This research analyzed how affinity to word-of-mouth (WOM) provider influences on purchase decision making in high and low “affinity” conditions when WOM contradicted with electronic word-of-mouth (EWOM). Participants had to select from product A or product B, with information only about WOM comment (positive or negative), EWOM comment (positive or negative), and affinity to WOM provider (high or low). We focused on participants who made decisions contradictive with their evaluation of WOM and EWOM trustworthiness. The results suggested psychological processes that affinity directly influences decision making as an emotional factor, sometimes causing contradictory decisions. Among participants who evaluated EWOM more trustworthy, degree of affinity made significant differences in ratios of contradictive decisions by adopting WOM.

Key words: affinity, word-of-mouth, electronic word-of-mouth, contradiction, confidence, individual decision making

INTRODUCTION

When we make decisions, we tend to be influenced by external information. We often ask others opinions before making decisions. We make different decisions, depending on various conditions. For example, we are likely to choose a different lunch menu in a different climate and weather condition. In addition, we are not always rationally influenced by external information. Degree of influence can vary, depending on information form or information source.

Especially, opinions of others have great influences. For example, adolescent peer network position influences their purchase activities (Gentina & Bonsu, 2013). People tend to spend more due to higher “hedonic values” when the shopping companion is a friend, compared with the cases when the shopping companion is a family or when shopping alone (Borges, Chebat, & Babin, 2010). Furthermore, communion-oriented people tend to change donation amount whether a friend is front of them or not (Kurt, Inman, & Argo, 2011).

Literature review about WOM and EWOM

Many researches have been conducted about how word-of-mouth (WOM) influences decision making (e.g., Wangenheim & Bayón, 2004; Derbaix & Vanhamme, 2003; Hennig-
Thurau, Gwinner, Walsh, & Gremler, 2004; Murray, 1991). For example, compromise effect has been demonstrated that people tend to select the middle option in a trinary choice with inadequate information (e.g., Simonson, 1989; Dhar, Nowlis, & Sherman, 2000; Simonson & Nowlis, 2000; Lin, Yen, & Chuang, 2006). The compromise effect causes decision making influenced by WOM of a friend or a family member (Chuang, Cheng, & Hsu, 2012). Their findings included several points. People are more likely to follow the WOM of family members, even where they have weak family ties. Also, family cohesiveness and peer cohesiveness have significant influences on the decision-making process. WOM influences behavior decision making, especially when the WOM is extreme. WOM effect on compromise effect is a function of decision uncertainty, such that the WOM effect on the compromise effect is weak when decision uncertainty is low rather than high. Consumers have a lower compromise effect when they receive a WOM from a family member rather than from a stranger. People are likely to follow suggestions from people in highly cohesive family and peer groups to the same extent. However, in less cohesive groups, suggestions from peers are less likely to be adopted than suggestions from family members. In addition, different perceived risks have different correlations with WOM influence and WOM spread (Lin & Fang, 2006).

Also, there are many researches about how electronic word-of-mouth (EWOM) affect decision making (e.g., Basuroy, Chatterjee, & Ravid, 2003; Chevalier & Mayzlin, 2006; Liu, 2006). For example, increased volume of positive or negative EWOMs (number of ratings) strengthens positive or negative preference of participants for movies (Khare, Labrecque, & Asare, 2011). The presence of a conflicting aggregated rating will decrease review credibility and diagnosticity via its negative effect on consumers’ product-related attributions of the review (Qiu, Pang, & Lim, 2012). The impact of online reviews valence is moderated by consumer expertise (Zou, Yu, & Hao, 2011). The credibility of Web sites and EWOM messages can be damaged in the long run if all of the EWOM messages are positive (Doh & Hwang, 2009). Customer know-how exchange impacts customer perceptions of product value and likelihood to recommend the product, but does not influence customer repurchase intentions (Gruen, Osmolbokov, & Czaplewski, 2006). Tie strength, trust, normative and informational influence are positively associated with users’ overall EWOM behavior, whereas a negative relationship was found with regard to homophile (Chu & Kim, 2011). The impact of negative EWOM on the EWOM effect is greater for experience goods than for search goods (Park & Lee, 2009).

Moreover, key factors related to the major elements of the social communication literature were identified and an integrative framework explaining the impact of EWOM communication on consumer behavior was built (Cheung & Thadani, 2012). The integrative framework is composed of five essential components—communicators, stimuli, receivers, responses and contextual factor. Communicators consist of expertise, trustworthiness, and attribution. Stimuli consist of argument quality, valence, sidedness, and volume. Receivers consist of involvement and prior knowledge. Responses consist of information usefulness, EWOM credibility, EWOM adoption, attitude, purchase intention, and purchase. Contextual factor consists of platform.
Purpose of this study
As mentioned above, many researches about WOM effect have been conducted (e.g., Chuang et al., 2012; Lin & Fang, 2006). Also, many researches about EWOM effect have been conducted (e.g., Cheung & Thadani, 2012; Qiu et al., 2012; Khare et al., 2011).

We intended to find out how personal factors influence decisions when both WOM and EWOM are available. We always make numerous purchase decisions every day, and both WOM and EWOM are available for the products to choose in many cases. We often get perplexed with contradicting WOM and EWOM comments. For example, WOM directly or indirectly recommends product A, but EWOM directly or indirectly recommends product B.

In most cases we evaluate WOM trustworthiness and EWOM trustworthiness, adopt the comment with higher trustworthiness, and buy the product following the comment. However, we sometimes choose the product that the adopted comment does not recommend. We considered that personal factors such as affinity to WOM provider distort decisions, not only influencing evaluation of WOM trustworthiness and EWOM trustworthiness (Eguchi & Yamashita, 2015).

Focus on WOM and EWOM Trustworthiness  We considered that consumers would gather and decide by external information such as WOM and EWOM if it was hard to decide by products themselves. When they decide based on external information, they have to evaluate the importance of external information. The importance usually depends on quality and trustworthiness of information, but consumers often face situations that they can only gain low quality WOMs and EWOMs, just saying good or bad. In such situation, we considered that consumers usually evaluate WOMs and EWOMs only by trustworthiness, and that they would adopt most trustworthy opinion. For example, we considered that consumers usually adopt more trustworthy EWOM rather than less trustworthy WOM, and vice versa.

Focus on type of WOM and EWOM comment  We considered that type of WOM and EWOM comment might influence WOM and EWOM trustworthiness, even if quality of information was low. For example, in a binary choice situation between product A and B, a positive WOM to product A directly supports product A, and a negative WOM to product B indirectly supports product A. Logically, a positive WOM to product A and a negative WOM to product B are equivalent in this binary choice. However, consumers might feel different trustworthiness from these WOMs. For example, a positive WOM might be more trustworthy than negative WOM for many consumers, and vice versa.

Focus on affinity to WOM provider  We considered that affinity to WOM provider as an emotional factor might influence WOM and EWOM trustworthiness. For example, consumers might feel WOM from a close friend more trustworthy than WOM from an ordinary friend. They might feel EWOM less trustworthy when they gain a contradicting WOM from a close friend. Though there might be other emotional factors, we considered that affinity is a very fundamental and important emotion, making significant differences in past studies, for example in compromising effect (Chuang et al., 2012).
In addition, we considered that affinity to WOM provider might make the last push to decision making, when it is hard to decide even by external information. We considered that consumers would want to rely on emotional factors when they could not clearly decide even from external information.

**Focus on Contradiction**  Also, we considered that affinity to WOM provider as the last push to decision making might cause illogical outcomes, because decisions by the last push from affinity are not based on logic. We considered that consumers usually adopt the most trustworthy opinion, but sometimes do not. We named these occasional phenomena as “contradiction”. We considered that emotional factors such as affinity might cause these illogical outcomes.

**Focus on confidence**  We considered that pre-decisional factors such as affinity to WOM provider, type of WOM and EWOM comment, trustworthiness of WOM and EWOM, and “contradiction” might influence on post-decisional confidence. Consumers might feel less confident when it was hard to decide even by external information. We considered that they feel less confident especially when they made “contradictions” influenced by the last push from affinity.

**Hypothesized psychological processes**  We hypothesized psychological processes about purchase decision making as in Fig. 1. In the first step, affinity as an emotional factor influences degree of trustworthiness to WOM or EWOM comments. Degree of trustworthiness for participants varies, depending on opinion sources with different degrees

![Decisional process](image-url)
of affinity. In the second step, the influenced degree of trustworthiness to WOM or EWOM comments influences decision making of participants (Eguchi & Yamashita, 2015). In the third step, participants usually adopt the most trustworthy opinion, but sometimes do not. We named these occasional phenomena as “contradiction”, and considered that personal factors such as affinity to WOM provider might influence the ratio of causing “contradiction”. We intended to verify the third step in this study.

**Ratio of Contradiction** We considered that the ratio of “contradiction” might vary, depending upon the evaluation of WOM and EWOM trustworthiness as well as upon affinity to WOM provider. If participants adopted WOM even if they evaluated WOM less trustworthy, affinity to WOM provider might make significant difference. On the other hand, if participants adopted EWOM even if they evaluated EWOM less trustworthy, significant reasons of “contradiction” might be different from affinity to WOM provider, because they had already evaluated WOM as more trustworthy, regardless of affinity to WOM provider.

In addition, we considered that the ratio of “contradiction” might vary, depending upon the conditions about WOM and EWOM. For example, participants who evaluate EWOM more trustworthy might be more likely to adopt WOM when EWOM is negative than when EWOM is positive, because negative comments decrease confidence of participants, increasing the uneasiness of participants.

**Degree of confidence** We also considered that degree of confidence about decision making might vary, depending upon conditions about “contradiction”, in addition to affinity to WOM provider, WOM comment, and EWOM comment. Degree of confidence might decrease when participants cause “contradiction”. Degree of confidence might decrease when WOM or EWOM is negative, due to increased uneasiness of participants caused by negative impression of products to participants, comparing with the conditions when WOM or EWOM is positive. When WOM or EWOM is positive, participants might be promoted by the positive information, causing the degree of confidence higher. On the other hand, when WOM or EWOM is negative, participants might be depressed by the negative information, resulting in lower degree of confidence.

**Conditions of WOM and EWOM comment** In this study, we made conditions that WOM comment contradicts with EWOM comment, and we observed which product participants chose and how they evaluated WOM trustworthiness and EWOM trustworthiness. We considered that conditions with contradicting WOM and EWOM would cause more decisions contradicting with evaluation of trustworthiness. The conditions included the conditions with different affinity to the WOM provider.

**Situation controlling** For comparing WOM and EWOM trustworthiness clearer, we intended to exclude the influences of internal motivation, such as preference, of participants. According to EWOM studies, EWOMs (number of ratings) strengthens positive or negative preference of participants (Khare et al., 2011). According to studies on the compromise
effect (e.g., Chuang et al., 2012; Simonson, 1989), when people are uncertain about his preference due to insufficient information or knowledge regarding the consequences of buying behavior, people tend to act on the basis of information provided by a reference group. Thus we controlled the situation by making participants imagine that they were perplexed because both products looked extremely alike.

**Supplemental study** Based on the findings of this study, we intended to confirm in a supplemental study that our setting of positive and negative rating values in this study were appropriate. We examined how many participants recognized 4.0/5.0 as positive and 2.0/5.0 as negative.

**Research hypotheses**

First, we intended to verify that affinity influences ratio of causing “contradiction”. We considered that influence of affinity to WOM provider on ratios of “contradiction” might vary, depending upon the evaluation of WOM and EWOM trustworthiness. In addition, we considered that the ratio of “contradiction” might vary, depending upon the conditions about WOM and EWOM. Thus we intended to analyze how ratio of causing “contradiction” change in conditions with different affinity to the WOM provider (a friend or a close friend).

Second, we measured degree of confidence because we considered that degree of confidence about decision making might vary, depending upon conditions. Thus we analyzed degree of confidence with different conditions about “contradiction”, affinity to WOM provider, WOM comments (positive or negative), and EWOM comments (positive or negative).

On the basis of the hypothesized psychological process about how affinity influences ratio of causing “contradiction”, we constructed following hypotheses:

H1. Among participants who adopt WOM, percentage of participants with “contradiction” becomes significantly higher when affinity to WOM provider is higher

H2. Among participants who adopt EWOM, percentage of participants with “contradiction” becomes significantly higher when affinity to WOM provider is higher

H3. Among participants who adopt WOM, degree of confidence becomes significantly lower among participants with “contradiction”

H4. Among participants who adopt EWOM, degree of confidence becomes significantly lower among participants with “contradiction”

**Method**

**Participants**

Eighty-three participants joined the experiment. Participants included $n = 81$ undergraduates, $n = 1$ graduate student, and $n = 1$ professor from Tokyo Metropolitan University. The mean age was 20.76 years ($SD = 6.37$, range: 19–61). Forty-five participants were female, and thirty-eight participants were male. The experiment took about 20 minutes by making participants answer the questionnaire. All participants attended a psychology class in the university, and they joined the experiment as a part of a lecture in the class.
Experimental design and questionnaire

The questionnaire requested participants to imagine situations that they had to purchase either of product A or product B, and that they were perplexed because both products looked extremely alike. We controlled the conditions by limiting information of participants only about WOM (positive or negative), EWOM (positive or negative), and “affinity” (high or low), as in the Appendix.

We made participants imagine a situation that they have worked in a company for several years since they graduated. In the situation, participants had to buy an industrial machine for business reasons of their company. Although participants were able to select from product A and product B, both products looked extremely alike. A close friend or a friend as the WOM provider directly supported product A by recommending product A, or indirectly supported product A by not recommending product B. We made participants imagine that the WOM provider had little knowledge and no experience about the products, and that they knew the fact. On the other hand, online reviews in online shopping sites as the EWOM provider directly supported product B through positive ratings to product B (4.0/5.0 on average), or indirectly supported product B through negative ratings to product A (2.0/5.0 on average). We made participants imagine that there was no useful information in the review comments.

We controlled the product categories as industrial wax machines, industrial electric generators, industrial large dehumidifiers, and industrial large humidifiers, so that participants would decide without any stereotype for the products. These machines were for industrial use, and participants (undergraduate students and people majoring in psychology) were unlikely to have any prior purchase experience or stereotype for the products. For comparing WOM and EWOM influences clearer, we intended to exclude the influences of internal motivation, such as preference, of participants.

The questionnaire prepared 8 patterns of conditions (2 [“affinity”: high, low] × 2 [WOM comment: positive, negative] × 2 [EWOM comment: positive, negative]) as in Table 1. We considered that effect of one WOM might be much larger than that of one EWOM. For making comparison of WOM effect and EWOM effect easier, we defined 10 online review ratings as EWOM, and defined one comment from a friend as WOM.

We controlled that WOM always contradicted with EWOM in all the conditions. We made that WOM directly or indirectly recommended product A, and that EWOM directly or indirectly recommended product B. Concerning WOM, the friend said “I recommend product A” (positive to product A [+A]), otherwise the friend said “I do not recommend product B” (negative to product B [–B]). The positive WOM comment directly recommended product A, and the negative WOM indirectly recommended product A. Concerning EWOM, we defined positive EWOM as 4.0/5.0 and 2.0/5.0 for negative EWOM. We adopted a rating method that 5.0/5.0 is the maximum rating and 1.0/5.0 is the minimum. The rating on product B was 4.0/5.0 (positive

<table>
<thead>
<tr>
<th>Affinity</th>
<th>WOM Comment</th>
<th>EWOM Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Positive to product A (+A)</td>
<td>Positive to product B (+B)</td>
</tr>
<tr>
<td></td>
<td>Negative to product A (–A)</td>
<td>Negative to product A (–A)</td>
</tr>
<tr>
<td>Low</td>
<td>Positive to product A (+A)</td>
<td>Positive to product B (+B)</td>
</tr>
<tr>
<td></td>
<td>Negative to product B (–B)</td>
<td>Negative to product A (–A)</td>
</tr>
</tbody>
</table>
to product B [+B]), otherwise the rating on product A was 2.0/5.0 (negative to product A [–A]). The positive EWOM comment directly recommended product B, and the negative EWOM indirectly recommended product B. Concerning “affinity”, we defined “high” for a close friend (with whom participants meet and talk once a week) and “low” for a friend (with whom participants meet and talk once in two months). As the premise, the questionnaire requested participants to imagine situations that they had been working several years after graduation, even though participants were students.

For each condition in Table 1, we requested participants to answer for five items as follows:

1. Trustworthiness of WOM (0–10: 0 = "not trustworthy at all" to 10 = "perfectly trustworthy")
2. Trustworthiness of EWOM (0–10: 0 = "not trustworthy at all" to 10 = "perfectly trustworthy")
3. Which product to buy (0 = "product A" or 1 = "product B")
4. Confidence of the decision (0–10: 0 = "not confident at all" to 10 = "perfectly confident")
5. EWOM volume that the participant thinks necessary to trust

Through these questions above, we intended to measure degree of WOM trustworthiness, degree of EWOM trustworthiness, choice of products as decision result, degree of confidence, and EWOM volume that the participant thinks necessary to trust.

We defined “contradiction” as the cases that participants adopted less trustworthy opinion. First category consists of participants who adopted EWOM though they evaluated WOM more trustworthy. Second category consists of participants who adopted WOM though they evaluated EWOM more trustworthy. For participants who evaluated WOM and EWOM equally trustworthy, we defined that they did not cause any “contradiction”.

**RESULTS AND DISCUSSION**

First, we examined whether the ratio of “contradiction” vary depending upon affinity and evaluation of WOM and EWOM trustworthiness. Then, we examined whether the ratio of “contradiction” vary depending upon the conditions about WOM and EWOM. Also, we analyzed how “confidence” vary, depending upon conditions about “contradiction”, affinity to WOM provider, WOM comments (positive or negative), and EWOM comments (positive or negative).

We found results of decision making for each condition as in Table 2.

We found results of “contradiction” for each condition as in Table 3. We excluded the results of participants who evaluate WOM and EWOM equally trustworthy from Table 3.

Also, we conducted a supplemental study to examine minimum rating values that participants regarded positive and maximum rating values that participants regarded negative.

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1 The supplemental study examined minimum rating values that participants regarded positive and maximum rating values that participants regarded negative. Participants included n = 75 undergraduates from Tokyo Metropolitan University. The mean age was 19.79 years (SD = 0.99, range: 19–23). Thirty-seven participants were female, thirty-six participants were male, and two participants did not disclose their sexuality. The experiment took about 5 minutes by making participants answer the questionnaire. All participants attended a psychology class in the university, and they joined the experiment as a part of a lecture in the class.

The questionnaire requested participants to answer the minimum scores (from 1.0/5.0 to 5.0/5.0) that they regard the score as positive and want to buy the product recommended. It also requested participants to answer the maximum scores (from 1.0/5.0 to 5.0/5.0) that they regard the score as negative and want not to buy the product criticized. In addition, it requested participants to answer how many times a month they do e-commerce.

We examined minimum rating values that participants regarded positive as in Fig. 6-1 and maximum rating values that participants regarded negative as in Fig. 6-2.
As for positive rating values, 68.0% of participants answered that 4.0/5.0 was the minimum rating value to regard positive, and 81.3% of participants regarded 4.0/5.0 as positive. As for negative rating values, 50.7% of participants answered that 2.0/5.0 was the maximum rating value to regard negative, and 86.7% of participants regarded 2.0/5.0 as negative. These results indicated that our settings of positive and negative score in this study were appropriate.

**WOM and EWOM Trustworthiness**

We analyzed how degrees of WOM Trustworthiness vary by difference in “affinity” (high, low), WOM (positive, negative), and EWOM (positive, negative). We conducted a 3-dimensional (“affinity” [high, low] × WOM Comment [positive, negative] × EWOM Comment [positive, negative]) analysis of variance (ANOVA) on degree of WOM Trustworthiness. We found a significant result from the main effect of “affinity”, $F(1, 664) = 68.966, p < .001$. When affinity was high, WOM Trustworthiness ($Mean = 5.334$) was significantly higher than when affinity was low ($Mean = 4.120$). We did not found any other significant results from this ANOVA.

Then we conducted the same method of ANOVAs for the cases with and without “contradiction”. From the ANOVA for the cases with “contradiction”, we found no significant result. From the ANOVA for the cases without “contradiction”, we found a significant result from the main effect of “affinity”, $F(1, 605) = 71.784, p < .001$. When affinity was high, WOM Trustworthiness ($Mean = 5.365$) was significantly higher than when affinity was low ($Mean = 4.066$). We did not found any other significant results from this ANOVA.

Also, we analyzed how degrees of EWOM Trustworthiness vary by difference in “affinity” (high, low), WOM (positive, negative), and EWOM (positive, negative). We conducted a 3-dimensional (“affinity” [high, low] × WOM Comment [positive, negative] × EWOM Comment [positive, negative]) ANOVA on degree of WOM Trustworthiness. We found a significant result from the interaction WOM Comment and EWOM Comment, $F(1, 664) = 4.430, p < .05$. When both WOM and EWOM were positive, EWOM Trustworthiness ($Mean = 6.108$) was marginally significantly higher than when EWOM was positive but WOM was negative ($Mean = 5.765$), $p = .078$. We did not found any other significant results from this ANOVA.

Then we conducted the same method of ANOVAs for the cases with and without “contradiction”. From the ANOVA for the cases with “contradiction”, we found a significant result from the main effect of WOM, $F(1, 59) = 4.322, p < .05$, and the interaction of WOM Comment and EWOM Comment, $F(1, 59) = 5.368, p < .05$. When WOM was positive, EWOM Trustworthiness ($Mean = 6.645$) was significantly higher than when WOM was negative ($Mean = 5.524$), $p < .05$. When both WOM and EWOM were positive, EWOM Trustworthiness ($Mean = 7.300$) was significantly higher than when EWOM was positive but WOM was negative ($Mean = 4.929$), $p < .01$. We did not found any other significant results from this ANOVA. From the ANOVA for the cases without “contradiction”, we found no significant result.

**Trustworthiness and Ratio of Contradiction**

We intended to examine whether the ratio of “contradiction” vary depending upon
Table 2. Relationship between conditions and overall reaction

<table>
<thead>
<tr>
<th>Type of Information</th>
<th>Reaction</th>
<th>WOM</th>
<th>EWOM</th>
<th>Selection</th>
<th>WOM Trustworthiness</th>
<th>EWOM Trustworthiness</th>
<th>Confidence</th>
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<tbody>
<tr>
<td></td>
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<td>Rating value</td>
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<td>Mean</td>
<td>SD</td>
<td>Mean</td>
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<tr>
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<tr>
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<tr>
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<tr>
<td>Positive to A</td>
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<td></td>
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<tr>
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<td>B</td>
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<td>43.4</td>
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<td>B</td>
<td>47</td>
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<td>3.52</td>
<td>1.58</td>
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<td>23</td>
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affinity and evaluation of WOM and EWOM trustworthiness. First, we compared ratios of “contradiction” by affinity among participants who evaluated WOM higher and those who evaluated EWOM higher.

We conducted two chi-square analyses for participants who evaluated WOM higher
and those who evaluated EWOM higher. Among participants who evaluated WOM higher, we found no significant result. Ratios of “contradiction” were 11.3% for high “affinity” and 17.0% for low “affinity”. On the other hand, among participants who evaluated EWOM higher, ratio of “contradiction” was significantly higher in high “affinity” (14.0%) than in low “affinity” (7.1%), $\chi^2(1, 396) = 5.129, p < .05$. These results supported H2, but did not support H1.

Then we intended to examine whether the ratio of “contradiction” vary depending upon the conditions about WOM and EWOM. We compared ratios of “contradiction” when WOM was positive, when WOM was negative, when EWOM was positive, and when EWOM was negative.

We conducted four chi-square analyses for participants who evaluated EWOM higher. When EWOM was negative, ratio of “contradiction” was significantly higher in high “affinity” (19.5%) than in low “affinity” (6.6%), $\chi^2(1, 396) = 6.992, p < .05$. When WOM was positive, ratio of “contradiction” was marginally significantly higher in high “affinity” (13.2%) than in low “affinity” (6.0%), $\chi^2(1, 208) = 3.200, p = .0091$. We found no significant result when WOM was negative and when EWOM was positive. These results

**Fig. 3-1.** Main effect of “affinity” on WOM trustworthiness

**Fig. 3-2.** Interaction of WOM comment and EWOM comment on EWOM trustworthiness
indicated that participants who evaluated EWOM more trustworthy were more influenced by “affinity” when EWOM was negative. These results also indicated that participants who evaluated EWOM more trustworthy were possibly more influenced by “affinity” when WOM was positive.

Also, we conducted four chi-square analyses for participants who evaluated EWOM higher, changing conditions about WOM (positive, negative) and EWOM (positive, negative). When EWOM was negative and WOM was positive, ratio of “contradiction” was marginally significantly higher in high “affinity” (17.5%) than in low “affinity” (5.6%), $\chi^2(1, 94) = 3.449, \ p = .0091$. When both EWOM and WOM were negative, ratio of “contradiction” was marginally significantly higher in high “affinity” (21.6%) than in low “affinity” (7.7%), $\chi^2(1, 89) = 3.596, \ p = .0068$. We found no significant result when both EWOM and WOM were positive and when EWOM was positive and WOM was negative. These results indicated that participants who evaluated EWOM more trustworthy were possibly more influenced by “affinity” when EWOM was negative, regardless of WOM comments.

Fig. 4-1. Ratio of “contradiction”

Fig. 4-2. Ratio of “contradiction” among participants who trusted EWOM higher
Degree of “confidence”

We intended to analyze how degrees of confidence vary by difference in “contradiction” (no, yes), “affinity” (high, low), WOM (positive, negative), and EWOM (positive, negative). We conducted two 4-dimensional (“contradiction” [no, yes] × “affinity” [high, low] × WOM Comment [positive, negative] × EWOM Comment [positive, negative]) ANOVAs on degree of confidence. One ANOVA was for participants who evaluated WOM higher, and the other was for participants who evaluated EWOM higher.

As for ANOVA for participants who evaluated WOM higher, we did not find any significant results. On the other hand, as for ANOVA for participants who evaluated EWOM higher, we found a significant result from the main effect of “contradiction”, $F(1, 396) = 11.167, p < .001$. We did not find any other significant results from this ANOVA. The results supported H4, but did not support H3.

Limitation

Overall, the findings of this study supported H2 and H4 as we had anticipated. On the other hand, conditions about WOM (positive, negative) and EWOM (positive, negative) made significant differences only among participants who evaluated EWOM higher and when EWOM was negative. It could be because our setting of positive (4.0/5.0) and negative (2.0/5.0) rating values in this study were not appropriate.

GENERAL DISCUSSION

Summary of results

Results from this study verified that affinity influences ratio of causing “contradiction”. Influence of “affinity” on ratios of “contradiction” varied, depending upon the evaluation of WOM and EWOM trustworthiness. The results supported H2, verifying influence of “affinity” among participants who evaluated EWOM higher. On the other hand, the results did not support H1. The results indicated that if participants adopted EWOM even if they
evaluated EWOM less trustworthy, significant reasons of “contradiction” might be different from affinity to WOM provider. We considered that it was because they regarded quantity of comments as an important decision making factor.

Results from this study also verified that influence of “affinity” on ratios of “contradiction” varied depending upon the conditions about WOM and EWOM. The results indicated that participants who evaluated EWOM more trustworthy were more influenced by “affinity” when EWOM was negative than when EWOM was positive. We considered it was because negative EWOM comments increased uneasiness, causing more “contradiction”. The results also indicated that participants who evaluated EWOM more trustworthy were possibly more influenced by “affinity” when WOM was positive than when WOM was negative. We considered it was because positive WOM comments might looked more attractive than negative WOM comments in decreasing uneasiness.

As for “confidence”, results from this study verified that degree of confidence about
decision making varied depending upon “contradiction”, when participants evaluated EWOM more trustworthy. The results supported H4, but did not support H3. The results indicated that if participants adopted EWOM even if they evaluated EWOM less trustworthy, significant reasons of “confidence” might be different from “contradiction” or other conditions, might be because they regarded quantity of comments as an important decision making factor.

Results from our supplemental study indicated that our settings of positive (4.0/5.0) and negative (2.0/5.0) in this study rating values was appropriate. Over 80% of participants regarded 4.0/5.0 as positive and 2.0/5.0 as negative. In addition, 21.3% of participants answered 3.0/5.0 as maximum negative rating value, making 3.0/5.0 as the second most answered value. We are going to analyze difference in results between those who answered 2.0/5.0 and 3.0/5.0 in another paper.

We understand that some limitations exist in our experiment. First, the results might vary by frequency of E-Commerce usage. We might be able to find significant results in future experiments through categorizing participants by frequency of E-Commerce usage. Second, the situation and the conditions for participants were not real for participants. According to Luo (2005), the effect of imagining a social presence on purchase behavior can be similar to the effect of a real presence, indicating that the WOM provider and EWOM provider do not necessarily have to be physically present for the effect to be realized.

**Implications**

The results from this study implied that affinity directly influences decision making in addition to evaluation of trustworthiness of WOM and EWOM, sometimes causing contradicting decisions. When affinity to WOM provider is higher and people evaluated EWOM more trustworthy, people are more likely to adopt WOM. Especially, when EWOM comments are negative, affinity to WOM provider makes significant differences. Sellers should care whether significant others of target customers provide WOMs contradicting with existing EWOMs. Seller should care gathering positive EWOMs, considering the risks of contradicting WOMs from significant others of target customers. Positive EWOMs are more desirable than negative EWOMs, in order to prevent target customers from adopting WOMs with less trustworthiness.

On the other hand, when people adopt EWOM even though they evaluate WOM more trustworthy, affinity to WOM provider is not a significant factor. Sellers should enhance EWOM trustworthiness, such as through increasing quantity and quality of EWOMs.

The results from our supplemental study implied that 4.0/5.0 is the critical point to be recognized as positive by over 80% of customers, and 2.0/5.0 is the critical point to be recognized as negative by over 80% of customers. In addition, over 20% of conservative customers regard even 3.0/5.0 as negative.

If sellers want to gather positive EWOMs for their products, they should try gathering 5.0/5.0 and 4.0/5.0 comments so that the average rating value will exceed 4.0/5.0. On the other hand, negative EWOMs for competitor products will not be effective to over 80% of customers unless the average rating value becomes below 2.0/5.0. However, negative
EWOMs for competitor products will be effective to over 20% of customers if the average rating value becomes below 3.0/5.0.

REFERENCES


(Manuscript received 13 May, 2015; Revision accepted 15 August, 2016)

**Appendix**

An example of situation in the questionnaire

You have worked in a company for several years since you graduated. For business reasons of your company, you have to buy industrial wax machine. Although you can select from product A and product B, you were perplexed because both products looked extremely alike.

A close friend (with whom you meet and talk once a week) said, “I recommend product A”. However, the friend has little knowledge and no experience about the products, and you know the fact.

When you watched online shopping sites (e.g. Amazon and Kakaku.com), you found online reviews that are positive to product B (4.0/5.0 on average). However, there is no useful information in the comments.