Seminar Paper

Advanced Topics in Social Network Analysis

Lecturer: Dr. Tsahi Hayat

Measuring Perceived Value of External Incentives & Their Impact On EWOM

Submitted by:

Ben Argeband

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Introduction

Marketers and companies today seek multiple avenues to incentivize customers & users to post positive EWOM about their companies. This study seeks to quantify the investment per external incentive, per user, per social action, to generate successful EWOM.

This is important because business ranging from small to multi-national corporations should better understand how and what motivates their customers, users and audience in terms of EWOM. Marketers and businesses alike will use this information to create better campaigns, boost their audience reach, and create better user experience thus ultimately resulting in higher revenue if applying these findings.

In the literature review we discuss motivations for EWOM as well as what makes EWOM credible. In the Discussion section, we discuss the differences in value perception between the sexes. We also discuss social channel use amongst local populations and their impact this has for marketers to better understand relevant external motives and perception.

Related & Prior Research

Multiple studies have been conducted in the field of E-word of Mouth and have managed to break down the core motivations, types and results. According to one such study, there are 6 different types of EWOM incentives:

Types	Motives
Social Relations	A sense of belonging and recognition Socialization needs
Economic Incentives	Discounts and material incentives Monetary incentives
Altruistic Factors	Suggestions for fellow consumers Suggestions for companies and brands
Self Enhancement	Self assertion, enhancement of self esteem Indication of social status The acquisition of reputation
Expectations of returns	Exchange of information, mutual benefits, Acquisition of more resources and power
Self interests	Love for the product Satisfaction in sharing Way of entertainment

(<http://www.seiofbluemountain.com/upload/product/200911/2009scyxhy01a7.pdf>)

In additional support to this finding, McQuail, Blumler, & Brown (1972) assert four motivations for the use of media. These lie in *diversion*, *personal relationships*, *personal identity* and *surveillance*. *Diversion* refers to escaping one's reality or attaining an emotional release. *Personal relationships* are a social utility people need to interact with other people and to seek company. *Personal identity* is

created and reinforced from other people, and *surveillance* is how people find different ways of searching for new information.

Providing material incentives is “the most effective” method in generating positive EWOM. They also found that by providing scarce resources to the reward, the value of the incentive increases and thus the action (Guoqing et al, 2009). So if a cosmetics company gives out one piece of cotton wool for example, users are less likely to post positive content (wool not being a scarce resource). In contrast, if the same cosmetics company were to hand out one bottle of expensive perfume, the likelihood a user will post positive content increases. In addition, a user’s tie strength to his or her peers is a core component of spreading positive EWOM. A user is likely to share positive EWOM with close ties, and less likely to share content to weaker ties (Guoqing et al, 2009).

Another theory related to this study is Uses and Gratification theory. U&G theory “helps us understand how people use technology to negotiate their identities, their social position, and their emotional lives” (Williams, Strover, & Grant, 1994; Rafaeli et al, 2005a; Rafaeli et al, 2005b). U&G theory states, “People are active, objective-guided, and motivated to select and consume media”. It also states, “people select and use the appropriate communication channels to satisfy their needs and desires”. It also states that people behave according to not just psychological factors, but social factors as well. These two factors in turn influence people’s satisfaction levels in their desires and needs (McQuail, 1972).

Furthermore, there is a “theoretical distinction” between *Gratifications Sought* and *Gratifications Obtained* when using technology. Gratifications Sought are objectives prior to achieving a goal. Gratifications Obtained are the objectives achieved, resulting in a change in user emotion (Yoo, 2011). Gratifications Sought however, do not necessarily correspond with Gratifications Obtained (Palmgreen & Rayburn, 1985).

Another core component in the relationship between material incentives and willingness to post content is content credibility; or, what makes content credible?

All too often services provide pre-loaded messages for users to post or share. Ties can often recognize a distinction or general pattern between genuine posts or preloaded ones. According to Henry, “External factors do not directly influence users’ attitudes or intentions, but rather their preceding beliefs. The Internet offers vast amounts of information, but not all of it can be trusted” (Henry 2005).

User characteristics also apply to online interactions (Hayat & Mo, 2015; Hayat, Samuel-Azran & Galily, 2016). Consumers form communities around a shared topic or interest, and members contribute independent information to the group. If people regard other users as credible (in an online forum), there is likelihood of having a greater impact on other forum users’ behavior (Chu and Kamal 2008; Zhang and Watts 2008; Mo, Hayat & Wellman, 2015). “The evaluation of a source’s credibility defines the expected value of information provided by it” (Cheung, Lee, and Rabjohn 2008).

In addition, a user can “appear credible if he or she exhibits extensive knowledge and experience with a topic (Feick and Higie 1992; Gilly et al. 1998; Shrauger and Schoeneman 1999) and a willingness to honestly pass on this information” (Tseng and Fogg 1999; Hayat & Lyons, 2010). Community members often seek others who can offer credible, trustworthy advice. “If people really trust one another, they can disclose personal information and build a truly social community” (Boush and Kahle 2001).

It is generally agreed upon that EWOM is of greater value is used more if perceived as credible, with “a next step” for increasing trustworthiness is “to focus on transparency” (Reichelt, Sievert & Jacob 2014). Additionally, EWOM sources are “more likely to appear transparent and less anonymous if they provide profile information such as; real names, location & personal interests, rather than nicknames or avatars” (Ma and Agarwal 2007).

Prior research makes considerable effort to better understand motives and reasoning behind positive and negative EWOM. However, as technologies take

aim at boosting brand reach, brands are beginning to incorporate mandatory share functions to gain access to services. These can include “Liking for WiFi”, Follow for Access, or Invite to Unlock. This study seeks to determine if external incentives can successfully generate genuine, credible, positive EWOM about a service in order to gain access to it, which has previously not been addressed.

Research Question + Hypotheses

As stated, marketing companies are seeking multiple avenues to incentivize customers & users to post positive EWOM about their companies. Therefore, this study seeks to determine how much do marketers have to invest per user, per social action to generate successful EWOM.

Why is this important? As stated, users are usually able to detect the authenticity and credibility of a user’s post. Companies would ideally like their customers or users to post credible, positive content about them. Therefore, companies must focus on user satisfaction in order to achieve this. If a company pre-loads a Facebook Share or Tweet with the pre-written post, other users can tell the difference between a credible post and an un-credible one. So marketers might want to take into consideration that this could do damage for their company in the eyes of the users seeing the post.

Secondly, one of six incentives for users posting content is “economic incentives”. This is where users can expect to receive discounts and monetary incentives in exchange for posting about content. This may be in the form of vouchers or coupon codes. Providing the brand follows through on the action, it is presumable that a user should feel gratified, as a monetary incentive is a *Gratification Sought*.

Thus far, material or monetary incentives vary from business type to customer audience. Consequently the value or perceived values of these incentives are subjective. This study aims to measure this perceived value of external incentives offered by using a uniform external incentive to all types of audiences.

This way, we can measure and contrast the perceived value of material incentives, and whether the rewarded perceived value has effect over the user, his/her experience.

Research question:

What is the correlation between perceived value of external incentives and Posting/Following brands in online social networks? How does this correlation vary between Gender, Location & Income?

Hypotheses:

H1: The **higher** the **cognitive effort** to use each social network function by the user, the **higher** the perceived value the external incentive **must** be in order to incentivize a satisfactory post.

H0: The **lower** the **cognitive effort** and **use** of each social network function by the user, the **higher** the perceived value the external incentive **must** be in order to incentivize a satisfactory post.

H2: Women will value posting in online social networks **more** than men.

H0: Women will value posting in online social networks **less** than men.

H3: The higher the user's income, the **higher** his or her value perception will be on the external incentive.

H0: The higher the user's income, the **lower** his or her value perception will be on the external incentive.

Methodology

The method of this study consisted the use of a photo-vending machine that enables free mobile photo printing, providing users like, follow, tweet, check in, or invite friends to the business premises of the vending machine. The ‘free prints’ were awarded in exchange for Posting or Following a brand through a mobile app.

The device was suitable for this study as the cost of a printed photo is ambiguous. Therefore, the perceived value of the external incentive (the prints) by a user can be measured. This was measured in both print numbers (how many of the external incentive they wanted to receive for action) and in USD.

This study didn't physically use the device. Respondents were shown an instructional video on how the device works and were asked to confirm their understanding before answering a series of questions in an online quantitative

survey.

Respondents were asked how many print credits they thought were sufficient to be rewarded without reversing the function they were asked to do, afterwards. For example, if they were asked to Like a page on Facebook, how many print credits would be sufficient so that they wouldn't go and unlike them after they printed their photo. Respondents were asked how many prints they would like to receive for Liking, Following on Twitter, Following on Instagram, Checking-In on Facebook, Tweeting a Loaded status and Inviting Friends on Facebook for a particular brand. This function measured the "worth" of the user's effort & time for each action.

Respondents were asked what would be a bargain price, a midway price and an expensive price for 5 prints & 10 prints consecutively. This was done for two reasons: one, to build the respondent's context for answering and secondly that if the average satisfaction for prints to receive was closer to 5 or 10, the appropriate price could be chosen for calculating perceived value results. The bargain price answer was selected as the perceived value of the product.

The study was conducted via online survey consisting of 21 questions. A total of 34 respondents were chosen by random sampling from a pool of people selected amongst the researcher's peers. 23 of the respondents' answers however were seen as legible and fit to enter the results table. The population chosen was men & women of all locations over the age of 16 years old. The population was chosen as the device is suitable for these ages and value perception can be ambiguous across the board.

Metrics were measured by comparing the mean results between groups. These groups included both male versus female, Americans versus Israelis, income levels up to \$25,000 versus income levels above \$25,000.

Results

In order to measure results, Spearman's Rank correlation was used where

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}.$$

H1 Cognitive effort and use > higher perceived external incentive value

H1: The **higher** the **cognitive effort** to use each social network function by the user, the **higher** the perceived value the external incentive **must** be in order to incentivize a satisfactory post. **Proved**

Spearman's Rank Correlation Measured 0.89 between the scale of -1 to +1, showing strong positive correlation.

H0: The **lower** the **cognitive effort** to use of each social network function by the user, the **higher** the perceived value the external incentive **must** be in order to incentivize a satisfactory post. **Rejected**

H2: Women will value posting in online social networks **more** than men. **Proved**
Spearman's Rank Correlation measured at 0.6 between the scale of -1 to +1, showing strong positive correlation.

H0: Women will value posting in online social networks **less** than men. **Rejected**

H3: The higher the user's income, the **higher** his or her value perception will be on the external incentive. **Not Enough Data To Successfully Prove or Reject**

H0: The higher the user's income, the **lower** his or her value perception will be on the external incentive. **Not Enough Data to Successfully Prove or Reject**

Respondents of the survey were hailed from Argentina, France, Germany, Greece, Italy, Poland, Romania, Serbia, South Africa, Switzerland, Canada, Belgium, United Kingdom, Israel and The United States. The largest group nationality was 26% from the United States and 24% from Israel with the rest

being diversified.

Respondents were asked, “ How many prints would they like to receive in return for performing each of the following social functions (enough so that you wouldn’t unlike or delete the post afterwards)?”

Respondents were then asked 3 questions pertaining to their perceived value of the prints. Respondents were asked what price would be considered a “bargain” to purchase, what price was “midway” and still not out of the question, and what price was “too expensive”.

Gratifications Desired (In Prints) For Posting/Following Between

■ United States ■ Israel

Value Perception In USD Between

■ United States ■ Israel

Based on Average minimum prints to receive in exchange for satisfactory Action (i.e. no Un-Like afterwards)

Based on Average minimum prints to receive in exchange for satisfactory Action (i.e. no Un-Like afterwards)

In addition to these results, 74% of respondents preferred posting about a brand as opposed to paying for prints. 41% percent said yes to pay for more prints if they ran out of sharing options. 12% wouldn't pay for prints if they ran out of sharing options. 47% answered maybe to purchasing more prints if they ran out of sharing options.

44% of respondents said they would use the FB Like button first in order to receive print credits. 24% of respondents said they would Follow on Instagram as a first action. 32% of respondents said Inviting Friends on Facebook would be the last feature they would use and 24% said purchasing 10 prints would be the last feature they use.

Discussion

According to this study, findings show that women place a higher value than men on performing online social engagement actions. This could be because of higher social network use amongst women across platforms (Hoelzel, 2015). It could be argued that desiring more prints in exchange for performing online social engagement actions could be a form of self-enhancement and an indication of (online) social status. In contrast however, the gratification price for women was significantly lower than men. This is the result of the value perception of the external incentive. Simply put, (and although highly sexist) women could be awarded less prints to be gratified than men because of their perceived value of the prints themselves (the external incentive), despite them desiring more prints than men.

In terms of value perception, Israelis and Americans (the two largest groups from the study) varied differently. Israelis could have valued the pricing of print packages higher because of 1) the way the question was asked (they were asked to label a price in USD) or 2) the cost of living in Israel is higher than the United States (Israel ranked 16 whilst USA ranked 25 on the Cost of Living Index) (Numbeo, 2015). Another reason for this could be that Americans are more finely tuned to their own value pricing being the largest consumer culture in the world.

We can also see that each social function is valued differently across populations. Twitter in Israel for example is used far less in comparison to the United States (Goldenberg, 2013). However, the satisfaction price, in line with the hypothesis, for a Tweeting Israeli is higher than an American. The result might be because it takes more cognitive effort to use Twitter as both a Hebrew speaker, using @'s and #'s, and perhaps not using the platform as frequently (Goldenberg, 2013).

Cognitive effort is also demonstrated with the results gathered for inviting friends via Facebook. Inviting 5 friends demanded the most reward value from all respondents in general (7 prints on average for inviting 5 friends) and was the

most “expensive” social media action across the board costing on average \$3.65 to invite 5 people. For men surprisingly, Tweeting was more costly to them than inviting friends, costing \$3.86 per Tweet. Tweeting was second most expensive to Inviting friends on Facebook even in the United States where Twitter is used more frequently than in Israel. This is assumed to be because of the lengthy process of going through friends, selecting them, writing a message, and risk of agitating the friend in question, and is therefore assumed to be a less desirable option because of these reasons.

The majority of respondent income was below \$49k per annum. No significant difference in value perception for between this group and the \$50k+ groups appeared. For more accurate results in this area, the study would need a larger pool of higher income respondents (\$100k, \$250k, \$500k per annum).

In order for brands to successfully incentivize their customers and users, brands must take into heavy consideration the value perception between men and women. They must also take note of the demand levels for external incentives between the sexes. Combining these two together creates a finite definition of the incentive cost per satisfactory social action per user/customer.

Brands must also take into consideration the cognitive effort for each audience and particular social channel. Although not included in the study, it is fair to say that a social network such as Pinterest would have to provide higher incentives for men to post content with them (85% percent of Pinterest Users are Women (D’Onfro, 2014)). As Quoqing et al stated, brands should focus on providing scarce resources to increase positive word of mouth. It is the value perception of these scarce resources that will more likely lead to positive EWOM posts.

Research in this field could be improved by testing a multitude of products and the users value perception per product in relation to their social engagement. A perception value per social action index could be created for companies to better understand how to incentivize their customers EWOM posting.

Conclusion

In conclusion, there are multiple reasons and incentives for people to use social media and to post content in Electronic Word of Mouth groups, channels and forums. Reasons may vary from personal use to altruistic. However, each social action is valued subjectively to the user depending on the frequency and cognitive effort the user must use to perform the social engagement action.

Females desire a higher level of external incentives for posting or following a brand than men, however value perception of the external incentive was found to be higher for a smaller amount amongst women than men. Location is also a variable depending on the local populations usage and consumption of particular social networks or mediums. Marketers must take into account the most active and popular social networks in each location to yield better results in incentivized EWOM, as well as what the local population deems valuable.

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