The Role of Attention and Neutralization on Posting Malicious Comments Online

Completed Research

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Abstract

As the activity in the online space increases, the negative effect of malicious comments is getting more serious as well. Previous studies have regarded the anonymity as a one of the major factors for posing malicious comments, but they have presented inconsistent results. On the other hand, although need for attention from others can provide alternative explanation on posting malicious comments, this perspective is rarely considered. Therefore, this study investigates the effects of both anonymity and need for attention on malicious comment to find out a real cause for posting malicious comments so that we may prohibit the negative effect of them in advance. The result of research has revealed that, not anonymity, but the need for attention through neutralization is only significant.

Keywords

Anonymity, Need for attention, Neutralization, Situational Morality, Malicious Comments, Facebook, Impression management theory, Deindividuation theory

Introduction

The development of information technology offers many benefits, but negative effects, too. Among them, malicious comments generate the serious social problems. In Australia, for instance, the "Next Generation Model" TV program host committed suicide in 2012 after suffering from malicious comments (Lee and Kim, 2015).

Anonymity is regarded as a representative factor based on the deindividuation theory which explains that individuals who are guaranteed anonymity behave more aggressively than those who are identified (Jessup et al., 1990; Silke, 2003; Jiang et al., 2013). However, previous studies have demonstrated conflicting results in terms of the effect of anonymity on malicious comments (Reinig and Mejias, 2004; Cho and Kwon, 2015; Lee and Kim, 2015; Rösner and Krämer, 2016). These contradicting results make it difficult to interpret the phenomenon and lead to academic confusion. Therefore, this study attempts to find the alternative and possibly more influential explanation for posting malicious comments and argues that it is the need for attention from others, which was pointed out as one of the most important factors on malicious comments in qualitative research by Lee and Kim in 2015. Despite its importance, there has been little research on this perspective if not at all. Therefore, this study explores impact of the need for attention on malicious comments based on the impression management theory.

Literature Review, Theoretical Background, and Hypotheses

Anonymity describes “the situation where individuals perceive that their personal identity is unknown to others or that they are unidentifiable as an individual” (Hite et al., 2014; pp. 26). While anonymity contributes to resolve decision-making problems because people can easily express critical opinions (Jessup et al., 1990; Reinig and Mejias, 2004; Moore et al., 2012; Lee and Kim, 2015; Cho and Kwon, 2015), it also accounts for unethical behaviors in the cyber space (Moore et al., 2012; Hutchens et al., 2015; Cho and Kwon, 2015; Lowry et al., 2016) based on the deindividuation theory. In the electric shock experiment, Zimbardo (1969) reported that individual who was guaranteed anonymity shocked to others...
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More severely than those who did not. However, many studies on malicious comments have also shown that anonymity is not directly significant (Reinig and Mejias, 2004; Lapidot-Lefler and Barak, 2012; Hutchens et al., 2015; Rösner and Krämer, 2016). For instance, Rösner and Krämer (2016) reported that on online discussion boards, there is no difference between people who are guaranteed anonymity and people using a Facebook account (people whose identities are known) in terms of the frequency of malicious comments. On the other hand, Cho and Kwon (2015) showed that in the case of online news bulletin boards, individuals who write comments by logging in with their SNS accounts are likely to refrain from malicious comments because it is difficult to guarantee anonymity. Due to these inconsistent findings, researchers as well as practitioners are having difficulty in understanding malicious comments and establishing prevention plan.

Therefore, this study aims to provide insight into the phenomenon by introducing a competitive variable, that is, the needs for attention. Need for attention is defined as a “wanting to be seen as the center of things” (Decker et al., 2012; pp. 305). The need for attention from others is known to act as motivation for social contact and interaction (Hill, 1987) based on the impression management theory (Leary and Kowalski, 1990). Individuals who want to make a positive impression on others socially, employ various impression management tactics and strategies depending on the situation. The intimidation of assertive impression-management tactics is one of them, which gives a strong influence and impression to others by putting intimidation (Jones and Pittman, 1982). In power-oriented view of impression management, an individual would like to show off their influence and strong impression to others even if they are negatively evaluated by others (Tedeschi and Norman, 1985). These individuals often show off their influence and superior impression with aggressive expression (Schutz, 1998).

Need for attention has a great effect on individual behavior, and in previous research, it was found that an individual who want to attract attention from others engages in the vandalism (Cordess and Turcan, 1993). In cyberspace, an individual who has a need for attention often commits the inappropriate behavior that intentionally destroys the Wikipedia dictionary (Shachaf and Hara, 2010), for example. Also, in qualitative study on the malicious comments, it was the most important factor explaining the malicious comment phenomenon (Lee and Kim, 2015). An individual who wants to receive attention from others tends to favorably evaluate unethical behavior and easily behaves like that. Accordingly, this study proposes the following research model.

![Figure 1. Research model](image)

**Anonymity**

Prior studies have found that anonymity plays an important role in explaining the unethical behavior. Silke (2003) showed that individuals who hid their identities as masks tend to commit more threatening acts to others and vandalism. Individuals with low anonymity of SNS tend to refrain from malicious
comments because they worry about their social image and responsibility for the behaviors (Cho and Kwon, 2015). Therefore, individuals who recognize SNS’s low anonymity are more likely not to write malicious comments.

**H1: Perceived anonymity is positively associated with posting malicious comments.**

**Need for attention and neutralization**

The need for attention can be a critical and is a new element contributing to the phenomenon of malicious comments, according to the impression management theory, described above. However, in order for individuals to express their aggression to getting attention from others, it is necessary to reduce the negative perceptions on consequences and responsibility related to aggressive behavior (Tedeschi and Norman, 1985; Schutz, 1998). In other words, they need to rationalize their deviant behavior. Neutralization of an individual not only decreases the responsibility of unethical behavior but also makes one think that unethical behavior, such as aggressive expression, is acceptable as “good” (Obermann, 2011; Almeida et al., 2009). Thus, an individual who want to show off their superior image and get attention from others is likely to justify posting malicious comment as being good or not bad at least.

Neutralization can be defined as a “the deviant behavior can be justified as good” (Lowry et al., 2016; pp. 973). Siponen and Vance (2010) showed that an individual who justified violating information security in the company easily broke information security regulations. Siponen et al. (2012) reported that an individual committing software piracy blamed software policy irrationality and rationalizes piracy. Neutralization has explained various offline deviant behaviors as well as the online (Renati et al., 2012; Lowry et al., 2016). The individuals who justify deviant behavior thought that there are no harmful effects to victim. They also have little sense of guilt and responsibility for deviations (Almeida et al., 2009). Neutralization not only temporarily stops moral judgment on deviant behavior but also makes that unethical behavior is acceptable (Mitchell and Dodder 1980; Lowry et al., 2016). In addition, it makes the perpetrator thinks that the bullying is merely a joke and do not affect much pain to the victim (Law et al., 2012). Therefore, Individuals who neutralize malicious comments will easily write malicious comments on SNS. Based on this logic, this study posits the followings:

**H2: Neutralization is positively associated with posting malicious comments.**

**H4: Need for attention is positively associated with neutralization.**

**Morality**

In addition to these two competing variables, anonymity and need for attention, this study investigates the role of situational morality, which has been significant in explaining malicious comments online. Individuals who want to make an impression as being superior and show strength to others tend not to care much about the righteousness of negative behavior (Tedeschi and Norman, 1985). Therefore, they may sacrifice their morality on negative behavior for the sake of making a superior impression.

Situational morality can be defined as “an individual’s judgments of right or wrong for certain behaviors under certain conditions” (Lowry et al., 2016). The situational morality is also an important factor in inhibiting deviant behavior in various situations, not only offline but online (Moores and Chang, 2006; Hu et al., 2011; Lowry et al., 2016). Paternoster and Simpson (1996) found that individuals with higher morality were less likely to commit corporate crimes, and Siponen et al. (2012) showed that individual who had high moral beliefs did not attempt software piracy. The high morality of individuals raises negative feelings such as guilt and shame about deviant behavior (Lewis, 1971). On the other hand, individuals with low morals can be free from psychological distress such as shame and guilt, when they commit deviant action (Xu et al., 2015). The high need for attention may make lower morality, and thus, motivate to commit more aggressive behavior easily. Therefore,

**H3: Situational morality is negatively associated with posting malicious Comments.**

**H5: Need for attention is negatively associated with situational morality.**

**The Mediation Effect**
Individuals who want to get a superior impression tend to favorably evaluate intimidation to others and act (Jones and Pittman, 1982; Tedeschi and Norman, 1985). These individuals can rationalize that aggressive behavior is just freedom of expression and does not cause much damage to others. In addition, they can also judge that aggressive behavior is not morally wrong depending on the situation. In other words, to fulfill the desire to receive attention from others, individuals can neutralize aggressive behavior and sacrifice situational morality. This neutralization and low situational morality makes it easy for individuals to engage in aggressive behavior (Lowry et al., 2016). Therefore, an individual who want to get the attention of others is likely to write malicious comments through neutralization and situational morality. Thus, we posit the followings:

H6a: Neutralization mediates relationship between need for attention and posting malicious comments.

H6b: Situational morality mediates relationship between need for attention and posting malicious comments.

Research Method and Analysis

Data collection

The survey was conducted by posting the Google survey link on Facebook. Facebook is the most popular social networking service with more than 2 billion users worldwide (Statista, 2017). Facebook, in principle, does not allow fake name or anonymous profiles to individuals. It makes difficult to ensure anonymity (Hughes et al., 2012). Since this study attempts to test the hypotheses under the low anonymous environment, Facebook is a suitable environment to achieve the purpose of this study. One of the authors of this study contacted a Facebook manager in advance and asked to post the questionnaire link along with the purpose of survey. A total of 222 questionnaires were obtained over three weeks, and 221 samples were used for analysis excluding one duplicate response. In order to clarify Facebook’s environment, each section of the questionnaire stated a message as follows: (Note) Please consider and respond to the thoughts and feelings you experienced on Facebook. The sample consisted of 127 male (57.5%) and 94 female (42.5%). 26 respondents were in their 10s, 191 in the 20s and 4 in the 30s. They were mostly college students, and the average hours spending on Facebook per day were over one hour. The average days per week were 6.51. Gender, age, hour per day, days per week, and education were controlled.

Measurement item

In order to verify the research model, this study modified the measurement items used in the existing studies to fit the Facebook context. The below is detailed measurement items (see Table 1). 7 point Likert scale was used from "strongly disagree" to "strongly agree".

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Measurement items</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Anonymity</td>
<td>• On Facebook, others not know who I am.</td>
<td>Hite et al.</td>
</tr>
<tr>
<td></td>
<td>• On Facebook, I believe that my identity is unknown to others.</td>
<td>(2014)</td>
</tr>
<tr>
<td></td>
<td>• On Facebook, it is difficult for others to know my identity.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• On Facebook, my identity is not known to others.</td>
<td></td>
</tr>
<tr>
<td>Need for Attention</td>
<td>• I want people to pay attention to my posts on Facebook.</td>
<td>Hill (1987)</td>
</tr>
<tr>
<td></td>
<td>• I like people who think that my post on Facebook is fun.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• I like people who are interested in me and follow me on Facebook.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• I want to be a center of attention by posting on Facebook.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• I don’t like people who do not respond to my post on Facebook.</td>
<td></td>
</tr>
<tr>
<td>Posting Malicious Comments</td>
<td>• I wrote rough comments on Facebook.</td>
<td>Doane et al.</td>
</tr>
<tr>
<td></td>
<td>• I wrote abusive comments on Facebook.</td>
<td>(2013)</td>
</tr>
<tr>
<td></td>
<td>• I wrote degrading comments on Facebook.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• I wrote threatening comments on Facebook.</td>
<td></td>
</tr>
<tr>
<td>Neutralization</td>
<td>• On Facebook, malicious comments are unintended event.</td>
<td>Lowry et al.</td>
</tr>
<tr>
<td></td>
<td>• On Facebook, if important values are being blamed, it can respond</td>
<td>(2016)</td>
</tr>
</tbody>
</table>
with malicious comments.
• On Facebook, malicious comments do not much damage to victim.
• On Facebook, an individual who writes offensive comments deserves malicious comments.
• On Facebook, malicious comments are just freedom of expression.

<table>
<thead>
<tr>
<th>Situational Morality</th>
<th>Xu et al. (2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Facebook, I think that malicious comments are morally wrong.</td>
<td></td>
</tr>
<tr>
<td>On Facebook, I think that malicious comments are morally unacceptable.</td>
<td></td>
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<tr>
<td>On Facebook, I think that malicious comments are unethical.</td>
<td></td>
</tr>
</tbody>
</table>

**Table 1. Measurement items**

**Construct validity and reliability**

The confirmatory factor analysis using AMOS 18.0 showed that the fit of the measurement model was acceptable ($\chi^2 = 157.93$, DF = 80, Adjusted $\chi^2 = 1.97$, CFI = 0.96, TLI = 0.94, NFI = 0.92, RMSEA = 0.067, SRMR = 0.057). The standardized factor loadings of all factors excluding PCA2, RAT1, and RAT4 items are over 0.60 (see table 2). RAT2, ATT1, and ATT2 items were removed to improve the AVE values of need for attention and neutralization although RAT2, ATT1 and ATT2 exceed loading factor of 0.6. The average variance extracted (AVE) of all constructs except for need for attention (0.47) are over 0.50 satisfying convergent validity. In the case of need for attention, the standardized factor loading and the construct reliability (CR) values both exceeded the recommended values of 0.6 and 0.7, and the previous studies used the 0.44 and 0.48 AVE value (Srite and Karahanna, 2006; Stewart and Gosai, 2006). The both Cronbach’s alpha and CR exceed acceptance criterion 0.70, and the reliability of each construct was satisfied. The items in bold were dropped.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Item</th>
<th>Standardized factor loading</th>
<th>T-value</th>
<th>Cronbach’s alpha</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Anonymity</td>
<td>PCA1</td>
<td>0.69</td>
<td>-</td>
<td>0.84</td>
<td>0.75</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>PCA2</td>
<td><strong>0.48</strong></td>
<td>6.44</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>PCA3</td>
<td>0.85</td>
<td>10.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PCA4</td>
<td>0.88</td>
<td>10.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need for Attention</td>
<td>ATT1</td>
<td><strong>0.72</strong></td>
<td>11.92</td>
<td>0.88</td>
<td>0.73</td>
<td>0.47</td>
</tr>
<tr>
<td></td>
<td>ATT2</td>
<td><strong>0.70</strong></td>
<td>11.75</td>
<td></td>
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<tr>
<td></td>
<td>ATT3</td>
<td>0.84</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>ATT4</td>
<td>0.78</td>
<td>13.02</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>ATT5</td>
<td>0.91</td>
<td>14.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posting Malicious Comments</td>
<td>MAL1</td>
<td>0.87</td>
<td>-</td>
<td>0.88</td>
<td>0.84</td>
<td>0.57</td>
</tr>
<tr>
<td></td>
<td>MAL2</td>
<td>0.83</td>
<td>15.19</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>MAL3</td>
<td>0.84</td>
<td>14.89</td>
<td></td>
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<tr>
<td></td>
<td>MAL4</td>
<td>0.73</td>
<td>11.58</td>
<td></td>
<td></td>
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<tr>
<td>Neutralization</td>
<td>RAT1</td>
<td><strong>0.39</strong></td>
<td>5.24</td>
<td>0.71</td>
<td>0.72</td>
<td>0.56</td>
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<td></td>
<td>RAT2</td>
<td><strong>0.62</strong></td>
<td>8.26</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>RAT3</td>
<td>0.69</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>RAT4</td>
<td><strong>0.59</strong></td>
<td>7.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RAT5</td>
<td>0.83</td>
<td>8.03</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Situational Morality</td>
<td>MOR1</td>
<td>0.75</td>
<td>-</td>
<td>0.88</td>
<td>0.76</td>
<td>0.52</td>
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<tr>
<td></td>
<td>MOR2</td>
<td>0.87</td>
<td>13.18</td>
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<td></td>
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<tr>
<td></td>
<td>MOR3</td>
<td>0.92</td>
<td>13.44</td>
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</tbody>
</table>

**Table 2. Statistics of construct items**

In this study, we conducted a chi-square difference test to verify the discriminant validity (Venkatraman, 1989). All the constraint models exceed the threshold of 3.84 (df = 1) at the significance level of 0.05. Therefore, all constructs are clearly distinguished from each other. Furthermore, Harman’s one-factor test was conducted to confirm common method bias. This test assumes that there exists common method bias...
if the largest variance of single factor accounts for the majority (over 50%) of the total variance (Podsakoff et al. 2003). The exploratory factor analysis showed that the total variance of the non-rotated factors was 73.45%, and the largest variance of single factor was 27.92%. It does not exceed 36.73% (73.45 / 2) which is 50% of the total variance. Therefore, the common method bias is not major concern in this study. In addition, this study investigated whether there is a non-response bias. According to Armstrong and Overton (1977), we examined the group differences in gender, age, hours per day, days per week, and level of education between the first 25% group (55 respondents) and the later 25% (55 respondents) in 221 respondents. The results of the independent sample t-test showed no difference in gender (p-value: 0.85), age (p-value: 0.12), hours per day (p-value: 0.13), days per week (p-value: 0.07), and education level (p-value: 0.09). Consequently, the non-response bias problem is not major concern in our study, either.

**Results**

In this study, we analyzed the research model using AMOS 18.0 ver. for hypothesis test (Figure 2). The fit indexes of the research model were acceptable ($\chi^2 = 290.23$, DF = 144, Adjusted $\chi^2 = 2.02$, CFI = 0.93, TLI = 0.91, NFI = 0.88, RMSEA = 0.068, SRMR = 0.091). SRMR of less than 0.1 is good fit (Williams et al., 2009).

Hypothesis 1, 3, and 5 are not supported while Hypothesis 2 ($\beta = 0.38$, t = 4.32) and Hypothesis 4 ($\beta = 0.27$, t = 3.12) are supported. This study examined the mediating effects of neutralization and situational morality between need for attention and posting malicious comments according to the proposal of Baron and Kenny (1986), too. In the direct relationship between need for attention and posting malicious comments, need for attention has a positive effect on posting malicious comments ($\beta = 0.20$, t = 2.68). Need for attention also has positively significant effect on neutralization ($\beta = 0.26$, t = 2.94), and neutralization affect posting malicious comments ($B = 0.40$, $t = 4.32$) in the mediated model where neutralization is added to the direct relationship between need for attention and posting malicious comments. Need for attention, on the other hand, dose not directly affect posting malicious comments ($\beta = 0.08$, t = 1.34). Therefore, neutralization fully mediates the relationship between need for attention and posting malicious comments (Hypothesis 6a is supported). The path from need for attention to situational morality is not significant ($\beta = -0.03$, t = -0.37). Therefore, no mediation effect of situational morality between need for attention and posting malicious comments is found (Hypothesis 6b is not supported).

In additional, we conducted the chi-square difference test with an alternative model that added a direct relationship between need for attention and posting malicious comments in our research model. Comparing the research model ($\chi^2 = 290.23$, DF = 144) with the alternative model ($\chi^2 = 289.22$, DF = 143),
we find that the research model is not significantly different from the alternative model because the alternative model does not exceed the threshold of 3.84 (df = 1) at the significance level of 0.05. Therefore, the research model is more valid than the alternative model.

Discussions

This study aims to demonstrate the role of need for attention in posting malicious comments online based on the impression management theory comparing with the effect of anonymity. As we expected, the role of the need for attention through neutralization is much more essential than anonymity in posting malicious comments. Despite this critical finding, we need to pay attention to generalize the result of this study to other online environments such as blogs, chat-rooms, online bulletin boards and so on because the study was conducted on Facebook.

Theoretical Implications

This study has the following academic implications. First, we demonstrated the critical influence of need for attention on malicious comments based on the impression management theory. In the qualitative research on malicious comments, the need for attention from others is pointed out as the biggest reason of malicious comments. However, the systematic and quantitative research on this factor has rarely been conducted with theoretical support in particular. Based on the strong social psychological theory, that is the impression management theory, this study provides strong evidence on the essential role of the need for attention in posting malicious comments online.

Moreover, this study may offer an explanations on contradicting findings on the role of anonymity in malicious comments. Previous studies have sometimes suggested that anonymity is statistically significant and vice versa. These results make it difficult to interpret the role of anonymity on malicious comments. According to the result of this study, anonymity has no significant influence on malicious comments. This result is consistent with the results of some of the previous studies, which have found that anonymity has no direct impact on malicious comments (Reinig & Mejias, 2004; Lapidot-Lefler & Barak, 2012; Rösner & Krämer, 2016). This lead us to consider that anonymity can be a meaningful variable on malicious comments, but weak or no direct influence with other more influential factors such as the need for attention.

Finally, it is another important finding that the need for attention influences on malicious comments fully mediated by neutralization. Therefore, this study suggests that future study needs to investigate the mechanism of need for attention along with the role of neutralization when it comes to the malicious comments phenomenon.

Practical Implications

The practical implications of this study are as follows. First, this study suggests that education and promotion on seriousness of harmful consequences of malicious comments are indeed necessary. So as to prevent individuals’ neutralization which coming from the need for attention, SNS managers who are in charge, for instance, can make an announcement on a regular basis, which describes the fact that the freedom of expression is important, but malicious comments are unethical behavior and cannot be justified as the freedom of expression. The manager can also send wake up calls stating that that the malicious comments are the responsibility of writers.

As for the need for attention, users need to be aware of the fact that they will get punished instead of getting attention from malicious comments. Therefore, organizations related to SNS need to establish operating policies and prepare detailed information on how the offenders will be punished by the policies as well as the law. Besides, on-line platform can limit either some functions such as liking or sharing of posts which contains malicious comments which potentially bring serious consequences based on content analysis, or a person who posts malicious comments frequently based on big data analysis. It may be helpful to post to the announcement or display the pop-up message on this preventive action before implementation.
In conclusion, malicious comments can ruin not only an individual’s life but a company’s reputation. They can drive someone to commit suicide. We need to take some preventative actions and hope that this research would be of help.

References


Malicious comments mechanism


