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Abstract:
The emergence of social media stimulates electronic word-of-mouth (eWOM) and makes consumers’ service encounter experiences ‘visible’ to a wide range of information receivers. In the existing literature, eWOM is mostly studied as the consequences of service failure and service recovery. This study extends prior research by bridging the service recovery experiences of eWOM communicators and the attitudes and behaviors of eWOM receivers. Using scenario-based experiments, this study tests eWOM receiver’s responses to the communicator’s experience and compares the impacts of different service recovery strategies. The results confirm that, for eWOM receivers, vicarious distributive, procedural and interactional justices influence their brand attitudes, which further affect their purchase intentions. Moreover, results support that the relationship between brand attitude and purchase intention is moderated by the perceived information credibility. It is also found that, compared to observing apology, eWOM receivers tend to have more positive justice perceptions and brand attitudes and stronger purchase intentions when they observe compensation. However, whether the recovery is conducted at the service failure scene or after eWOM are not significantly different. This study contributes to the previous literature on service recovery by incorporating vicarious justice in understanding how eWOM receivers develop attitudes and behavioral intentions from others’ service recovery experiences in social media. The findings can be used by service providers to guide their recovery strategies.

Keywords:
Electronic word-of-mouth (eWOM), service recovery, vicarious justice, purchase intention

1. Introduction
Social media plays an important role in influencing today’s consumption behavior and business performance. In online social networking sites, microblogs and other social media services, consumers are able to share their personal experiences and opinions about a brand or its offerings with other people that were traditionally unconnected in the form of electronic word-of-mouth (eWOM) (Cheung & Thadani 2012; Hornik et al. 2015). eWOM refers to “any positive or negative statement made by potential, actual or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet”
Such eWOM contains informational, emotional and experiential content that can contribute to other consumers’ evaluations and purchase decisions (Yoo et al. 2015). The wide use of social media not only allows eWOM to get diffused and approached to a large number of receivers quickly, it also provides the opportunity for marketers to monitor relevant eWOM and make responses.

Service failure experience is commonly mentioned in eWOM. Traditionally, a service provider may take recovery strategies immediately at the service scene when a service failure occurs and such recovery may be reflected in the consumer’s eWOM (Hocutt et al. 2006). With social media, the service provider may also employ recovery strategies as a complaint-handling mechanism after identifying negative eWOM that mentions service failure. In both cases, social media provides a platform on which the recovery efforts become visible to a wide range of eWOM receivers.

Existing research has confirmed that successful service recovery is useful in managing customer satisfaction, trust, commitment and loyalty to the brand after a service failure. However, most studies focused on service recovery’s effects on customers who personally encounter the service failure (Hocutt et al. 2006). With the help of social media, the effects of service recovery strategies may go beyond the focal customers and further affect their eWOM receivers. As Lee et al. (2012) suggest, eWOM is often perceived as relevant to other members in the online community and can stimulate empathy. In fact, the experiential and emotional content in eWOM can generate cognitive personalization and allows eWOM receivers to create vicarious experiences (Zhang & Lee 2014; Xia & Bechwati 2010). That is, eWOM receivers may feel as if they had experienced the situation presented in the eWOM. Yet little attention has been paid to the influences of service recovery on the eWOM receivers (Cheung and Thadani 2012). This study builds upon the theory of vicarious justice to investigate how eWOM receivers respond to others’ experiences with different recovery strategies.

This study makes several contributions theoretically and practically. First, existing research mostly focuses on investigating what motivates consumers’ eWOM behaviors, while this study takes a step further to understand how such eWOM communication affects its receivers. Second, this study extends the justice theory and adopts the concept of vicarious justice to understand how eWOM receivers react to the others’ experiences. Third, this study compares eWOM receivers’ perceptions and behavioral intentions under different recovery strategies. Although the effects of different recovery strategies have been investigated regarding the focal customer and the bystanders at the scene, few studies actually examine the effects of service recovery in the computer-mediated contexts. Our results suggest that recoveries conducted in social media after eWOM have similar effects on eWOM receivers with the recoveries conducted at the service failure scene. Practically, the findings of this study suggest that managers should take actions to make their recovery efforts visible in social media. Despite the superior effects of immediate compensation at service scene, considering the difficulty in stimulating customers to generate eWOM after service recovery, it is also important for companies to establish appropriate online eWOM monitor and response system.
2. Justice Theory and Vicarious Justice

Justice refers to the fairness perceived by individual regarding certain situations. Justice theories usually categorize justice into three dimensions, namely the distributive, procedural and interactional justice. Distributive justice is about the perceived fairness of outcome, procedural justice is related to rules and processes, and interactional justice involves the manner of interactions. The majority of literature investigates justice from a “first-person” perspective, that is, studying the justice perceived by individuals regarding their own experiences (Huang et al. 2015). Justice theory has been applied to understand how customers respond to the service failure and recovery that they have personally experienced. For example, when service failure occurs, customers tend to perceive injustice, making them dissatisfied with the service provider. In that case, they are likely to distribute negative WOM, or even change service provider. Customers’ perception of justice can be increased due to service providers’ recovery efforts. It can affect customer’s post-recovery satisfaction, commitment and behavioral intentions.

However, people may also build justice perceptions from others’ experiences in which they are not directly involved. Kray and Lind (2002) define this phenomenon as the vicarious justice, namely the fairness perceived by a focal individual regarding the fairness of treatment received by others in terms of distributions, procedures and/or interactions. A few works in social psychology have studied vicarious justice and found that people do interpret how others are treated and develop their own justice judgements based on the interpretation. One reason for vicarious justice experience is that the treatment of others may somewhat reflect how one can be treated and how one thinks what he or she deserves (Tyler 1994). To some extent, vicarious justice is formed because people associate their self-interests with others’ interests (Gillespie & Greenberg 2005), that is, “how others are treated presages how one might be treated” (Huang et al. 2015, p.828). Shared identity and interpersonal interdependence have been pointed out as important factors that activate vicarious responses such vicarious emotions (Lickel et al. 2005). Shared identity means the extent to which a social association is perceived to reflect a common identity for two or multiple people. In the context of eWOM communication, eWOM receivers tend to perceive themselves as customers or potential customers like the eWOM communicator. The shared identity with the eWOM communicator rather than with the company makes eWOM receiver more likely to perceive communicator’s justice vicariously. Interpersonal interdependence is the extent to which associated people are perceived to possess joint goals and share social norms (Lickel et al. 2005). People in interdependent relationships have the chance to communicate and shape others’ opinions and behaviors. eWOM receiver and communicator both intend to seek best purchase decisions and the communicator tend to have influence over receivers’ thoughts and behaviors. Thus, eWOM receivers is likely to be interdependent with the eWOM communicator and develop vicarious perceptions including vicarious justice.

However, the effects of vicarious justice perception on eWOM receivers’ attitudes and behaviors are rarely studied in previous research. Because the formation of justice judgement based on others’ treatment is found to be different from forming justice judgement based on one’s own experience, to complement existing service recovery research, this paper studies the
influence of vicarious justice experienced by eWOM receivers on their brand attitudes and purchase intentions.

3. Research Hypotheses

3.1 Vicarious justice and brand attitude

In service failure and recovery encounters, distributive justice assesses if the outcome received by the customer is perceived to be fair, procedural justice is about the fairness regards the procedures and criteria used by the service provider to handle the failure, and interactional justice refers to the perceived fairness of manners in which people are treated during carrying out of recovery procedures (Maxham and Netemeyer 2003). Previous research suggests that people assess others’ received justice not only when they witness the situational injustice in person but also when they observe others’ sensory experiences (Baumgartner et al. 2016). Via eWOM, receivers get to know the communicator’s service experiences, and may form vicarious justice perception on the service failure and recovery.

Brand attitude is one’s evaluation of the brand (Spears and Singh 2004). When receiving eWOM, eWOM receivers make judgements on the overall outcome, procedures and interactions that the communicator got, and compare them with receivers’ own expectations. Such vicarious justice judgement can influence eWOM receivers’ evaluation about service provider’s performance, and thus affect their attitudes towards the brand (Chang et al. 2005). In addition, social-cognitive theory suggests that people get attitudes and values by observing relevant others in vicarious learning (Mazziotta et al. 2011). Vicarious learning often involves empathetic effects where the observers develop emotions and attitudes towards the conditioned stimuli in accordance to the model’s responses (Lanzetta & Englis 1989). In the context of eWOM, receivers tend to have empathy with the communicator and their vicarious justice tends to match the communicator’s perceived personal justice. In this case, receivers’ attitudes towards the brand should be in line with the communicator’s attitude which is influenced by the communicator’s perceived personal justice, and such justice matches the vicarious justice (Wu 2013). Based on the above discussion, the following hypotheses are proposed:

H1a: eWOM receivers’ vicarious distributive justice is positively associated with their brand attitude.
H1b: eWOM receivers’ vicarious procedural justice is positively associated with their brand attitude.
H1c: eWOM receivers’ vicarious interactional justice is positively associated with their brand attitude.

3.2 Brand attitude and purchase intention

Purchase intention refers to the action tendencies to conduct purchase. Attitude is considered to determine the behavioral intentions in several classic theories such as the theory of reasoned action and the theory of planned behavior. In either off-line or on-line contexts, attitude has
been shown to have remarkable influence towards purchase intention. Chang et al. (2005), for example, have found that eWOM receivers’ attitude consistently exhibits significant impacts on online purchase intention. Therefore, this study proposes that:

H2: eWOM receivers’ brand attitude is positively associated with their purchase intention.

3.3 Moderating role of information credibility

The information credibility is an important feature of eWOM. Compared to offline context, WOM receivers may find it more difficult to evaluate information credibility of online messages in social media. Social media facilitates the transmission of valid information, yet it also transmits unverified, exaggerated or even fake information. eWOM receivers thus may perceive information credibility of eWOM messages differently. Such variation of perceived information credibility tends to influence the effects of attitude on behavioral intention because the perceived risks of actions varies. Therefore, the perceived information credibility is proposed to moderate the relationship between brand attitude and purchase intention (Huang et al., 2012). The model is shown in Figure 1.

H3: The relationship between brand attitude and purchase intention is moderated by perceived information credibility.

3.4 Effects of service recovery strategies

Customers’ perceived justice and level of satisfaction may be affected by service providers’ recovery efforts. A good recovery strategy can end up with positive consumer responses. Similarly, as eWOM receivers read about other customers’ stories, different recovery strategies may have different effects on the eWOM receivers’ vicarious justice perception, which further influences their brand attitude and purchase intention.
Compensation and apology are two of the most commonly adopted recovery strategies, and previous works have found compensation more effective than apology (McDougall and Levesque 1999). Therefore, we propose that eWOM receivers, similar to focal customers, tend to have better responses to the brand when there is a recovery than no recovery at all, and the effectiveness of compensation outperforms apology. Specifically, we hypothesize that:

H4: Compared to no recovery, when there is apology, eWOM receivers will have higher vicarious distributive justice, procedural justice, interactional justice, brand attitude and purchase intention.

H5: Compared to apology, when there is compensation, eWOM receivers will have higher vicarious distributive justice, procedural justice, interactional justice, brand attitude and purchase intention.

Previous studies suggest that the effectiveness of recovery strategies depends not only on the actions but also on the speed. Prompt and timely recovery in general is found to outperform the recovery with delay. Because eWOM receivers tend to associate their own interests with the treatment of eWOM communicators, we propose that the timing of service recovery also influences eWOM receivers’ vicarious justice perception, brand attitude and purchase intention. That is, compared to service recovery after customers’ post eWOM, prompt recovery at the service scene helps eWOM receivers to form more positive perception, attitude and intention:

H6: Compared to apology after eWOM, when there is immediate apology at the scene, eWOM receivers will have higher vicarious distributive justice, procedural justice, interactional justice, brand attitude and purchase intention.

H7: Compared to compensation after eWOM, when there is immediate compensation at the scene, eWOM receivers will have higher vicarious distributive justice, procedural justice, interactional justice, brand attitude and purchase intention.

4. Methodology

4.1 Measurement items

The measurement items of variables were adopted from previous successful research and were modified to better fit the context of this study. Specifically, for vicarious distributive, procedural and interactional justice, we followed Huang et al. (2015)’s approach and modified the personal justice items to emphasize the eWOM communicator. A 7-point Likert scale from 1= “strongly disagree” to 7= “strongly agree” was adopted for questions regarding distributive justice (Smith et al. 1999), procedural justice (Maxham and Netemeyer 2003), interactional justice (Smith et al. 1999), and purchase intention (HUANG et al. 2012), while 7-point semantic differential scale was used to measure brand attitude (Laczniak et al. 2001) and information credibility (Eisend 2010). After factor analysis, one measurement item of distributive justice (DTJ3) and another two of interactional justice (ITJ1 and ITJ3) were removed. After removing the three items, the measurement items were reliable. Cronbach's alpha for distributive justice, procedural justice, and interactional justice were 0.680, 0.848, and 0.646 respectively. The
cronbach’s alpha was 0.936 for brand attitude and 0.911 for information credibility. For purchase intention, its cronbach’s alpha was 0.850.

4.2 Research design and data collection

The study employed scenario-based experiments to test the proposed hypotheses. The sample of eWOM receivers’ responses is more representative by employing scenarios than by using recall-based designs in which subjects tend to report on experiences that are special or very important to them. Five scenarios were constructed to manipulate the service recovery strategies: S1 no recovery, S2 apology immediately at the scene, S3 compensation immediately at the scene, S4 apology after eWOM, and S5 compensation after eWOM. A fictitious brand name was used to eliminate the influence of brand familiarity, and the subjects were made aware of that. Examples of the scenarios are illustrated in the Appendix. Subjects were randomly assigned to one of the five experimental scenario groups. For each group, the subjects were instructed to play the role of a microblog user and were asked to read one written scenario. After reading the scenario, subjects were asked to fill in the questionnaire, as if they read the information from online microblog. The electronic characteristic of WOM was emphasized by highlighting the online context in the instructions. The format of the questionnaire used by three experimental groups was identical.

In total 274 university students and their relatives participated in this study. Among the 274 subjects, two did not complete the survey and 272 were valid subjects. The sample sizes for scenario 1 to 5 were correspondingly 53, 51, 59, 51 and 57. All of the valid subjects were users of online social networking sites or microblogging services, 71.6% used social networking or microblogging services at least once per day, 14.0% used 4-6 times per week, 8.1% used 1-3 times per week, and 6.3% for less than once per week, and none of our subjects had never used such services.

5. Results

Linear regression based on all the samples was conducted to test the hypothesized relationships between vicarious justice, brand attitude and purchase intention. Results in Table 1 show that vicarious distributive, procedural and interactional justices had significant influences on brand attitude ($\beta=0.201$, 0.334, 0.214; $p<0.001$). Vicarious justice perceptions also explained a significant proportion of variance in brand attitude ($R^2=0.327$, $F=43.154$, $p<0.001$). In addition, brand attitude positively influenced purchase intention significantly ($\beta=0.742$, $p<0.001$), and their relationship was moderated by information credibility significantly ($\beta=-0.213$, $p<0.01$). Brand attitude and its interaction with information credibility also explained a significant proportion of variance in purchase intention ($R^2=0.351$, $F=72.570$, $p<0.001$). Therefore, the hypotheses H1 (H1a, H1b, H1c), H2 and H3 were supported.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Results</th>
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<tbody>
<tr>
<td>H1a</td>
<td></td>
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<td>H1b</td>
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<td>H1c</td>
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<td>H2</td>
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<td>H3</td>
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Table 1. The results of relationship testing
H1a Vicarious distributive justice → brand attitude 0.201*** Supported
H1b Vicarious procedural justice → brand attitude 0.334*** Supported
H1c Vicarious interactional justice → brand attitude 0.214*** Supported
H2 Brand attitude → purchase intention 0.742*** Supported
H3 Moderating role of information credibility -0.213** Supported

Note: ***p<0.001, **p<0.01, *p<0.05

To test H4 to H7, data were compared between stimuli. As shown in Table 2 and Table 3, the means of variables when giving apology were all higher than those when having no recovery, while most of the variances of variables between no recovery and apology were significant except for interactional justice and purchase intention. This partially supported H4. Similarly, compared to giving apology, the eWOM receiver’s perceived justices, brand attitude and purchase intention were all significant higher when offering compensation, supporting H5. However, the variances of variables between immediate recovery at the scene and recovery after eWOM was not significant.

Table 2. Descriptive statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>No recovery</th>
<th>Apology</th>
<th>Compensation</th>
<th>Immediate recovery</th>
<th>Recover after eWOM</th>
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<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Vicarious distributive justice</td>
<td>2.371 (1.075)</td>
<td>3.013 (1.248)</td>
<td>3.468 (1.229)</td>
<td>3.279 (1.217)</td>
<td>3.231 (1.300)</td>
</tr>
<tr>
<td>Vicarious procedural justice</td>
<td>3.462 (1.299)</td>
<td>4.091 (1.326)</td>
<td>4.756 (1.137)</td>
<td>4.359 (1.195)</td>
<td>4.532 (1.343)</td>
</tr>
<tr>
<td>Vicarious interactional justice</td>
<td>2.094 (1.264)</td>
<td>2.392 (1.123)</td>
<td>2.884 (1.133)</td>
<td>2.659 (1.000)</td>
<td>2.648 (1.294)</td>
</tr>
<tr>
<td>Brand attitude</td>
<td>2.868 (0.970)</td>
<td>3.516 (1.128)</td>
<td>4.132 (1.114)</td>
<td>3.827 (1.069)</td>
<td>3.861 (1.250)</td>
</tr>
<tr>
<td>Purchase intention</td>
<td>3.000 (1.107)</td>
<td>3.105 (1.055)</td>
<td>3.437 (1.144)</td>
<td>3.245 (1.085)</td>
<td>3.318 (1.145)</td>
</tr>
<tr>
<td>Sample size (Scenario)</td>
<td>53 (S1)</td>
<td>102 (S2&amp;S4)</td>
<td>116 (S3&amp;S5)</td>
<td>110 (S2&amp;S3)</td>
<td>108 (S4&amp;S5)</td>
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</table>

Table 3. One-way ANOVA results

<table>
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<tr>
<th></th>
<th>No recovery vs. Apology</th>
<th>Apology vs. Compensation</th>
<th>Immediate recovery at the scene vs. Recovery after eWOM</th>
</tr>
</thead>
</table>
This study pays attention to responses of eWOM receivers to different service recovery strategies. The results in this study support our hypotheses that when eWOM receivers receive information about other people’s service failure and recovery, their vicarious justice perceptions influence their attitudes towards the service provider which further affect their purchase intentions. The results suggest that receivers’ responses are more positive if there is service recovery observed. In addition, our results also support that eWOM receivers tend to respond to different service recovery actions (compensation and apology) differently. However, we find that eWOM receivers do not value the speed of recovery to customers. One possible reason for this interesting finding is that eWOM receivers develop perceptions and evaluations based on the information they receive. When eWOM receivers are exposed to the online post, the recovery already happens, they process the information available, making the recovery timing less important to them.

The findings confirm that providing service recovery to eWOM complaints in social media can positively influence eWOM receivers’ attitude and purchase intention. In general, these findings indicate that compensations are effective service recovery strategy in the eye of the indirectly involved eWOMC receivers, regardless of when and how the compensation is given. An incidentally finding is that, eWOM receivers do not perceive the eWOM information as of the same credibility level. In fact, compensation immediately at service scene is significantly perceived as less trustworthy and less credible; this might be a result from receivers’ skepticism.

### 7. Future Research

There are some limitations that restrict this study to generalize its findings and that give opportunity for future research. First, this study had relatively small sample size and future research can enlarge the sample size. Second, the experiment scenarios focused on the microblogging as the platform of eWOM communication. Although microblogging is one of the most commonly used social media services, there are other social media such as social networking sites and brand community or forums, and their interactivity and sociability patterns
may be different. Therefore, future research can investigate eWOM receivers’ responses in other platforms. Third, this study mainly emphasized on consequences of vicarious justice. Future research can study antecedents of vicarious justice, such as shared identity and interdependence, and the potential IT artifacts that may contribute to them. Moreover, this study did not differentiate receiver characteristics. This opens directions for future research to test how eWOM receivers’ knowledge, expertise, involvement, skepticism or demographics would influence their responses to others’ experiences and service recovery strategies. For example, in this study, although all the scenarios are thought to be realistic by the subjects, some subjects mentioned that they suspected the eWOM mentioning immediate compensation to be a show of the company; some others mentioned that the run-out-of dishes may indicate that the restaurant is popular with delicious dishes. In addition, different levels of recovery efforts (for example high compensation and low compensation) and many other service recovery strategies can also be taken into consideration in future research.

Appendix: Examples of the Scenarios

<table>
<thead>
<tr>
<th>Scenario 1: No recovery</th>
</tr>
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<tbody>
<tr>
<td>Imagine that you read about a piece of micropost online. The micropost is as following:&lt;br&gt;‘My friend and I went to Restaurant X for dinner to celebrate my birthday tonight. I placed my order while the waiter informed me that they are out of the entrée I selected. I made another selection while the waiter told me again that the restaurant was also out of that!’</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Scenario 2: Immediate apology at the scene</th>
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<tbody>
<tr>
<td>Imagine that you read about a piece of microblog online. The microblog is as following:&lt;br&gt;‘My friend and I went to Restaurant X for dinner to celebrate my birthday tonight. I placed my order while the waiter informed me that they are out of the entrée I selected. I made another selection while the waiter told me again that the restaurant was also out of that! Well, they apologised to me.’</td>
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</tbody>
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<table>
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<tr>
<th>Scenario 3: Immediate compensation at the scene</th>
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<tbody>
<tr>
<td>Imagine that you read about a piece of microblog online. The microblog is as following:&lt;br&gt;‘My friend and I went to Restaurant X for dinner to celebrate my birthday tonight. I placed my order while the waiter informed me that they are out of the entrée I selected. I made another selection while the waiter told me again that the restaurant was also out of that! Well, they offered us 20% discount off my total bill.’</td>
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<tr>
<th>Scenario 4: Apology after eWOM</th>
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<tbody>
<tr>
<td>Imagine that you read about a piece of microblog online. The microblog is as following:&lt;br&gt;‘My friend and I went to Restaurant X for dinner to celebrate my birthday tonight. I placed my order while the waiter informed me that they are out of the entrée I selected. I made another selection while the waiter told me again that the restaurant was also out of that!’ When you read the comments, you find an account named Restaurant X wrote: ‘We are sincerely sorry for the trouble caused to you.’</td>
</tr>
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<th>Scenario 5: Compensation after eWOM</th>
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<tr>
<td>Imagine that you read about a piece of micropost online. The micropost is as following:&lt;br&gt;‘My friend and I went to Restaurant X for dinner to celebrate my birthday tonight. I placed my order while the waiter informed me that they are out of the entrée I selected. I made another selection while the waiter told me again that the restaurant was also out of that!’</td>
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another selection while the waiter told me again that the restaurant was also out of that!’
When you read the comments, you find an account named Restaurant X wrote: ‘We will offer you a 20% discount off for your next dinner’.

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