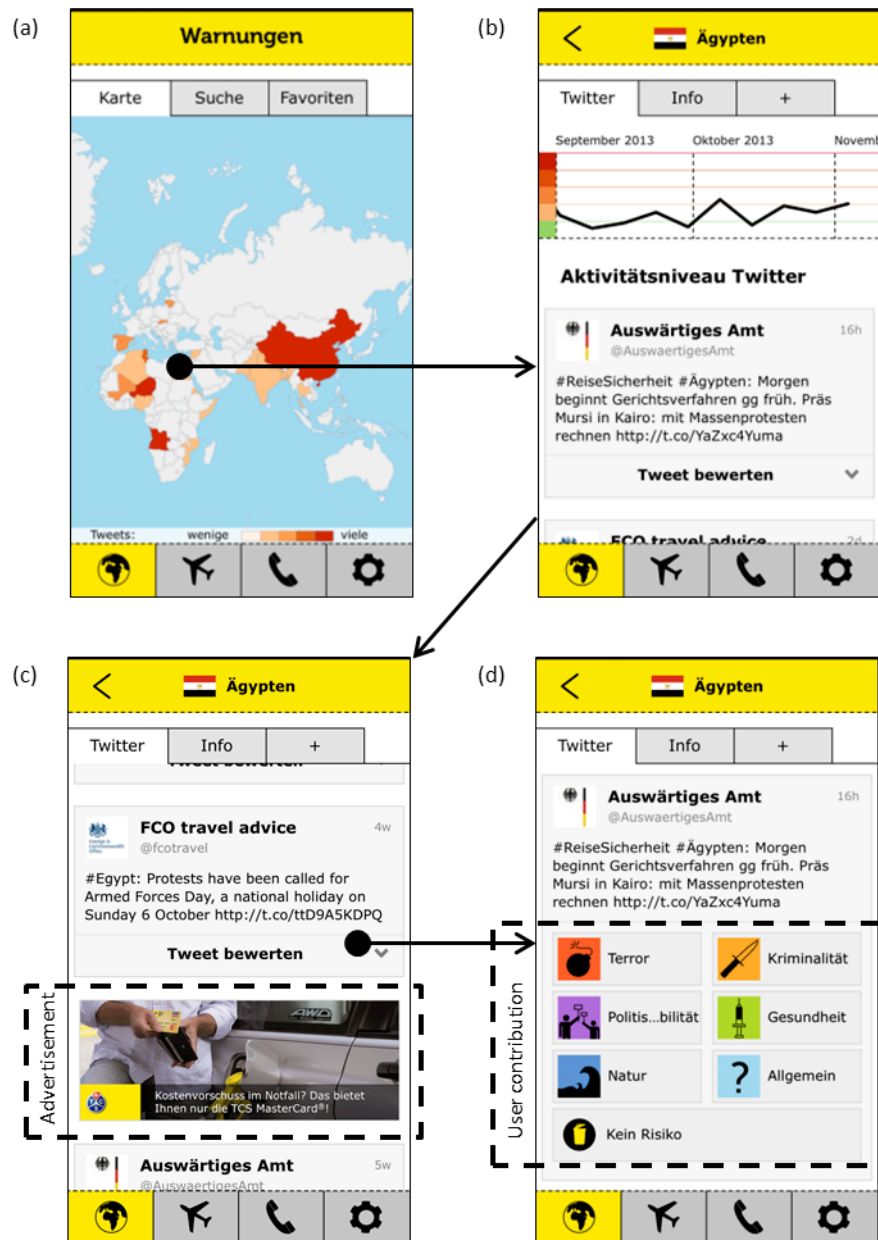


Figure 2. Entry screen (a), country screen (b), advertising banner (c), participation screen (d)

4 EMPIRICAL STUDY

4.1 Technological Platform

To follow our research agenda, we propose a field experiment based on the mobile application Travel Safety. Travel Safety was developed in cooperation with a major automobile club with more than 1.6 million members. The automobile club operates a large fleet of mobile mechanics that assist motorists in trouble, provides insurances, trainings and other mobility services for its members.

Travel Safety's primary purpose is to inform about travel risks and dispatch travel warnings. Thereby, it leverages on the Twitter channels of multiple foreign offices. However, the structure and quality of the provided content by these official bodies varies significantly. Thus, the application faces two key challenges, which the application addresses by user participation. First, the official bodies post messages not being relevant in the context of travel. As an example, departments for foreign affairs often post messages related to state visits of politicians. This results in long lists of travel risks with a high proportion of "spam", i.e. non-travel risk information. Second, a large amount of country related messages, even if ordered by time, would sooner or later lead to information overload.

To address both problems, the app is built around a user community. Every user is a community member and can sort out irrelevant content and classify tweets (e.g. as a "crime" or "natural hazard") so that information can be presented in well-arranged manner. Figure 2 shows three core screens of the application. The entry screen (a) is a world map, color-coded on the basis of the number of available tweets per country. By selecting a country, a historic risk indicator graph based on the tweets and the actual tweets are shown (b). In-line advertisement banners are integrated into the information feed (c). By pressing classify ("Bewerten") the user can classify the message into predefined categories (d). Users are able to tag messages as irrelevant (button "Kein Risiko").

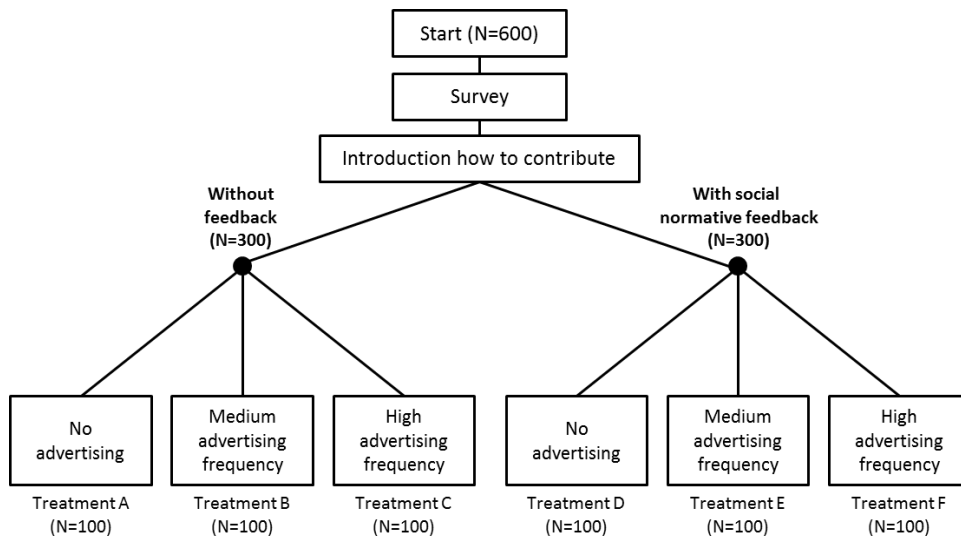


Figure 3. Experimental design

4.2 Methodology

The currently ongoing experiment includes 600 participants. Figure 3 summarizes the applied experimental design. First, we conducted a survey in which we asked all users to state their socio-demographic data. Then, all users received the app. On its first startup, the app provides a short introduction on how to contribute. Next, customers were randomly assigned to a setting with and without social normative feedback. Within the two conditions, users were randomly assigned to one of three treatment groups, with about 100 participants in each. The users in the first group are not subject to advertising. The users in the second and third groups are subject to advertising in form of in-line banners in the information feed. This is known communities like Facebook where also after a certain number of content entries an ad will be presented. The intensity of advertising in the third group is higher than in the second group, to be able to further investigate the effect of advertising intensity on user contribution. Intensity of advertising is adjusted on the basis of ad banner appearance frequency in the information feed. Figure 2 (c) gives an impression on how we integrated ads into the application intending to mimic the dominating ad integration design principles of today. In this case, the shown banner promotes a credit card.

During the study, social normative feedback is provided to the respective users via SMS. The feedback is descriptive (“You have classified X messages while the average user has classified Y messages”) as well as injunctive (“Overall, you are a great contributor / a passive consumer”).

5 CONCLUSION AND POTENTIAL CONTRIBUTIONS

Key challenge for communities is engaging community members (Ren et al., 2012). This is especially true for communities, which leverage advertising as a source of revenue as their members might feel annoyed, exploited or just disturbed by obvious commercial interests in a social environment. A highly promising means to compensate negative participation effects and foster contribution is social normative feedback (Loock et al., 2011). However, we challenge its power in the context of communities building upon advertising on the basis of fundamental behavioral research. Therefore, we propose a field experiment on the basis of a mobile travel safety application relying upon the active participation of a “Travel Safety Community”. The experiment will include 600 individuals and will be based on two settings, i.e. with and without social normative feedback. Within these two conditions, users will then be assigned to one of three treatment groups with no, medium, and high advertising intensity.

Our study may make four potential contributions. First, our findings will contribute to our understanding of online communities in general. Second, our study may contribute to research on advertising and its impact on online communities. Third, our experiment contributes to the knowledge base of information systems enabling sustainable online communities. Thereby, our findings may help practitioners in the field of online communities to overcome the “advertising money or active members” dilemma which online communities and their providers face today. In the course of our study we will also highlight the importance of small details of design and implementation that may have substantial effects on user contribution. Finally, our study will contribute to the literature on social normative feedback. More specifically we want to investigate the question if social normative feedback is moderated by the market type, i.e. becomes ineffective in the context of monetary market exchanges.

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