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REVENGING INSTRUMENTALITY OF EWOMS: AN INVESTIGATION OF ONLINE NEGATIVE CONSUMPTION INFORMATION CONTRIBUTION

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Abstract

This paper investigates consumers’ use of Electronic Word-of-Mouth System (EWOMS) after negative consumptions. We conceptualize providing product information to a EWOMS as a possible means to revenge. Our empirical study shows that this conceptualization is valid. The unsatisfied consumers who viewed the EWOMS as a revenging tool also indicated heightened likelihood of providing information to the EWOMS. We also explore the factors that could affect consumers’ awareness of EWOMS as a negative reciprocation tool. We found that consumers were more likely to relate negative consumption reciprocation to the EWOMS when their evaluations of the influencing ability of the EWOMS were high. This relationship would be even stronger if the consumer, in addition to the high evaluation of the power of the EWOMS, also strongly imbued the negative reciprocity norm. Moreover, we found that consumers’ evaluations of the ability of the EWOMS also promoted the information contribution likelihood directly.

Keywords: Word of mouth, electronic word-of-mouth, information contribution, reciprocity, retaliation, customer complaining behavior.
1 INTRODUCTION

Human beings have the general ethic that unfavorable treatment should be paid back in kind (Eisenberger et al. 2004). One of the manifestations of such ethic in consumer behavior is word of mouth (WOM) retaliation. Consumption experiences that fall short of consumers’ pre-consumption expectations often result in psychological tensions such as frustration, anger, and disappointment (Dichter 1966; Yi & Baumgartner 2004; Zeelenberg & Pieters 2004). These tensions may produce an impulse to revenge, whose fulfillment will produce pleasure (Aristotle 1941; Sabini & Silver 1982). Engaging in WOM communication is an important way for consumers to relieve tensions resulting from disappointing consumptions and to restore psychological consonance (Strizhakova et al. 2012). In WOM communications, as an information sender, the consumer may complain about the product to the information recipient and advise him or her to not consider the product (Tax et al. 1998), who will then be very likely to form a negative attitude to the product and avoid the product in future consumption. By doing so, the consumer is somewhat psychologically compensated as he has made the product lose some potential customers. As the influence of the information from the sender increases with the number of the recipients in WOM communications, the micro-level dyadic information exchange process can have a tremendous macro-level influence.

Recently, consumers have gone beyond traditional WOM communication and employed various electronic channels and platforms to voice their discontent with product and service failures. This prominent phenomenon has been labeled as electronic word-of-mouth (EWOM) (Dellarocas 2003). The major technological underpinning of EWOM is named as electronic word-of-mouth system (EWOMS), which is defined as an information system that allows consumers to exchange or share consumption information electronically on the Internet. EWOMSs can encompass web portals (e.g., ePinions.com1, RateMyProfessors.com2), online feedback systems (e.g., exchange partner feedback in eBay3), online consumer review systems (e.g., book review in Amazon4), and discussion forums. While there are plenty of positive product recommendations, negative product reviews are also abundant in these EWOMSs. There even appear some web portals mainly dedicated to product complaints (e.g., my3cents.com5). The EWOMS has increasingly become an important outlet for unsatisfied consumers to vent their discontent with products and merchants (Bailey 2004).

While we can be reasonably certain that disappointed consumers will be attracted by the EWOMS to voice their dissatisfaction with products and hence exact revenge on the merchants, there is a lack of understanding of the detailed cognitive operations that drive their EWOM retaliation. In other words, we do not have much knowledge about the cognitive activities that mediate an unhappy consumer’s awareness of the EWOMS and his or her posting of negative product opinions in the EWOMS. This study thus attempts to address this knowledge gap. Extending our findings, we profile the type of consumers who are more likely to engage in negative EWOM after some bad consumption experiences and the type of EWOMS that are more likely to attract retaliation through EWOM.

2 THEORETICAL FOUNDATIONS AND HYPOTHESES

Figure 1 depicts our research model. The dependent variable is the likelihood of a consumer’s posting of a product review to the EWOMS after negative consumption experience. We propose that it will be affected directly by the consumer’s negative reciprocity norm and the consumer’s evaluation of the decision influencing ability of the EWOMS and indirectly with the mediation of the consumer’s interpretation of the EWOMS as a revenging tool.

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1 www.ePinions.com
2 www.RateMyProfessors.com
3 www.eBay.com
4 www.amazon.com
5 www.my3cents.com
2.1 The Interpretation of EWOMS as a Reciprocating Tool

Psychologists contend that people’s interactions with their environment, which acts as various stimuli, involve extensive information processing through complex cognitive mechanisms (Fiske & Taylor 1991, p. 8). Once an environmental stimulus is detected, it will be decoded, interpreted and processed in an individual’s cognitive context. Such a context may consist of the individual’s memories of past events and personalities (Revell 1993). The cognitive processing of the stimulus leads to the individual’s emotional and behavioral response to the stimulus. As each individual’s experience and personality is distinct, the same stimulus could receive varying interpretations and different response. Therefore, one of the keys to understanding an individual’s behavior is to investigate his or her cognitive interpretation of the stimulus.

When the above information processing perspective is applied to information system (IS) usage, the IS can be conceptualized as a stimulus and the individual’s usage of the IS is the behavioral response to the stimulus. The response is in turn guided and shaped by the individual’s personal interpretation of the stimulus. An individual’s mere awareness of an IS may not necessarily elicit system usage; instead, the cognitive processing of the features of the IS in the individual’s distinct cognitive environment will generate strong drive for usage. Swartz and Chin (2007) explicitly indicate that people tend to assess the worth of an IS for performing a particular task before accepting it. The cognitive processing and interpretation of the IS will help individuals to rationalize their own behavior with the IS.

Prior studies found that consumers would provide comments on products through using EWOMSs when they are concerned about others, when they feel that their comments would exhibit a wise and successful image of themselves, when they have a positive perception of this way of communication, when they could receive certain form of rewards, or when they purposefully seek others’ advice on their consumption decisions (Hennig-Thurau et al. 2004). The findings indicate that consumers could attach various meanings to their use of EWOMSs and the EWOMS has been perceived as a tool for realizing their purposes. This paper will explore a distinct perception of the EWOMS by discontent consumers.

Consumption processes in general consist of three stages: pre-consumption, consumption, and post-consumption (Schiffman & Kanuk 2000). In pre-consumption stage, consumers form certain expectations of actual consumption. During and after actual consumptions, consumers tend to compare their expectations against their personal experiences. The expectancy disconfirmation can be manifested along a continuum from positive (obtained outcomes exceed the expectations) to neutral (obtained outcomes exactly meet the expectations) to negative (obtained outcomes fall short of expectations) (Oliver 1980). The negative disconfirmation will produce strong psychological tensions and stimulate post-consumption behavior, including complaining communication (Dichter 1966; Richins 1983; Yi 1990; Yi & Baumgartner 2004). Post-consumption communication aroused by product-involvement is a way to reciprocate the product and service consumed (Soderlund 1998).
Under the condition of negative disconfirmation, consumers could relieve their psychological discomfort by voicing complaint through interpersonal communications (Schiffman & Kanuk 2000; Sundaram et al. 1998). Consequentially, information recipients may form negative product judgment and decision and the complainants could be compensated psychologically.

Given that an unsatisfied consumer has psychological tension to exact revenge on the merchant and WOM communication has been perceived to be a way to achieve negative reciprocity, we posit that the EWOMS, which is an electronic platform of WOM communication, could be interpreted as an alternative negative reciprocating tool. If such an interpretation of the EWOMS emerges, as it matches the consumer’s need to reciprocate negatively, we propose that he or she would exhibit a positive behavioral response to EWOMS by contributing feedback on the product in the EWOMS.

**Hypothesis 1:** The interpretation of the EWOMS as a tool to reciprocate the product encountered will positively affect the likelihood of an unsatisfied consumers’ contribution of product information to the EWOMS.

On the basis of Hypothesis 1, we also recognize there would be some systematic variances in disappointed consumers’ interpretation of the EWOMS as a retaliation tool as well as the use of the EWOMS for complaining. In the subsequent sections, we explore two factors that could result in such variance. One factor is related to the consumer’s cognitive characteristic and the other is related to the assessment of the EWOMS.

### 2.2 Effects of Negative Reciprocity Norms

Interpretation of a EWOMS as a negative reciprocating tool stems from consumers’ drive to dispel psychological discomfort arising from unsatisfactory consumptions where they perceive to be mistreated. Studies have shown that unfavorable treatment may induce different levels of propensity to revenge across individuals, which is governed by their negative reciprocity norm endorsement (Gouldner 1960).

Negative reciprocity norm reflects an individual’s beliefs of retribution as the correct and proper way to respond to physical, psychological, and symbolic mistreatment (Gouldner 1960; Helm et al. 1972). Individuals who imbibe negative reciprocity norm tend to exhibit heightened psychological tensions such as anger and frustration when they are mistreated and have an active cognitive goal to reciprocate negatively (Eisenberger et al. 2004).

System interpretation is the outcome of the integration of an individual’s cognitive schema and the system stimulus. As the goal of retaliation is more accessible for a consumer with high negative reciprocity norms than for a consumer otherwise after unsatisfactory consumption, the likelihood for retaliation schema to intersect with EWOMS stimulus would be heightened. As a result, the consumer will be more likely to expend cognitive resources to elaborate on whether the EWOMS could be used as a revenging solution. Given that a EWOMS is a type of system that other consumers could consult to make consumption decisions, the consumer is thus prone to interpret the EWOMS as a tool for negative revenge.

**Hypothesis 2:** The degree of imbibing the negative reciprocity norm will be positively related to the interpretation of the EWOMS as a tool to reciprocate the product.

An individual with strong norm of negative reciprocity is found to exhibit high inclination of revenging. This may suggest initiating negative WOM communication could be a more often-employed strategy to seek justice after disappointing consumption for a consumer who is high in the norm of negative reciprocity than who is low. For such type of consumers, over time, they may just form a habit of articulating their negative opinion about the product when a communication channel permits him or her to do so. They may not need to engage in the cognitive operation to think about whether the EWOMS could serve their interests of retaliation. In other words, consumers who imbibe negative reciprocity norm might make use of the EWOMS to complain the product without relating it to a reciprocation tool.
Hypothesis 3: The degree of imbibing the negative reciprocity norm will be positively related to the likelihood of an unsatisfied consumers’ contribution of product information to the EWOMS.

2.3 Effects of Perceived Decision Influencing Ability of EWOMS

An important assumption underlying the interpretation of EWOMS as a revenging tool is that the product information in a EWOMS can affect consumers’ product attitudes and choices. However, EWOMSs may vary in their influencing abilities. The difference can first be attributed to the reputation of the EWOMS (or the web portals the EWOMS is embedded in). A more well-known EWOMS signifies a larger number of visitors; higher chances that the product reviews will be read; and therefore stronger influence that the EWOMS may exert on consumers’ decisions than a less-known EWOMS. Additionally, individuals may have different understanding regarding the extent to which general consumers rely on product information in EWOMSs. Some may believe that a consumer’s product attitude is generalizable to others and consumers tend to value others’ opinions when making decisions. However, others may feel that general consumers tend to have distinct product requirements and consumption needs and their product attitudes are therefore independent from other consumers’ opinions (Wright & Cantor 1967). The above different understandings of consumers’ reliance on product information from WOM in general and EWOMS in particular may result in varying perceptions of the influencing ability of EWOMS.

As the ultimate executor of the reciprocation for unsatisfactory consumption is the EWOMS, the expectancy of achieving the reciprocation depends on the executor’s ability to influence consumption decision (Ford 1992). When the individual perceives that EWOMS can effectively shape other consumers’ consumption decisions, he or she would interpret the system as an appropriate revenging tool because consumers are more likely to accept his or her product opinion and hence less likely to choose the product. Conversely, if the individual feels the EWOMS is trivial in influencing other consumers’ product consideration, he or she would be unlikely to attach the goal of retaliation to the EWOMS. Formally, we hypothesize,

Hypothesis 4: The consumer’s perception of decision influencing ability of EWOMS will be positively related to the interpretation of EWOMS as a tool to reciprocate the product.

We also posit that unsatisfied consumers’ perception of the influencing ability of the EWOMS would affect their behavioral response to the EWOMS directly. Instead of revenging, consumers may provide information about their unsuccessful consumption out of altruism (Engel et al. 1994; Smith 1981). Their utmost purpose of providing product feedback is to help other consumers make better choices. Therefore, they may not relate WOM communication with retaliation and in the context of EWOM, they are less likely to conceptualize the EWOMS as a reciprocating tool. When these consumers perceive the influencing ability of the EWOMS to be high, they may show high interest in posting product reviews to the EWOMS as the system could enable them to help more other consumers.

Hypothesis 5: The consumer’s perception of decision influencing ability of the EWOMS will be positively related to the likelihood of an unsatisfied consumers’ contribution of product information to the EWOMS.

In addition to its main effect, we also propose that the perceived decision influencing ability of the EWOMS will interact with the individual’s endorsement of negative reciprocity to affect the interpretation of the EWOMS as a reciprocating tool. For consumers who do not endorse negative reciprocity norm strongly, they are less likely to interpret the EWOMS as a reciprocation tool, regardless of their perception of the influencing ability of the EWOMS. For consumers with relatively high recognition of negative reciprocity norm, although they are presumable to have stronger motivation to revenge, if they believe the EWOMS is incapable of shaping other consumers’ purchase, they are still less likely view the system as a revenging channel. We conjecture that the interpretation of the EWOMS as a negative reciprocating tool would be highest only when the consumer characteristic condition (i.e., recognition of negative reciprocity) and the system characteristic condition (decision influencing ability) are both at relatively high level.
Hypothesis 6: The consumer’s perception of decision influencing ability of the EWOMS will be positively related to the interpretation of EWOMS as a tool to reciprocate the product.

2.4 Control Variables

We include age, gender, the extent of dissatisfaction with the product, and the opinion leadership propensity as control variables in our study. Age and gender are used to control the possible effects of personal characteristics. We control the extent of dissatisfaction with product because it has been identified as a determinant of consumers’ complaining behavior (Maute & Forrester 1993). An individual’s opinion leadership propensity could influence his or her behavior in providing product information to others (Childers 1986; Flynn et al. 1996) and hence is controlled.

3 RESEARCH METHOD

3.1 Study Procedure

We adopted the survey method to empirically test the research model. Study subjects were recruited from a large university. The subjects received e-mail invitations, which contained the URL links to the study web pages. Once they agreed to participate in the study and clicked the links, they first read a short passage and then were instructed to recall an unsatisfactory consumption experience with five categories of digital products and to indicate their satisfaction levels with the recalled products (refer to the study instruction in verbatim in Table 1). The purpose of asking subjects to recall negative consumption experiences was to induce a mental condition of post-negative consumption (Zeelenberg & Pieters 2004).

Consumers sometimes inevitably experience consumptions that do not live up to their pre-consumption expectations. Electronic products such as mobile phones, PDAs, MP3s, laptops, and digital cameras are not exceptions. Some electronic products fail to satisfy the users’ needs for such reasons as poor interface design, inconvenient operation system, unstable performance, bad customer service, overall cost inefficiency, etc. To certain extent, these unsatisfactory products may cause economic losses and psychological discomfort.

Please recall an unsatisfactory electronic product you have used.

Please indicate the product category of the unsatisfactory product your have recalled. Product Category: [ ] mobile phone [ ] PDA [ ] MP3 [ ] laptop [ ] digital camera

Please indicate your satisfaction with the recalled product:
[ ] Very unsatisfactory [ ] Unsatisfactory [ ] Neutral [ ] Satisfactory [ ] Very Satisfactory

Table 1. Instruction for Recalling Negative Consumption Experience

The subjects were then shown a EWOMS named as eReviewCenter, which was a simplified, template-like web portal that collect and present product reviews on the five categories of digital products that they had been just instructed to recall. The EWOMS was developed for this study. It targeted specifically at the chosen subjects - the student members of a large university, for providing consumption reviews, opinions, and feedback. It had over fifty products that were on the market the moment the study was conducted. Users were also allowed to suggest new products to be added for them to review. The subjects were allowed to have self-paced navigation of the web portal whereby they learned what features the web portal possessed and how they could interact with the web portal to locate a product, to suggest the inclusion of a product absent from the portal, to review a product, and to submit a review. Afterwards, they were directed to the web pages that contained the survey questions. We paid special attention to the order of measuring the independent and dependent variables. In particular, the dependent variable (i.e., the likelihood of providing product information to the EWOMS) was measures first within a web page. After submitting their answers to the questions on the dependent variable, the subjects were directed to the new web pages measuring the independent variables.
3.2 Construct Operationalization

We operationalized the research constructs by referring to prior relevant literature and drawing on their definitions. Table 2 presents the scales used to measure the research constructs. The established scale of individual’s endorsement of negative reciprocity norm (Eisenberger et al. 2004) was used. The rest scales were self-developed based on construct definitions. All instruments used seven-point likert scales whereby individuals indicated their agreements with the measurement statements.

<table>
<thead>
<tr>
<th>Construct Code</th>
<th>Scale Item</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITP1</td>
<td>An unsatisfactory product can be complained through the system.</td>
<td>Self developed</td>
</tr>
<tr>
<td>ITP2</td>
<td>The system is a place where consumers can revenge the product or service they encountered.</td>
<td></td>
</tr>
<tr>
<td>ITP3</td>
<td>The system is the outlet people can use when they need to complain about the products.</td>
<td></td>
</tr>
<tr>
<td>DIA1</td>
<td>The system can influence others’ purchase decisions greatly.</td>
<td>Self developed</td>
</tr>
<tr>
<td>DIA2</td>
<td>People will rely on product complaints from the system to make wise consumption decisions.</td>
<td></td>
</tr>
<tr>
<td>DIA3</td>
<td>Negative comments on products in the system will significantly shape system users’ purchase decisions.</td>
<td></td>
</tr>
<tr>
<td>NRN1</td>
<td>If someone treats me badly, I feel I should treat them even worse.</td>
<td>Eisenberger et al. (2004)</td>
</tr>
<tr>
<td>NRN2</td>
<td>If someone treats you badly, you should treat that person badly in return.</td>
<td></td>
</tr>
<tr>
<td>NRN3</td>
<td>When someone hurts you, you should find a way that they won’t even know to get even.</td>
<td></td>
</tr>
<tr>
<td>NRN4</td>
<td>A person who has contempt for you deserves your contempt.</td>
<td></td>
</tr>
<tr>
<td>NRN5</td>
<td>If someone says something nasty to you, you should say something nasty to that person too.</td>
<td></td>
</tr>
<tr>
<td>LIK1</td>
<td>It is likely that I will post my review on the product to the eReviewCenter.</td>
<td>Self developed</td>
</tr>
<tr>
<td>LIK2</td>
<td>I am likely to contribute the review of my actual consumption of the product to the eReviewCenter.</td>
<td></td>
</tr>
<tr>
<td>LIK3</td>
<td>The probability that I will write a review of the product for the eReviewCenter is high.</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Measurement Scales

4 DATA ANALYSIS AND RESULTS

We sent out 500 invitation emails and received 131 responses. After deleting the responses where the subjects recalled satisfactory products, we obtained 104 useable responses, yielding a response rate of 20.8%.

We used structural equation modeling to analyze the data. This method allows simultaneous assessment of the structure among the research constructs and the scales used to measure the constructs. Specifically, the statistics package PLS was employed.

4.1 Assessment of the Measurement Model

Exploratory factor analysis was performed on measurement instruments. The factors were detected using principal component analysis with varimax rotation. The results (Table 3) indicate that four factors emerged with eigenvalues greater than 1.0. These factors were consistent with the intended constructs.

Instrument reliability was determined with the Cronbach’s alpha values (Table 3). All instruments exhibited satisfactory reliability, exceeding the threshold 0.707 (Nunnally 1978). Convergent validity was assessed with construct composite reliability and the average variance extracted by each construct. Nunnally’s 0.707 (1978) is the cut-off value for construct composite reliability. Fornell and Larcker (1981) recommended that the average variance extracted by each construct should be greater than 0.5. All measurement instruments met the recommended thresholds (refer to Table 3).
Discriminant validity was assessed with the criterion that each item should correlate more with other items of the same construct than with items of other constructs (Campbell & Fiske 1959; Cook & Campbell 1979). Discriminant validity is claimed when the average variances extracted by the items measuring the constructs are greater than the squared correlations between two construct (Fornell & Larcker 1981). As indicated in Table 4, in all cases, the correlations between two constructs (off-diagonal items) were less than the square root of the average variances extracted by the items measuring a construct (diagonal items). Hence, we believe that the measures discriminated adequately between the constructs.

<table>
<thead>
<tr>
<th></th>
<th>Factors</th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ITP1</td>
<td>-.176</td>
<td>.262</td>
<td>.024</td>
</tr>
<tr>
<td>2</td>
<td>ITP2</td>
<td>.228</td>
<td>.215</td>
<td>.145</td>
</tr>
<tr>
<td>3</td>
<td>ITP 3</td>
<td>.148</td>
<td>-0.043</td>
<td>.155</td>
</tr>
<tr>
<td>4</td>
<td>DIA1</td>
<td>-.105</td>
<td>.872</td>
<td>.041</td>
</tr>
<tr>
<td>5</td>
<td>DIA2</td>
<td>-.164</td>
<td>.811</td>
<td>.193</td>
</tr>
<tr>
<td>6</td>
<td>DIA3</td>
<td>-.080</td>
<td>.812</td>
<td>.254</td>
</tr>
<tr>
<td>7</td>
<td>NRN1</td>
<td>.846</td>
<td>-.256</td>
<td>-.026</td>
</tr>
<tr>
<td>8</td>
<td>NRN2</td>
<td>.930</td>
<td>-.149</td>
<td>-.056</td>
</tr>
<tr>
<td>9</td>
<td>NRN3</td>
<td>.892</td>
<td>-.021</td>
<td>-.027</td>
</tr>
<tr>
<td>10</td>
<td>NRN4</td>
<td>.915</td>
<td>.061</td>
<td>-.023</td>
</tr>
<tr>
<td>11</td>
<td>NRN5</td>
<td>.890</td>
<td>-.122</td>
<td>.151</td>
</tr>
<tr>
<td>12</td>
<td>LIK1</td>
<td>-.032</td>
<td>.203</td>
<td>.856</td>
</tr>
<tr>
<td>13</td>
<td>LIK2</td>
<td>-.006</td>
<td>.229</td>
<td>.873</td>
</tr>
<tr>
<td>14</td>
<td>LIK3</td>
<td>.041</td>
<td>.028</td>
<td>.834</td>
</tr>
</tbody>
</table>

Table 3: Statistics for Measurement Instrument Assessment

<table>
<thead>
<tr>
<th>Construct</th>
<th>ITP</th>
<th>DIA</th>
<th>NRN</th>
<th>LIK</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITP</td>
<td>0.784</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIA</td>
<td>0.359</td>
<td>0.873</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NRN</td>
<td>0.174</td>
<td>-0.238</td>
<td>0.901</td>
<td></td>
</tr>
<tr>
<td>LIK</td>
<td>0.320</td>
<td>0.403</td>
<td>0.045</td>
<td>0.877</td>
</tr>
</tbody>
</table>

Table 4: Discriminant Validity Assessment

4.2 Results of the Structural Model Testing

After establishing the adequacy of the measures, we tested the structural paths in the research model. We conducted hypothesis tests by examining the sign and significance of the path coefficients and the explanatory power of the structural model. The explanatory power of the structural model is assessed based on the amount of variance explained in the endogenous construct (i.e., likelihood of providing product information to EWOMS). We conducted the statistical tests at a five-percent level of significance using two-tailed t-tests. Figures 2 depicts structural model testing results.

Confirming H1, the results demonstrate when a discontent consumer interpreted the EWOMS as a reciprocating tool, the likelihood for him or her to provide information regarding the unsatisfactory product to the EWOMS would be heightened (t=1.983). For the antecedents of the interpretation of the EWOMS as a reciprocating tool, a consumer’s evaluation of the influencing ability of the EWOMS was found to be significant (t=3.132) but his or her negative reciprocity norm was shown to be insignificant (t=1.428), hence H4 was supported but H2 was not. We found no significant evidence to support H3, which stated that a consumer’s negative reciprocity norm would increase the likelihood of negative information contribution (t=0.039). However, the consumer’s perception of the decision influencing ability of the EWOMS was found to have significant positive effect on the likelihood of product information contribution, therefore, H5 was supported (t=3.421). Additionally, in support of H6, the consumer’s negative reciprocity norm and his or her assessment of the EWOMS decision influencing ability was found to exert a positive interaction effect on the interpretation of the EWOMS as a reciprocating tool (t=1.975).
The inclusion of control variables increased the explanatory power of the model to 23%. However, none of the control variables was significant.

5 DISCUSSIONS

5.1 Discussions of Study Findings

This paper presents an investigation of consumers’ use of EWOMSs after their negative consumptions. We conceptualize the consumer’s providing negative product information to a EWOMS as a possible means to revenge the product and relieve psychological discomfort resulting from negative consumption. The revenge and psychological relief could be possibly fulfilled if the consumer employs a EWOMS to review the unsatisfactory product because the product review would result in other consumers’ negative attitude toward and decision with the product. Our empirical study shows that the above conceptualization is valid. In our survey sample, the unsatisfied consumers who viewed the EWOMS as a revenging tool also indicated heightened likelihood of providing consumption information to the EWOMS. On the contrary, unsatisfied consumers who did not interpret the EWOMS a system to complain about products and exact revenge on the merchants showed systematic lower intentions to provide information regarding their unsatisfactory consumption experiences.

The study also explores the factors that could affect a consumer’s awareness of a EWOMS as a negative reciprocation tool. The consumers in our sample were more likely to relate negative consumption reciprocation to the EWOMS when their evaluations of the ability of the EWOMS to influence other consumers’ decisions were high. Also, the relationship between negative reciprocation and the EWOMS would be even higher if the consumer, in addition to his or her high evaluation of the power of the EWOMS, also strongly endorsed the negative reciprocity norm, which is characterized as the belief that mistreatments deserve retaliation.

Moreover, the study also indicates that consumers’ evaluations of the decision influencing ability of the EWOMS also promoted their intention to contribute product information to the system directly. This means the unhappy consumers forwent the interpretation of personal worth of the EWOMS and directly showed positive responses to the systems. We propose that the intention to help others could be the underlying mechanism leading to this effect. The unsatisfied consumer may decide to contribute product information out of altruism. Information about an unsatisfactory product could help other consumers in making better consumption decision. The number of consumers who will benefit from such information will proportionately increase with the decision influencing ability of a EWOMS. Therefore, if the consumer has a high evaluation of the power of the EWOMS, he may be more likely to provide product information to the system.

We failed to find empirical evidences to support the propositions that unsatisfied consumers who imbibe negative reciprocity norm would be likely to interpret the EWOMS as a reciprocating tool and
to contribute product information to the EWOMS. The plausible explanation is that consumers with
high negative reciprocity norm tended to have a clear goal of negative reciprocation after negative
consumption encounters and this goal drove them to resort to an effective way to exact revenge. They
were less likely to use the EWOMS to review products if they did not interpret the EWOMS as a
revenging tool. This could account for our failure in validating H3. Additionally, these consumers
would not mindlessly relate retaliation to the EWOMS, instead, they would assess the influencing
ability of the EWOMS to derive the conclusion as to whether the system is capable of helping them to
revenge. Therefore, we failed to validate H2 but found support for the interaction effect between
negative reciprocity norm and the perceived influencing ability of the EWOMS.

5.2 Contributions and Implications

The major theoretical contributions of this study could be analyzed from the perspective of
information contribution and sharing research as well as the perspective of EWOM and WOM
research.

The study falls into the broad stream of research on information contribution and sharing through
electronic channels. This line of research has been conducted with organizational employees (e.g.,
Kankanhali et al. 2005), virtual community members (Ma & Agarwal 2007), and general consumers
(Hennig-Thurau et al. 2004). However, our study attempts a more focused and in-depth exploration of
negative product information contribution by unsatisfied consumers. By doing this, this paper
enhances the literature of information contribution and sharing and explicates distinct variables that
have not been identified in other studies.

Our study also enhances the EWOM literature. Although EWOM is a recent prominent phenomenon
that has attracted much interest among researchers, studies have focused on its effects on trust
building and product sales (Ba & Pavlou, 2003, Godes and Mayzlin 2004) and less emphasis has been
placed on the examination of what would affect consumers’ initiation of EWOM. The study thus
makes significant contribution to EWOM literature and allows researchers to see a complete picture
of the EWOM phenomenon.

Our study has important practical implications for EWOMS designers and operators, product
reviewers, as well as merchants.

It is critical for EWOMSs and the electronic commerce web sites that implement EWOMSs to have
sufficient product reviews since these reviews will facilitate consumers to make decisions. This study
suggests possible ways for EWOMS designers to attract product reviews. Our finding of the
significant effect of the decision influencing ability of EWOMS on product information contribution
indicates EWOMS designers could present some information about their systems’ influences on the
system interfaces so as to facilitate users’ evaluations. The information could include the number of
visitors of their systems or the ranking of the systems. In addition, a EWOMS could also directly state
that the system could compensate a consumer’s loss incurred in his or her consumption by influencing
other consumers’ decisions with the product to attract product reviews. However, we also caution
EWOMS practitioners that it is definitely not a wise solution to attract too many negative reviews.
When this does happen, we suggest the designers could affect the consumers’ interpretation of the
EWOMS to demotivate them to submit negative reviews.

As indicated earlier, online product reviews are an important source of information that consumers
often rely upon before making purchase decisions. Consumers tend to value more informative product
reviews (Wang et al. 2007). Hence, it is the responsibility of EWOMS designers to ensure that the
product reviewers using their systems have an appropriate mentality as it could translate to high
quality product reviews. For instance, designers could place some message boxes on their EWOMS
web pages stressing that the major contribution of project reviews is to help other consumers gain
product knowledge instead of realizing personal revenge. Changing reviewers’ interpretation in this
way could improve the quality of product reviews from unsatisfied consumers.

Negative product information in EWOMSs has enormous impact on consumers’ choices. Firstly, the
potency is the product of the integration of WOM communication and electronic communication
media. WOM information has long been noted as an important marketing phenomenon of substantial sales consequence (Whyte 1954) because WOM is generally believed to be a more reliable and unbiased informational source than merchants-sponsored communications such as advertising. Furthermore, the electronic media, with their far-reaching capacity, promote the WOM effect to an unprecedented level (DoubleClick 2004; Godes & Mayzlin 2004; Riller 1999). Secondly, negative WOM information is inherently weighed more heavily than positive WOM information in judgment and choice (Folkes & Kamins 1999; Herr et al. 1991).

Given the significant influence of negative product reviews, this paper suggests that merchants should be aware of EWOMs as a new channel of consumer opinion dissemination and pay attention to the reviews of their products in EWOMs. Our results demonstrate that a discontent consumer with high negative reciprocity norm tends to view EWOMs as reciprocating tool, and is consequently more likely to provide product information to EWOMs. Previous study also shows negative reciprocity norm endorsement is highly correlated with an individual’s level of anger with negative encounters (Eisenberger et al. 2004). Taking the above two conclusions together, we could predict that the consumer would be in a strongly negative emotional state when reviewing the disappointing product in the EWOMS and therefore the resultant product review might be less objective. To alleviate the harmful impacts of this type of reviews, the merchants should monitor some famous or popular EWOMSs and electronic commerce websites with EWOMSs and address the negative reviews with valid reasons or their determination to improve product quality.

6 LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Researchers are cautioned to consider some limitations of this study before generalizing our findings. The first limitation is related to experiment nature of this study. We used student subjects and an experimental EWOMS to test our model. Although this method could successfully control many confounding variables, such as subjects’ education background and the popularity of systems, it could nevertheless limit the generalizability of our findings. Further endeavors to test the research hypotheses with larger population and within a more relaxed or real EWOMS, albeit challenging, will generate more fruitful conclusions. The second limitation is that we examined only the likelihood of information contribution to the EWOMS. Future studies could rectify this by examining consumers who submit negative product review on their interpretation of the EWOMS. Future studies could rectify this by examining consumers who submit negative product review on their interpretation of the EWOMS.

In addition to addressing the above limitations of this study, there are several directions future studies can pursue. First, our study examined the negative EWOM from revenging perspective. As indicated by the direct linkage between the perception of the decision influencing ability of EWOMS and the likelihood of product information contribution, articulating a negative product in EWOMS may not necessarily be a revenging behavior. Future study could explore the other driving forces such as prosocial norms that motivate consumers to provide information about their negative consumptions. Second, researcher could construct a more comprehensive model of EWOM communication about negative products and consumptions to consider both benefit factors (e.g., helping other consumers, enhancing self image, retaliation, etc.) and cost factors (e.g., effort, time, etc). Third, as there are both negative and positive product recommendations in EWOMSs, future research could compare the similarities and differences in product reviewers’ motivations to post the two types of recommendations.
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