Relationships between Advertising Value and Dimensions of Advertising: A case of Television Advertising of GSM Providers in Indonesia

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Abstract
Mobile service industry plays an important role in Indonesia as it connects people in all areas across the country. Its ability to reach remote areas, flexibility and richness in features make it one of the fastest growing industry in Indonesia. This leads to a fierce competition among mobile operator companies to get more subscribers and maintain the existing ones by using advertising, including television advertising. This study found that there are relationships between perceived advertising value and advertising dimensions. These findings are consistent with prior findings from other researches. Recommendation and further study are summarized and addressed to the advertising scholars and practitioners.

1. Introduction

Indonesian population has significantly increased from 206 million in 2000 to 264 million in 2017 and is considered as the fourth most populous country in the world after China, India and the United States of America. The huge amount of population has attracted business sectors including mobile service providers as Indonesian mobile market is considered as one of the most prospective markets in East Asia with a remarkable growth (Suryanegara & Miyazaki, 2010). Mobile service providers in Indonesia apply Global System for Mobile (GSM) communications and Code-Division Multiple Access (CDMA) as a mobile technology platform. In 2010, GSM operators led the market with approximately 211.11 million subscribers, while CDMA operators owned around 31 million (Communication Department, 2010). CDMA-based operators came to mobile market later in the 2000s and had to confront barriers to entry and compete with the existing wider network coverage owned by GSM operators. The growth of Indonesian GSM subscribers from 2006-2010 was 35.6% per year in average (Suryanegara & Miyazaki, 2010). The market was dominated by three big companies, namely Telkomsel, Indosat and

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Excelcomindo with around 85% of the market share whilst other smaller operators obtain collectively around 15% (Communication Department, 2010). Structure of the market shows competition among Indosat, Telkomsel and Excelcomindo as big players in the market.

To attract more potential consumers in this growing market, advertising is considered as one of the effective marketing tools. In macro level, it is believed that advertising carries good influence to the economy, plays important role in markets and contributes significantly to wealth (Coulter, Zaltman, & Coulter, 2001). However, critics claim that advertising has bad influence to society, establishing barriers to enter to industries especially for small and medium enterprises, too manipulative, uses misleading concepts and materialistic (Aaker & Norris, 1982). As a result, there is a constantly declining attention given by viewers by leaving the room or doing other activities during advertisements (Clancey, 1994). Yet, each period, organizations keep spending the largest portion of financial resources to advertise their products via television where only a few advertisements gained success (Hartanto, 2000). Still, promotion via television advertising is deemed as a powerful way to attract more consumers due to its nature as a vast and fast media, ability to convey repetition message, flexibility and reputation (Dunn & Barban, 1987). Since the costs of television advertising are relatively higher than other media, the real challenge for advertisers is to have effective advertisements which are valued positively by public in order to trigger positive attitude toward advertising.

In essence, advertising is a two-way form of communication between the advertiser and people who experienced the advertisements, thus it is important to understand how consumers respond to the advertisements. Based on consumers’ perception, value of advertising is influenced by four dimensions: informativeness, entertainment, irritation and deceptiveness (Ducoffe, 1995). Information regarding the relationship between advertising value and dimensions of advertising would be useful to enhance the quality of advertising.

2. Materials and Methods

The research can be categorized as a descriptive study since it attempts to describe the relationship between advertising value and advertising dimensions of two leading mobile operator providers: Telkomsel and Indosat. Relevant literature about advertising value and dimensions of advertising are reviewed and primary data are collected by spreading questionnaire to the target population. The study used survey method based on case study approach.

Quantitative approach is used in this study. The concepts of advertising value and advertising dimensions developed by Ducoffe (1995) along with particular questionnaire are used to depict the relationships between dependent and independent variables. Therefore, this study is categorized as deductive research. The questionnaire for the survey employed five point Likert scale that rates respondents’ answers. Non-probability and accidental sampling techniques are used in this study. Questionnaires are distributed to 270 respondents who clarify that they are: television audience, minimum 18 years old, live in Indonesia, and current GSM card users.

This study adopted the measure developed by Robert Ducoffe (1995), a close-ended questionnaire consists of 15 questions for assessing television viewers’ perception of advertising value and dimensions of advertising. The original questionnaire was constructed for a mall-intercept survey to measure the value of advertising. The questionnaire comprised of three parts. The first and second parts are about the respondent’s personal data and their involvement in television advertising and GSM industry. The third part consists of the main questions, aims to measure respondents’ responses to television advertising. In order to refresh the respondents’ memory regarding the television advertisements, this questionnaire is supplemented by storyline of each advertisement.

Once the data is collected, it is analysed in two stages. First, descriptive statistics is conducted by measuring the validity and reliability of the scale instrument. Descriptive analysis of this study is basically describing all main characteristics of the total respondents. Demographic data such as group age, employment, sex and education are presented in tables and graphics. Reliability refers to the level of

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confidence that the instrument will give the same results when the test is repeated on the same object (Gaur & Gaur, 2006). Reliability is measured by calculating Crobach’s Alpha (α) value with the minimum value is 0.6 (Uma & Roger, 2003). Validity describes the degree of the data and research method measure what it is supposed to be measured (Lancaster, 2005). A valid instrument reflects a better likelihood that the researcher can attain the needed information (Colton & Covert, 2007). An item is valid if its corrected item-total correlation is above 0.3 (Field, 2013). Second, the main analyses are comprised of a correlation and a multiple regression analysis. Correlation analysis basically is a used to describe relationships between one variable with another. It measures relationships between two variables. Multiple regression analysis was used to measure the relationships between advertising dimensions and advertising value. SPSS 23 package is operated to form a regression model and measure the significance of correlation between advertising dimensions and advertising value.

A total of 270 questionnaires were distributed in Kupang during July 2019 and ultimately 237 questionnaires were completed by respondents and met all the requirements of this study. One hundred and twenty five males (53%) and 112 females (47%) participants responded to the questionnaire. The majority of respondents (83%) are aged 18-35, while only one percent are in the 51-65 age group. This figure indicates that most respondents are young people which actually match with targeted market of Kartu As and IM3. Among all respondents, 50% of them watch television everyday, 29% claimed that they watch television almost everyday and the rests watch television very rare (8%), 2-3 times per week (8%) and 4-5 times per week (4%). These figures suggest that television is an important media in respondents daily life in Indonesia. In addition, all respondents ensure that they have seen the particular television advertisements from Telkomsel and Indosat which is a crucial requirement to continue this survey.

All variables are reliable since all Cronbach Alpha values are higher than 0.7. This indicates that all variables can be used further to measure the relationships between dependent variable represented by advertising value and independent variables which is represented by informativeness, entertainment, irritation and deceptiveness. Corrected Item-Total Correlation values of all 15 items are higher than minimum requirement of 0.3 (Field, 2013). Therefore, all items in this instrument are valid and can be employed for further analyses.

Table 1. Cronbach Alpha & Corrected Item-Total Correlation Kartu As & IM3

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Item</th>
<th>Cronbach Alpha</th>
<th>Corrected Item-Total Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kartu As</td>
<td>IM3</td>
</tr>
<tr>
<td>1</td>
<td>Advertising Value</td>
<td>V1</td>
<td>0.917</td>
<td>0.870</td>
</tr>
<tr>
<td></td>
<td></td>
<td>V2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Informativeness</td>
<td>Inf1</td>
<td>0.912</td>
<td>0.909</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inf2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inf3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inf4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Entertainment</td>
<td>En1</td>
<td>0.911</td>
<td>0.900</td>
</tr>
<tr>
<td></td>
<td></td>
<td>En2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>En3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Irritation</td>
<td>Irr1</td>
<td>0.898</td>
<td>0.864</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Irr2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Results and Discussions

3.1. Correlation analysis

3.1.1. Kartu As

The correlation as shown in Table 2 confirms the theories in the literature review. Correlation between advertising value and Informativeness is positive ($r = 0.75$, p < .001), as well as the correlation between advertising value and entertainment ($r = 0.72$, p < .001). On the contrary, correlation between advertising value and irritation is negative ($r = -0.21$, p < .001), also correlation between advertising value and deceptiveness ($r = -0.32$, p < .001).

Positive correlations between informativeness and advertising value as well as entertainment and advertising value indicate that respondents' perception regarding informativeness and entertainment dimensions within Kartu As television advertising contribute positively to the advertising value. In other words, informativeness and entertainment are the reasons for television viewers to regard Kartu As television advertising positively. However, irritation and deceptiveness are regarded as negative factors by respondents.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variable (Advertising Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kartu As</td>
</tr>
<tr>
<td>Informativeness ($X_1$)</td>
<td>0.75</td>
</tr>
<tr>
<td>Entertainment ($X_2$)</td>
<td>0.72</td>
</tr>
<tr>
<td>Irritation ($X_3$)</td>
<td>-0.21</td>
</tr>
<tr>
<td>Deceptiveness ($X_4$)</td>
<td>-0.32</td>
</tr>
</tbody>
</table>

2.1.1. IM3

Based on significant levels of each correlation in Table 2 where none of them exceed alpha (0.05), it is considered that all correlation between each variable independent with variable dependent are all significant. Positive correlations are shown by the relationships between advertising value and informativeness ($r = 0.75$, p < .001); and between advertising value and entertainment ($r = 0.71$, p < .001). In contrast, the relationship between advertising value and irritation ($r = -0.21$, p < .001); and the relationship between advertising value and deceptiveness ($r = -0.25$, p < .001) are negative and significant.

It can also be concluded that respondents see informativeness and entertainment contents within IM3 television advertising as positive factors that raise the value of the advertisement. Conversely, irritation and deceptiveness are considered as negative dimensions that downgrade their perceptions toward IM3 television advertising.

Both correlation analysis of Kartu As and IM3 exhibit comparable results. Informativeness and entertainment contribute positively to advertising value whilst irritation and deceptiveness act as negative influence to advertising value. All correlations as shown in Table 2. are in line with advertising value and advertising dimensions theories.
2.2. Multiple regression analysis

The summary of multiple regression analysis results are presented in the following table. The summary is recaped from regression coefficient, F-test and model summary.

<table>
<thead>
<tr>
<th>Table 3. Multiple regression analysis summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kartu As</strong></td>
</tr>
<tr>
<td>F-test = 0.000</td>
</tr>
<tr>
<td>R square = 0.645</td>
</tr>
<tr>
<td>p-value</td>
</tr>
<tr>
<td>Coefficient</td>
</tr>
<tr>
<td>Constant = 1.419</td>
</tr>
<tr>
<td>F-test = 0.000</td>
</tr>
<tr>
<td><strong>IM3</strong></td>
</tr>
<tr>
<td>F-test = 0.000</td>
</tr>
<tr>
<td>R square = 0.631</td>
</tr>
<tr>
<td>p-value</td>
</tr>
<tr>
<td>Coefficient</td>
</tr>
<tr>
<td>Constant = 1.121</td>
</tr>
<tr>
<td>F-test = 0.000</td>
</tr>
</tbody>
</table>

2.2.1. Kartu As

Multiple regression analysis generates regression coefficient, significance and model summary. Regression coefficient shows the relationship between variable dependent and independents as identified below:

\[
\text{Ads Value} = 1.419 + (0.255\times \text{informativeness}) + (0.253\times \text{entertainment}) - (1.34\times 10^{-4}\times \text{irritation}) - (0.149\times \text{deceptiveness})
\]

1. Interpretation of regression coefficient
   - **Constant**: 1.419
     It states that if all independent variables are zero, then *Kartu As* television advertising would be valued by respondents as 1.419.
   - **Regression coefficient informativeness**: 0.255
     This coefficient shows that if one unit of informativeness dimension raises, *Kartu As* television advertising value would increase by 0.255. Other variables are assumed zero or constant
   - **Regression coefficient entertainment**: 0.253
     This coefficient illustrates that if one unit of entertainment increases, the value of *Kartu As* television advertising will increase by 0.253. Other variables are assumed zero or constant
   - **Regression coefficient irritation**: -1.34E-4
     This coefficient shows that if one unit of irritation raises, *Kartu As* television advertising would decrease by -1.34E-4. Other variables are assumed zero or constant
   - **Regression coefficient deceptiveness**: -0.149
     This coefficient shows that if one unit of deceptiveness increase, *Kartu As* television advertising would decrease by -0.149. Other variables are assumed zero or constant.

2. Partial Relationship Significance

Regression Coefficient table gives *p-value* for each independent variable that can indicate how relationship between the particular independent variable with advertising value. However, irritation has p-value that is higher than significant level of 0.05. This indicates that variable irritation does not have significant
relationships with advertising value in partial. Nonetheless, all other independent variables (informativeness, entertainment and deceptiveness) in partial has a significant relationship with advertising value.

3. Simultaneous Relationship Significance (F-test)
One way to measure whether the regression model is simultaneously significant is by employing F-test analysis. Table 3. shows the significance value (< 0.000) is less than significance level (0.05). This means that all independent variables (informativeness, entertainment, irritation, deceptiveness) are simultaneously related to advertising value as the dependent variable.

4. Model Summary ($R^2$)
Model summary ($R^2$) is used to determine how a model describes variation in dependent variable. In Table 3, it is exhibited that $R^2$ value is 0.645 which means that 64.5% variation in variable advertising value can be explained by informativeness, entertainment, irritation and deceptiveness.

2.2.2. IM3
Multiple regression model for IM3 television advertising is defined below:

$$\text{Ads Value} = 1.221 + (0.248 \times \text{informativeness}) + (0.242 \times \text{entertainment}) - (0.022 \times \text{irritation}) - (0.037 \times \text{deceptiveness})$$

1. Interpretation of regression coefficient
   - Constant: 1.221
     It states that if all independent variables are zero, then IM3 television advertising is valued by respondents as 1.221.
   - Regression coefficient **Informativeness**: 0.249
     This coefficient shows that if one unit of informativeness increases, IM3 television advertising would be increased by 0.249. Other variables are assumed zero or constant
   - Regression coefficient **entertainment**: 0.242
     This coefficient shows that if one unit of entertainment increase, IM3 television advertising would be increased by 0.242. Other variables are assumed zero or constant
   - Regression coefficient **irritation**: -0.022
     This coefficient shows that if one unit of irritation increase, IM3 television advertising would be decreased by -0.022. Other variables are assumed zero or constant
   - Regression coefficient **deceptiveness**: -0.037
     This coefficient shows that if one unit of deceptiveness increase, IM3 television advertising would be decreased by -0.037. Other variables are assumed zero or constant.

2. Partial Relationship Significance
Irritation and deceptiveness have p-values of 0.506 and 0.459 respectively. Since the p-value exceed significant level of 0.05, this indicates that irritation and deceptiveness do not have significant relationships with advertising value. In contrast, the other two independent variables (informativeness and entertainment) in partial has a significant relationship with advertising value.

3. Simultaneous Relationship Significance (F-test)
Table 3. shows the significance value is less than significance level (0.05) which indicates that all independent variables (informativeness, entertainment, irritation, deceptiveness) are simultaneously related to advertising value.

4. Model Summary ($R^2$)
In Table 3, $R^2$ value of IM3 is 0.631 which means that 63.1% variation in variable advertising value can be explained by informativeness, entertainment, irritation and deceptiveness.
Important findings in this research are established by correlation and multiple regression analysis. Both Kartu As and IM3 television advertising exhibit similar correlation between independent variables and dependent variable. Both informativeness and entertainment have positive relationships with advertising value while irritation and deceptiveness negatively influenced advertising value. Figure 1. depicts such relationships.

Similar results also occur in multiple regression coefficient for both models where informativeness and entertainment have positive coefficient while irritation and deceptiveness have negative ones. Kartu As regression model suggests that there is 64.5% contribution of the four advertising dimensions variances to advertising value, compare to 63.1% in IM3 television advertising. This slightly difference indicates that these television advertising are comparable in terms of the relationship between advertising dimensions and advertising value.

![Figure 1. Correlation between independent variables and dependent variable](image)

### 4. Conclusion

This study suggests that there is a significant relationship between advertising dimensions and advertising value based on F-test for both regression models. The multiple coefficient determination (R square) for Kartu As and IM3 regression models are 0.645 and 0.631 respectively. The figures suggest that in Kartu As television advertising, 64.5% (or 63.1% for IM3) of variability in advertising value is explained by four dimensions of advertising (informativeness, entertainment, irritation and deceptiveness).

Based on the results, this study found that there is a significant relationship between dimensions of advertising and advertising value. Informativeness which has the strongest relationship with advertising value can be given more attention in terms of information types. Excessive information content within television advertising would decrease the value of the particular advertising.

Telkomsel and Indosat are recommended to pay more attention regarding entertainment content within advertising as the dimension has a positive and significant relationship with advertising value. It is believed that entertainment can raise the value of advertising since people are not interested in “too serious” advertisements. Moreover, advertisers are suggested to balance entertainment and information contents within an advertisement as the combination of the two would trigger positive attitude toward advertising among consumers.

It is also interesting to see the relationships between each negative dimension of advertising and advertising value for Kartu As and IM3. The negative dimensions are irritation and deceptiveness. As mentioned in the conclusion section, irritation does not have significant relationships with advertising value, meaning that respondents do not consider irritation dimension as a harmful factor that may undermine the value of particular advertisements. In other words, based on the perception of television viewers in Indonesia, such advertisement do not really irritate them.

The study has been conducted to examine the relationships between dimensions of advertising and advertising value of two leading GSM operators in Indonesia. The findings can be useful for people who are interested in advertising, specifically for GSM market in Indonesia.
Further research can be directed toward other variables outside the dimensions of advertising the variable can only explain 63%-64% of advertising value as dependent variable. The future research also can dig deeper on causalities for each variable independent particularly in the content of each commercials.

Acknowledgements
The author would like to thank all colleagues for assisting the author in writing this paper.
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Author’s Biography

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