Abstract

Background/Objectives: The present study empirically investigated differences in attitude toward advertisements and judgments according to visual metaphor (parallel metaphor vs. fused metaphor vs. pure metaphor) and expectation levels (expectation congruity vs. expectation incongruity) and attempted to present possible strategic directions.

Methods/Statistical analysis: The present study investigated differences in memory and attitude toward advertisements through an experiment according to visual metaphor (parallel metaphor vs. fused metaphor vs. pure metaphor) and expectation levels (expectation congruity vs. expectation incongruity). Accordingly, a 3 (visual metaphor: parallel metaphor vs. fused metaphor vs. pure metaphor) x 2 (expectation levels: expectation congruity vs. expectation incongruity) between-subject factorial design was created, and analysis was conducted using two-way MANOVA. Hereupon, 179 subjects were randomly assigned to six experimental advertisements.
Findings: First, the difference in memory effect between expectation incongruent advertisements and expectation congruent advertisements was high for visual metaphor advertisements. Second, high memory effect was found for parallel metaphor under expectation incongruity condition and for pure metaphor under expectation congruity condition. Third, parallel and pure metaphors remember ‘individual attribute memory information’ more than ‘comprehensive evaluation memory information’ and influence judgments when expectation is congruent. Fourth, parallel and fused metaphors remember ‘individual attribute memory information’ more than ‘comprehensive evaluation memory information’ and influence judgments when expectation is incongruent.

Improvements/Applications: Expectation congruity level in the dimension of the three visual metaphors, verbal elements were added to visual rhetoric expressions and interactive roles were examined.

Key Words and Phrases: Visual Metaphor, Congruity, Incongruity, Recall, Advertising Types

1 Introduction

The metaphorical expressions of advertisements are known to be effective for recall and attitude because they draw consumers’ attention and interest by alluding the advertised product to other objects or situations and induce elaboration to interpret the meaning others 1.

Previous studies have consistently reported that visual metaphorical advertisements have positive effect on recall and attitude because consumers’ previous experiences of the metaphorical messages of advertisements or unexpected incongruent information induces elaborate information processing 2,3,4. Even though visual metaphorical advertisements are polysemous, they may not be persuasive because such images can make consumers not only misunderstand the messages of expectation-incongruent advertisements that are connotative, abstract, or unpredictable but also give up elaboration itself.

The advertising effect of visual rhetorical expressions can be much higher if verbal expressions that allow inferencing informa-
tion on not only expectation incongruity but also visual metaphors due to expectation congruity. For these three visual metaphor dimensions and the level of expectation congruity, the present study added verbal elements and attempted to investigate the interactive roles. In addition, under the expectation incongruity condition, closely examining only the effect of visual rhetorical expressions without verbal elements is expected to be meaningful.

The present study empirically investigated differences in attitude toward advertisements and judgments according to visual metaphor (parallel metaphor vs. fused metaphor vs. pure metaphor) and expectation levels (expectation congruity vs. expectation incongruity) and attempted to present possible strategic directions.

2 Theoretical Background and Hypothesis

2.1 Visual Metaphor Advertisements and Types

Metaphor figuratively expresses an object to express through a different object and it is the process of making people understand and experience the concept of an object from the perspective of yet another object. Visual metaphors are created through an unexpected combination of two or more images. That is, consumers infer the new concept of C through the commonality shared by concept A and B.

McQuarrie & Mick (1992) contended that because the metaphorical expressions presented in advertisements induce various interpretations and produce resonances by giving consumers the excitement of interpreting information, and positively influence the attitude, favorable impression, and recall of the advertisement others. The classification of visual metaphor is different among researchers, but all visual metaphors require tenor and vehicle in common. The tenor becomes the product being advertised and the vehicle is the concept that explains the product. In the process of connecting tenor and vehicle, elaboration process takes place in consumers. Visual metaphor can increase the level of elaboration and change the level of understanding of the information about the advertisement depending on the distance between tenor A and vehicle B.
Lakoff & Johnson (1980) stated that metaphor must have the primary subject, tenor, and the secondary subject, vehicle, and a new meaning will be assigned as these two images are integrated into one others. The present study classified visual metaphors into pure metaphor, parallel metaphor, and fused metaphor based on the results of previous studies.

The 'pure metaphor' presents the vehicle to be metaphorized with visual importance while the products, tenor, are visually less noticeable. The 'parallel metaphor' presents the product, tenor, with vehicle at the same time, i.e., the product presented in the advertisement is shown with the surrounding situation, so that the atmosphere, emotion, or feeling is understood. The 'fused metaphor' presents the product, tenor, combined with visual elements, vehicle. Such a fused metaphor shows the tenor and the vehicle visually fused because they are visually inferred.

2.2 Expectation Level

In the dimension of interaction effects between visual images and verbal messages, research on advertisements congruity-incongruity reported positive influences on attitudes and recall when visual images and verbal messages are incongruent than when they are congruent.

It has been reported that expectation incongruent advertisements than congruent ones are easier to recall because they allow remembering information more and longer about the advertisement due to high level of cognitive elaboration. In the case of visual elements, Heckler & Childer (1992) found that memory ability is higher due to the increased level of elaboration because of higher cognitive effort made for expectation incongruent advertisements than congruent ones. Ang & Low (2000) investigated the effects of expectation congruity-incongruity according to the level of creative advertisements and found positive responses due to the cognitive effort to elaborately process advertisements when visual elements are incongruent.

According to the findings of previous studies, expectation incongruity plays a positive role in purchasing products because it increases interest in advertisement information and positive influence on attitudes and memory by the cognitive effort to under-
stand the information. It may be necessary, however, to maintain
the appropriate level of difficulty in advertisements through visual
metaphors due to the possibility of reduced understanding of adver-
tisement information when the level of expectation incongruity is
high. On the other hand, advertisements with high level of expec-
tation congruity can be considered to have low level of attention to
advertisements due to the difficulty in inducing consumers’ interest
even though information is easily understood because it is within
the range of consumers’ schema.

The present study empirically investigated differences in products-
and advertisements-related recall and attitude toward advertise-
ments according to visual metaphor (parallel metaphor vs. fused
metaphor vs. pure metaphor) and expectation levels (expectation
congruity vs. expectation incongruity).

Advertisements that present rhetoric expressions such as visual
metaphors are reported to positively influence memory and atti-
dude compared to explicit advertisements due to the possibility of
deep elaboration because they give consumers the enjoyment and
satisfaction of solving puzzles.

In addition, in relation to expectation congruity and incon-
gruity, expectation incongruent advertisements were found to im-
prove memory and attitude by increasing the possibility of cognitive
elaboration compared to expectation congruent advertisements. As
such, consumers do a lot of semantic interpretation of advertisement
stimuli for visual metaphor advertisements due to their high need
for cognition. It means that for expectation incongruent advertise-
ments influence judgments and the possibility of positive attitude
toward advertisements is high due to the activation of memory com-
pared to congruent ones.

Especially, it has been reported that concrete product attribute
information rather than abstract information tends to be inferred
first because motivation is high to process advertise information in
interpreting and inferring the rhetoric expression of advertisement
when expectation is incongruent.

Considering these findings together, the memory effect of visual
metaphor causes product-attribute centered motivation due to the
expectation effect by visual images and verbal expressions when ex-
pectation is congruent and, as a result, ‘Attribute-related memory
(ARM)’ will be highly recalled. When expectation is incongru-
ent, however, the possibility of highly recalling 'Advertising-related memory (ADRM)' of the overall attitude form is high due to the reduction of cognitive elaboration because consumers feel troublesome to interpret the visual metaphor. With insight into these theoretical discussions, following four hypotheses were established and tested.

Hypothesis 1: Memory and advertising attitudes will be higher for expectation incongruity than expectation congruity. In addition, memory will be high for parallel metaphor when expectation is incongruent while memory will be high for pure metaphor when expectation is congruent.

Hypothesis 2: The memory effect of visual metaphor (parallel, fused, pure) will be higher for 'Attribute-related memory' than 'Advertising-related memory' when expectation is congruent.

Hypothesis 3: The memory effect of visual metaphor (parallel, fused, pure) will be higher for 'Advertising-related memory' than 'Attribute-related memory' when expectation is incongruent.

Hypothesis 4: Parallel metaphor, when compared to fused metaphor and pure metaphor, will have higher attitude toward advertisements for 'Advertising-related memory' than 'Attribute-related memory' for expectation incongruent advertisements.

Hypothesis 5: Pure metaphor, when compared to parallel metaphor and fused metaphor, will have higher attitude toward advertisements for 'Attribute-related memory' than 'Advertising-related memory' for expectation congruent advertisements.

3 Research Method

3.1 Manipulation of Experimental Advertisement

Products were selected with priority given to the personal product involvement of college students who are subjects through a preliminary survey before the manipulation of experimental advertise-
ments. Among cameras, coffee, and smartphones, coffee, which was found to have the highest variance value ($M=44.1, SD=11.0$) through the measurement of the level of personal involvement using an instrument developed by Zaichkowsky (1985). A total of six experimental advertisements of coffee products selected through a preliminary survey were produced according to visual metaphor (parallel, fused, pure) and expectancy (congruity, incongruity). In addition, a meaningless virtual brand ‘Croso’, which cannot be associated with coffee products, was selected to prevent confounding effects and the influence of brand names on the research results.

For expectancy manipulation, visuals that subjects can sufficiently understand the meaning of the products and specific information (verbal information) on the products were presented according to visual metaphor (parallel vs. fused vs. pure) in the case of expectation congruity. In the case of expectation incongruity, on the other hand, only product names along with images with which the products are difficult to predict were presented by determining the level of tenor and vehicle according to visual metaphor (parallel vs. fused vs. pure). In addition, inferencing the product being advertised through brand names was made difficult by presenting only brand names. In the case of such expectation incongruent advertisements, advertising images that correspond with expectation incongruity among the award-winning advertisements at Cannes International Advertising Festival were modified and used rather than the investigator making detailed manipulations.

### 3.2 Research Design and Analysis Method

The present study investigated differences in memory and attitude toward advertisements through an experiment according to visual metaphor (parallel metaphor vs. fused metaphor vs. pure metaphor) and expectation levels (expectation congruity vs. expectation incongruity). Accordingly, a $3 \times 2$ factorial design was created, and analysis was conducted using two-way MANOVA. Hereupon, 179 subjects were randomly assigned to six experimental advertisements.
4 Research Results

4.1 Experiment Design and Experiment Subject

In this study, 179 college students were selected and 165 respondents were coded and analyzed. Of these subjects, 74 were male and 91 were female.

The visual metaphor (parallel metaphor / convergence metaphor / pure metaphor) and expectation level (congruity / incongruity) are used as independent variables for the hypothesis test. A total recall, and an attitude toward advertising (Aad) as subordinate variables. Table 1 and Table 2 show the results.

Table 1: Mean and Std. Deviation

<table>
<thead>
<tr>
<th>Dependent</th>
<th>Visual Metaphor</th>
<th>Expectation Level</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARM</td>
<td>parallel metaphor</td>
<td>congruity</td>
<td>3.39</td>
<td>.58</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>congruity</td>
<td>3.15</td>
<td>.73</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>convergence metaphor</td>
<td>congruity</td>
<td>.90</td>
<td>.89</td>
<td>32</td>
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<tr>
<td></td>
<td>incongruity</td>
<td>1.46</td>
<td>.81</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>pure metaphor</td>
<td>congruity</td>
<td>4.00</td>
<td>.67</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>incongruity</td>
<td>2.73</td>
<td>.82</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>congruity</td>
<td>2.70</td>
<td>1.57</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>incongruity</td>
<td>2.44</td>
<td>1.06</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>ADRM</td>
<td>parallel metaphor</td>
<td>congruity</td>
<td>5.19</td>
<td>1.20</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>incongruity</td>
<td>.96</td>
<td>1.28</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>convergence metaphor</td>
<td>congruity</td>
<td>4.30</td>
<td>.83</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>incongruity</td>
<td>.87</td>
<td>.84</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>pure metaphor</td>
<td>congruity</td>
<td>2.00</td>
<td>.74</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>incongruity</td>
<td>3.31</td>
<td>1.78</td>
<td></td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>congruity</td>
<td>3.83</td>
<td>1.64</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>incongruity</td>
<td>5.30</td>
<td>.82</td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>Aad</td>
<td>parallel metaphor</td>
<td>congruity</td>
<td>5.60</td>
<td>.85</td>
<td>26</td>
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<td>.46</td>
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<tr>
<td></td>
<td>convergence metaphor</td>
<td>congruity</td>
<td>4.80</td>
<td>.45</td>
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<td>incongruity</td>
<td>2.81</td>
<td>.89</td>
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<tr>
<td></td>
<td>pure metaphor</td>
<td>congruity</td>
<td>2.16</td>
<td>.56</td>
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<td></td>
<td>incongruity</td>
<td>3.49</td>
<td>1.31</td>
<td></td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>congruity</td>
<td>4.19</td>
<td>1.61</td>
<td>78</td>
</tr>
</tbody>
</table>
The main effect of visual metaphor (parallel metaphor / convergence metaphor / pure metaphor) was statistically evaluated as Wilks’ Lambda value of .06 (F = 152.40, df = 6, p < .01) The results showed significant differences. Also, the main effect on expected level (coincidence / discrepancy) was also statistically significant as Wilks’ Lambda value was .79 (F = 13.90, df = 3, p < .01). Finally, the interaction effect on the two independent variables was statistically significant as Wilks’ Lambda value was .42 (F = 28.21, df = 6, p < .01).

Next, statistical significance was verified by post-analysis ANOVA analysis. First, in the post-analysis ANOVA analysis of Visual Metaphor, the dependent variable, ARM (F = 145.62, p < .01), showed statistically significant difference (p < .01). ADRM (F = 98.98, p < .01) also showed a significant difference. In the post-analysis ANOVA analysis of Visual Metaphor, the dependent variable, ARM (F = 6.97, p < .05), showed statistically significant differences (p < .05). There was also a significant difference in ADRM (F = 10.59, p < .01) and Aad (F = 22.96, p < .01).

Finally, in the posttest ANOVA analysis of interaction effects on Visual Metaphor and Visual Metaphor, there was also a significant difference between the dependent variables ARM (F = 20.48, p < .01) and ADRM (F = 24.04, p < .01), Aad (F = 49.54, p < .01) were also significantly different (p < .01).

Based on the results of MANOVA analysis and post - analysis ANOVA, the following hypotheses were comprehensively analyzed.

Hypothesis 1 predicted that memory and Aad were higher in incongruity than parallelism, and parallel metaphor in incongruity and pure metaphor in congruity.

Table 2: Research of ANOVA

<table>
<thead>
<tr>
<th>Main Effect</th>
<th>MANOVA</th>
<th>df</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wilks’ Lambda</td>
<td>F</td>
<td>ARM</td>
</tr>
<tr>
<td>A: Visual Metaphor</td>
<td>.06</td>
<td>152.40**</td>
<td>145.62**</td>
</tr>
<tr>
<td>B: Expectation Level</td>
<td>.79</td>
<td>13.90**</td>
<td>6.97**</td>
</tr>
<tr>
<td>AxB</td>
<td>.42</td>
<td>26.21**</td>
<td>20.48*</td>
</tr>
</tbody>
</table>

Note : *p<.05, **p<.01
As a result of hypothesis testing, the total recalled memory was incongruity (M = 6.01, SD = 1.36) congruity (M = 6.28, SD = 1.92). However, Aad of incidence of Aad was higher than incongruity (M = 4.19, SD = 1.61) than congruity (M = 3.49, SD = 0.11) As a result, in the whole recall, all of them showed no difference in congruity and incongruity, but Aad showed that incongruity formed Aad more positive than congruity.

In the case of the parallel metaphor, the total recalled memory was higher in incongruity (M = 8.34, SD = 1.03) than in congruity (M = 6.39, SD = 1.58). SD = 1.03) was higher than incongruity (M = 4.73, SD = 0.96). As a result, the memory of parallel metaphor was much memorized in incongruity. Hypothesis 1 was partially supported.

< Hypothesis 2 > predicted that the memory effect of the visual metaphor (parallel, convergence, pure) would be higher than that of the 'ADRM' when 'ARM' was expected.

In the congruity test, the arm of the parallel metaphor (M = 3.39, SD = 0.58) was higher than Grm (M = 3.00, SD = 1.34) = 1.87 SD = 0.94). However, the convergence metaphor showed a somewhat higher Grm (M = 1.87 SD = 0.94) than Arm (M = 0.90, SD = 0.89) Hypothesis 2 was also partially supported.

< Hypothesis 3 > predicted that 'ADRM' would be higher than 'ARM' when the memory effect of visual metaphor (parallel metaphor / convergence metaphor / pure metaphor) is incongruity.

In the incongruity condition, Grm (M = 5.19, SD = 1.20) of the parallel metaphor was higher than Arm (M = 3.15, SD = 0.73) and Grem of the convergence metaphor M = 1.46, SD = 0.81), respectively. However, in the pure metaphor case, incongruity condition showed low memory level with almost no difference between Arm (M = 2.73, SD = 0.82) and Grm (M = 2.00, SD = 0.74). Hypothesis 3 was also partially supported.

Hypothesis 4 predicted that ADRM is more likely to have higher memory and Aad compared to ARM than the convergence metaphor and pure metaphor.

As a result of the hypothesis test, Grm (M = 5.19, SD = 1.20) of the parallel metaphor was higher than Arm (M = 3.15, SD = 0.73) in incongruity condition. The Grm mean of convergence metaphor in incongruity was 4.30 (SD = 0.83) and Grm mean of pure metaphor was 2.00 (SD = 0.74). In the incongruity, the paral-
lel metaphor showed higher ADRM than the convergence metaphor and pure metaphor. Aad was also more positive in the incongruity than the convergence metaphor (M = 4.80, SD = 0.45) and the pure metaphor (M = 2.16, SD = 0.56) of the parallel metaphor Aad (M = 5.60, SD = 0.85). Hypothesis 4 was supported.

Hypothesis 5 predicted that ‘congruity’ ads would have higher memory and Aad than ‘pure’ metaphor, ’ARM’ and ’ADEM’ as compared to parallel metaphor and convergence metaphor.

Hypothesis test result showed that arm of pure metaphor (M = 4.00, SD = 0.67) was higher than Grm (M = 1.87, SD = 0.94) in congruity. In congruity, the arm mean of the parallel metaphor was 3.39 (SD = 0.58), and the arm mean of the convergence metaphor was 0.90, SD = 0.89). In congruity, pure metaphor is higher than parallel metaphor and convergence metaphor, and ARM is higher than ADRM. In contrast, Aad was in contrast to the convergence metaphor (M = 2.88, SD = 0.46) and pure metaphor (M = 2.81, SD = 0.89) in the parallel metaphor of Aad (M = 5.30, SD = 0.82)

Hypothesis 5 was partially supported.

5 Conclusion

The present study attempted to identify the effect of the three dimensions of visual metaphor that includes parallel metaphor, fused metaphor, and pure metaphor on the differences in memory effect and attitude toward advertisements according to expectation levels (expectation congruity / expectation incongruity) through an experiment.

The findings of the present study are summarized as follows.

First, the difference in memory effect between expectation incongruent advertisements and expectation congruent advertisements was high for visual metaphor advertisements. In the case of attitude toward advertisements, however, expectation incongruent advertisements were found to form more positive attitude toward advertisements than expectation congruent advertisements.

Second, high memory effect was found for parallel metaphor under expectation incongruity condition and for pure metaphor under expectation congruity condition. In the case of pure metaphor, a quite large amount of cognitive elaboration is necessary because the
product, which is the tenor, is visually less noticeable and only the vehicle is visible. Accordingly, pure metaphor needs a copy or additional information that makes it possible to infer because attention and interest will significantly drop if only rhetoric expressions of visual elements are presented.

Third, parallel and pure metaphors remember 'individual attribute memory information' more than 'comprehensive evaluation memory information' and influence judgments when expectation is congruent. Especially, pure metaphor influenced judgments by remembering individual attribute information of products compared to parallel metaphor.

Fourth, parallel and fused metaphors remember 'individual attribute memory information' more than 'comprehensive evaluation memory information' and influence judgments when expectation is incongruent. Especially, parallel metaphor was positive for not only the effect of comprehensively evaluated memory information but also the attitude toward advertisements compared to fused metaphor or pure metaphor. Because of the creative unexpectedness induced when both product, which is the tenor, and image, which is the vehicle, are presented together as in the case of parallel metaphor among the rhetoric expressions using metaphors gives consumers interest and curiosity, motivation to process the advertisements more deeply and elaborately appears to be induced.

Previous studies related to visual metaphor have been contending that expectation-incongruent visual metaphor advertisements are effective by presenting verbal cues other than visual rhetorical expressions when the distinction of visual metaphor is ambiguous. There has been a tendency to draw the results without clearly presenting whether such effects of visual metaphor are inferred by rhetoric expressions of images or interaction effects by verbal expressions. Therefore, the present study classified the types of visual metaphors into parallel metaphor, fused metaphor, and pure metaphor according to tenor and vehicle to overcome such limitations. In addition, for expectation congruity level in the dimension of the three visual metaphors, verbal elements were added to visual rhetoric expressions and interactive roles were examined. In addition, the significance of the present study lies in closely examining only the effect of visual rhetorical expressions without verbal elements under the expectation incongruity condition.
6 Acknowledgment

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References


