THE IMPACT OF THE IMPLEMENTATION OF AN ADVERTISING PROGRAM ON THE INTERNET AND USING DIRECT MARKETING WITH E-MAIL ON INTERNET USERS INFORMATION PROCESSING AND THEIR PRODUCT-BUYING DECISIONS IN INDONESIA

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ABSTRACT

Indonesia, with the highest growth of advertising spending compared with other countries in Asia Pacific, turns out to be using the Internet less as an advertising media compared with other media.

This research aims to analyze the impact of the implementation of an advertising program on the Internet and using direct marketing with e-mail. The research will also examine how advertising information processing impacts on Internet users and their product-buying decisions.

The implementation of advertising programs and e-mail marketing are measured by Internet user perceptions to determine how their decisions were influenced by advertising information processing. The analyzed buying decisions are Internet-user product-buying decision steps based on advertisements acquired from websites and e-mail.

Hypothesis development based upon combination of advertising decision model as advertising program, e-mail marketing model, information processing model and Internet buying decision making model, is tested using Structural Equation Method (SEM). Respondants in this study were all Internet users from Jakarta, Bogor, Depok, Tangerang and Bekasi territories with 340 people were randomly selected Internet users.

The result shows that Internet advertising program and e-mail marketing influence advertising information processing by Internet users simultaneously. Furthermore, all those factors lead to better Internet users buying decision in Indonesia.

Keywords: Internet advertising program, e-mail marketing, information processing, product-buying decisions.
BACKGROUND

The Internet has a great potential as a commercial and marketing medium. In commerce, electronic commerce has grown faster as a business with many possibilities (Rao et.al, 1998). As a result of the increasing e-commerce transactions, advertisers are very interested in this new media. The Internet has lots of possibilities compared with other media for advertising purposes.

Even though Indonesia has the highest advertising spent growth in Asia Pacific, with the total of advertising spent of 26 billion rupiahs in 2005, but the proportion for internet medium is very small (PPPI, 2005). This small proportion caused by internet users in Indonesia that is only 7% of all Indonesian people. But nowadays, internet growth in Indonesia increased rapidly, this makes internet advertising in Indonesia will also be growing fast in the future.

Advertising is one element of promotional mix beside sales promotion, social relation, personal selling, and direct marketing (Fill, 1995). Li (2004) from his research conclude that it is necessary to integrate those five elements of promotional mix in order to achieve advertising purposes. The next question is, what elements that should be the priority to be integrated. Kili (2004) found that internet is the most chosen media by marketer (54,1%), the second rank is cable television (35,6%) then followed by direct mail (34,2%). For Indonesia which is cable television is not popular, than integration needed to achieve effective advertising are internet medium and direct mail.

Internet advertising can integrate both using web advertising and using email as a means to deliver advertisement. The success of website advertisement depends on the correct advertising decision process called advertising program (Kotler, 2005). Advertising program is the decision that is necessary to build advertisement in general (Kotler, 2005). Mostly researcher used the 6M of advertising decisions for advertising program that stand for market, mission, money, message, medium and measurement (Kotler, 2005). Advertising Program influences consumer "information processing” that stand for four indicators: target market segment (market), goals/mission (mission), message, and medium (Broussard, 2002; Consterdine, 2005; Gooley, 2000; Carlon dkk., 2000; Dravillas dkk., 2003 dan Champy dkk., 1997).

As mentioned above, best integration to achieve effective advertising are internet medium and direct mail. For direct mail through internet we can use email as a means to deliver advertisement. Email marketing has lots of attention recently, lots of journals in
management field which emphasize on the benefits of email marketing (Han and Reddy, 2000). Email marketing variable, can be considered as a tool for electronic marketing (e-marketing). Email marketing is a part of direct marketing communication (Kalyanam dkk., 2002). This variable also influence consumer information processing of an advertisement, especially for internet users (Boon, 2005; Rettie, 2002). This variable stand for two indicator that is promotional email and service related email.

Information processing variable is based on *Information-Processing Model / IP Model* written by McGuire (1999). This model is one of models based on *hierarchy of effects models*. Information processing has six indicators that is exposure, attention, comprehension, agreement, retention and purchase intension. (McGuire, 1999). In order to understand the persuasive communication process, advertisement researcher has created and borrow models from other sciences as the framework. The most used is the *hierarchy of effects models* which is capable of explaining internal psychological factor that influences consumer decision making process by making paths and steps at that processes. This model can explain that hierarchy model can analize the message influences and structure goals (Wells dkk., 1998). The main example of hierarchy model is the *information-processing model* written by William J. McGuire. McGuire has researched consumer choice psychology from three points of view : external factor that influence consumer choices, internal control factor, and internal dynamic factor (McGuire, 1976). Information processing influences buying decision making (Rodgers dan Thorson, 2000).

Buying decision making variable is a representation of *Internet consumer decision* by Champy et.al (1997). This variable is used as a tool for measuring advertising performance. This variable stand for 6 indicators that is reach, attention, understanding, interaction, network and buying (Champy et.al , 1997). For the internet decision making process, Champy et.al (1997) has created new model that is *knowledge* (finding information about a product to understand it), *interaction* (communication with producer), *networking* (interaction with other consumer which has the same needs and experiences), *sensory experiences* (the using of cencor input as if pictures and sounds before making purchase decisions), *ubiquity* (consumer get all their needs at the right place and time), *aggregation* (combining some connected services and consumer needs at the right place), *customization* (adjust product as needed by consumer).

Understanding that this decision making variables are the variables used to measure advertising performance and also measure the influences of email marketing, than Champy et. al (1997) model needs to be modified as reach, attention, understanding, interaction,
network and buying. This has considered the *consumer decision process* (CDP) model (Engel et.al on Moser et.al, 2002), and also the advertising performance measurement model (Sengupta, 2005)

**RESEARCH OBJECTIVES**

1. Investigate the influences of internet advertising program and e-mail marketing for the internet user advertising information processing
2. Investigate the influences of internet advertising program and e-mail marketing for buying decision directly and indirectly through Internet user advertising information processing.
3. Investigate the influences of internet user advertising information processing for buying decision.

**RESEARCH ADVANTAGES**

1. To complete past research approach model about internet advertising.
2. To understand the relationship between research variables
3. To give information for internet advertising companies and researcher to create further research about internet buying decision measurement.
4. Understanding that internet advertising in Indonesia is very limited, than this research aim to create internet decision making model which will be the starting point for marketing science development, specially internet marketing in Indonesia, so at the end will give contribution for e-commerce in Indonesia.

**RESEARCH MODEL**

Based on the explanation about advertising and information processing models and decision making as the result of advertising program implementation and email marketing at the background section, than the reference framework used for this research based on combination between advertising decision model as advertising program (Kotler, 2005),
email marketing model (Kalyanam, 2002), information processing model (McGuire, 1999) and internet decision making model (Champy dkk., 1997) as seen on figure 1:

![Figure 1. Research Model]

Research Factor in this research stand for four research variables that depict scope and relationship pattern and also achieved target from this research, that is advertising program, email marketing, information processing, and decision making.

In this research model, internet advertising program and email marketing simultaneously influence internet user advertising information processing. Internet user advertising information processing influence buying decision. Internet advertising program and email marketing simultaneously influence directly and indirectly through information processing for decision making.

Internet advertising program measurement, email marketing, advertising information processing and internet decision making in this model are measured from the consumer perceptions perspectives.

**HYPOTHESIS**

Three examined hypothesis are:

H₁: Internet advertising program and e-mail marketing influence Internet user advertising information processing;

H₂: Internet advertising program and e-mail marketing influence buying decision directly and indirectly through Internet user advertising information processing;

H₃: Internet user advertising information processing influence buying decision.
METHODOLOGY

Respondants in this study were all Internet users from Jakarta, Bogor, Depok, Tangerang and Bekasi territories. Those territories was selected based on the report from Indikator Teknologi Informasi dan Komunikasi Tahun 2002 (2002 Information and Communication Technology Indicator) developed by P3TIE-BPPT that said about 75% internet users are located at Jakarta (P3TIE, 2002). Sampling method in this study is using simple random sampling method. From 16 million internet users in Indonesia, 450 internet users were randomly selected as research sample. From those samples after considering criteria of over the age of 15, using the Internet for more than one year, at least in the form of accessing websites and e-mail, only found 340 internet user as research sample.

From its time horizon, this study is cross section based, which is information from the population empirically gathered directly with purpose of knowing the opinions from researched object. (Sekaran, 2000; Boudreau et al., 2004).

Data collection technique in this study has done by sampling with questionnaire instruments, that was developed from development and interpretation from each aspect or dimension and indicators from all variables concept.

This study used overall measurement technique from it’s measurement elements by using Structural Equation Modelling. Struktural equation modelling measurement has done by using computer application named AMOS ver.4.0.

Analysis design was generally developed in form of research procedure and separated into two parts, that is preliminary research and main research. Research procedure can be seen in figure 2:

![Figure 2. Research Procedure](image-url)
RESULT AND DISCUSSION

Internet Users Characteristics

General descriptions of internet users characteristics and profile in this study can be described in three parts, first respondents personal information including sex, age, education level, occupation, total monthly income and home, second parts are internet using characteristics, and the third parts is about advertisement written in questionnaire about product advertisements.

Internet user in this study stand for man (70%) which is more than women that only 30%, age are dominated of 26 to 35 years old (39%), then age 36-45 years old (39%) and the smallest percentage is age more than 56 years old. Respondants mostly well educated with 37% scholar, unfinished scholar (25%) and master degree (19%). Their jobs are mostly private companies employee (62%) and then students (27%). Their monthly income mostly (67%) are more than 2 million rupiahs. Most respondants stays in Jakarta (45%).

For the second part of internet users characteristics, found that respondants dominated (72%) by experienced internet user with low internet usage (about 1 to 10 hours a week) for browsing needs (32%) and Electronic Mail / E-Mail (31%). They are accessing the World Wide Web (www) for reading news (29%) and to find product/company information (26%). They access the internet from their office mostly (more than half of respondants).

The third part of internet users characteristics is about advertisement written in questionnaire about product advertisements. This is shown on figure 3,4 and 5, which is the big 10 of product groups, trademark and website address written by respondants:

![Figure 3. The Big 10 Product](image)
**Product characteristic that fit to be marketed using internet in Indonesia**

From the internet users characteristics description, it shows that product characteristic that fit to be marketed using internet in Indonesia are:

1. **Electronic Product**

   Research shows that product as cellular phones, computers, digital camera and other electronic products are included in the big 10 of product group which was written by internet users. Cellular phones get the first place with 39% of respondents that claims that cellular phones advertisement are the most remembered advertisement. Cellular phone mark that mostly written by internet users are *Nokia, Motorola, Sony Ericsson, Samsung* and others. glodokshop.com as one of the most complete electronic product information site, is one of the site that was most remembered by internet users.
2. **Internet related product**

   Internet service providers (ISP) products like "telkom speedy" that gives fast internet connection solutions for household needs, also claimed to be interested by internet users, this because of internet connection in Indonesia which is generally still using *dial-up* connection, so the need of faster connection nowadays are hunted by internet users. Beside ISP, internet banking product like "klik-BCA" also the chosen advertisement.

3. **Automotive product**

   Automotive product like cars, also wanted product on the internet. Internet user that mostly has high salary, and also tight competition between automotive companies in Indonesia which results in frequent launch of new product from each automotive companies, became the right reason for internet users to keep looking information about automotive product in Indonesia. mobilku.com, as one of the website that get attention from internet users.

4. **Newspapers**

   Internet users that mostly high educated, made the needs of latest news as an important thing. News website like detik.com and kompas.com are examples that internet users has chosen.

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**Preliminary Research Results**

   After developing questionnaire, that questionnaire then has to be tested using Content Validity Ratio (CVR) for 15 experienced people in advertising and research. CVR for all question item is 0,88, this is higher than the minimum required statistical significant standard which is 0,75. That means that the questionnaire is good for further process.

   After CVR test, the next process is reliability and validity test using 30 people as respondants by using SPSS 11.5. From reliability test shows that *cronbach alpha* ($\alpha$) value for each main variables are : advertising program (0,8773), email marketing (0,7687), information processing (0,8304), and product-buying decisions (0,8727). According to Zettel (2001) in his behavior research (specially technology users behavior), *cronbach’s alpha* ($\alpha$) that is more or the same with 0,60 can be accepted. The conclusion is that all main variable are relyable to be used as research instrument.
From validity test, shown that all question item has 0.3580 to 0.7587 value. It means that this instrument has a high validity because all question item each has interval correlation coeefisient value that is higher than it’s table value (0.349) is significant.

Main Research Results

The next step is evaluation on structural equation model (SEM) assumption. This evaluation included here is normality evaluation, outlier evaluation (univariate and multivariate outliers), and also multicolinearity evaluation. According to Ferdinand (2002) critical value of data normality for research is ± 2.58, at significant level of 0.01 (1%). Based on AMOS results, shows that critical ratio (c.r) for each variable did not have value more than ± 2.58. This indicate that univariately, research data has a normal distribution. For multivariate normality test is 2.033. This also indicate that multivariate normality value not more than ± 2.58, at significant level of 0.01. That result shows that multivariately, research data also has a normal distribution.

Based on multivariate outlier test result on data, shows that the lowest mahalanobis distance is 2.849 and the highest is 43.961. Cut off value of the mahalanobis distance for multivariate outlier in this study is 46.927966, so can be concluded that research data do not have multivariate outlier.

Based on the computation found that z-score value of the research data is between -1.83378 to 2.87770, and there is no value that is more than ≤ -3 or ≥ 3.0. This indicate that there is no univariate outliers in research data.

Comparison between the test result and cut off value from each index as result of this study can be seen on table 1.

Table 1. Goodness of Fit Index and Research Model Test Result Comparison

<table>
<thead>
<tr>
<th>Goodness of Fit Index</th>
<th>Cut Off Value</th>
<th>Model test result</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$ chi-square</td>
<td>≤ 215.563244</td>
<td>193.017</td>
<td>Good</td>
</tr>
<tr>
<td>(df 183, 5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance Probability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMIN/DF</td>
<td>≥ 0.05</td>
<td>0.291</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>≤ 2.00</td>
<td>1.055</td>
<td>Good</td>
</tr>
<tr>
<td>AGFI</td>
<td>≥ 0.90</td>
<td>0.932</td>
<td>Good</td>
</tr>
<tr>
<td>GFI</td>
<td>≥ 0.90</td>
<td>0.946</td>
<td>Good</td>
</tr>
<tr>
<td>TLI</td>
<td>≥ 0.95</td>
<td>0.963</td>
<td>Good</td>
</tr>
<tr>
<td>CFI</td>
<td>≥ 0.94</td>
<td>0.968</td>
<td>Good</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤ 0.08</td>
<td>0.013</td>
<td>Good</td>
</tr>
</tbody>
</table>

Source: AMOS output
Structural equation model (SEM) test result by using AMOS version 4.0 at table 1 seen that the main model of this study has $\chi^2$ chi-square values of 193.017 which means it was lower than model acceptance limit ($\leq 215.563244$) at df 183 and signification level of 5%, with model signification probability value of 0.291.

This indicate that there was no difference between sample covarians matrix with estimated population covarian matrix, so it can be concluded that this model can be accepted. Result test for other index like GFI(0.946), AGFI(0.932), TLI(0.963), CFI(0.968), RMSEA(0.013), confirmed that all variables in this model can be well accepted.

The Impact of the Implementation of an Advertising Program on the Internet and Using Direct Marketing with E-Mail on Internet Users Information Processing and Their Product-Buying Decisions

SEM test result on goodness of fit index for the research model (Figure 3) shows that research model has passed the criteria requested and fit to be used. The criteria for goodness of fit index for the model are: $\chi^2$ chi-square value of 193.017 means lower than accepted limit ($\leq 215.563244$) at df 183 and signification level of 5%, with the model signification probability value of 0.291; CMIN/df at 1.055; GFI at 0.946; AGFI at 0.932; TLI at 0.963; CFI at 0.968 and RMSEA at 0.013.
Detailed description of the model goodness of fit index can be seen on figure 4.
The Impact of the Implementation of an Advertising Program on the Internet and Using Direct Marketing with E-Mail on Internet Users’ Information Processing

The first hypothesis test result using structural equation model shows that advertising program has direct influence on information processing by 0.506, with significant level of 5% (P-value at 0.00 or ≤ 0.05), and critical ratio (CR) at 5.835 (CR ≥ 1.96). Meanwhile email marketing also has direct influence on information processing by 0.347, with significant level of 5% (P-value at 0.00 or ≤ 0.05), and critical ratio (CR) at 3.867 (CR ≥ 1.96). Based on that, then it can be concluded that advertising program and email marketing significantly has positive influence on information processing. Based on that results, then the first hypothesis that said advertising program and email marketing simultaneously have positive influence on information processing can be accepted.
This results is consistent with previous research by Quelch (1996) that claim advertising program has influence on communication process. Separately, each advertising program also influence on communication, this is consistent with previous research by Broussard (2002), Consterdine (2005), Gooley (2000), Carlon (2000), Dravillas (2003), and Champy et.al. (1997).

For email marketing, where in this study also has influence on consumer information processing, it’s also consistent with previous research by Boon (2005) where consumer as respondents for promotional email turn out to influence the quality of interaction with the company.

The Impact of the Implementation of an Advertising Program on the Internet and Using Direct Marketing with E-Mail on Internet Users Product-Buying Decisions

<table>
<thead>
<tr>
<th>Keterangan</th>
<th>Direct Impact</th>
<th>Indirect Impact</th>
<th>Total Impact</th>
<th>CR</th>
<th>P-value 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising Program → Product-buying decisions</td>
<td>0.215</td>
<td>0.128</td>
<td>0.343</td>
<td>1.957</td>
<td>0.050</td>
</tr>
<tr>
<td>Email Marketing → Product-buying decisions</td>
<td>0.346</td>
<td>0.088</td>
<td>0.434</td>
<td>2.990</td>
<td>0.003</td>
</tr>
</tbody>
</table>

The first hypothesis test result using structural equation model shows that the direct impact from advertising program on product-buying decision is 0.216, meanwhile the indirect impact is 0.128 (0.506 x 0.252). Significant level at 5% (P-value at 0.050 or ≤ 0.05), with critical ratio (CR) of 1.957 (CR ≥ 1.96). Based on that, then can be concluded that advertising program significantly has positive impact on product-buying decisions.

Email marketing also has direct impact on product-buying decision at 0.346, with indirect impact of 0.088 (0.347 x 0.252). Significant level of its impact is 5% (P-value at 0.003 or ≤ 0.05), and critical ratio (CR) at 2.990 (CR ≥ 1.96). Based on that, it can be concluded that email marketing significantly has positive impact on product-buying decisions.

Based on that conclusions, then the second hypothesis statement (H2), which is advertising program and email marketing has positive impact on product-buying decisions can be accepted at significant level of 5%.

This results are consistent with research results by Song (2001) that claimed there is real impact on online advertising and shows that online advertising significantly has impact.
Beside that, from research result by *Jupiter Research* (2001) mentioned that there are equal growth between the number growth of people who visits website with the number of internet users that looking for information.

Email marketing results in this study is also consistent with the research by Alt (2004) that concluded that email marketing on retail product sale had increased sales for about 49%. Simultaneously, advertising program and email marketing has direct impact on product-buying decisions, this is consistent with research by Li (2004) where said that it’s necessary to vertically integrate marketing communication to get an effective internet advertising, including direct advertising and marketing.

**Impact of Information Processing on Product-buying Decisions.**

The third hypothesis test results using structural equation model shows that information processing has direct impact on product-buying decisions at 0.252, with significant level of 5% (P-value at 0.022 or ≤ 0.05), and critical ratio (CR) at 2.286 (CR ≥ 1.96). Based on that, then can be concluded that information processing significantly has positive impact on internet product-buying decisions.

Based on that results, then the statement from the third hypothesis (H₃), which is information processing has positive impact on internet product-buying decisions can be accepted at significant level of 5%.

This research results is consistent with research results by Rodgers and Thorson (2000) that claimed that information processing variable has impact on consumers product-buying decision.

**CONCLUSION**

Based on test and analysis results above, it can be concluded that:

First, analysis results shows that from internet users side, internet advertising program and email marketing simultaneously have impact on information processing. That results indicated that the more advertising program implemented with more email marketing, then advertisement information processing by consumers will be better. Results also shows that advertising program has more impact than email marketing on information processing.
Information processing by internet users shows that consumers knowledge level about internet advertisement exposure as the first information processing level, has the biggest impact on this factor, then the second information processing which is the consumers intensity level to look for further information about advertisement that they’ve got.

Secondly, internet users perceptions about internet advertising program and email marketing also simultaneously have direct and indirect impact through information processing on product-buying decisions that is higher in comparison when it’s impact through internet users advertisement information processing. That results indicated that the better advertising program activities implemented with more email marketing, than consumers product buying decisions will be better. Results also shows that email marketing has higher impact than advertising program impact on product-buying decisions. Internet users product-buying decisions shows that consumers click level on advertisement to get further information as the second product-buying decisions step, is the most influenced variable by this factor.

Third, results shows that information processing by internet users has impact on product-buying decisions. That results indicate that the higher internet users information processing level, then consumers product-buying decisions will be higher. In general, this results shows that advertising program and email marketing has impact on product-buying decisions through information processing by internet users. Path analysis results of those both free variables impact shows that indirect impact of advertising program variable turn out to have more power than the effect that was given by email marketing variable on product-buying decisions through internet users information processing. This is different with the direct effect from advertising program variable and email marketing on product-buying decisions, where the impact of email marketing has more power than advertising program impact.

**IMPLICATIONS**

Implications from this study results is targeted to two parties, that is Indonesian companies in general and advertising companies in Indonesia.

Results shows that internet advertising in Indonesia has impact on product-buying decisions, then it’s time for companies that needs alternative effective medium to considere using internet advertising medium. This is considering that Indonesia has a very minimum companies that used internet advertising.
Results shows that internet advertising will be successful, in this case if seen from internet users product-buying decisions process, if using the right advertising program and email marketing. Based on that, then advertising companies has to considere using any correct methods to reach effective advertising program, and also using email. This means that advertising companies has to keep following internet technology growth which growing very fast nowadays.

The Limitation and Further Research

This research results is expected to give next researcher input in explaining the correlation pattern and impact of advertising program and email marketing on Indonesian internet users product-buying decisions. Further research expected to integrate other promotional mix besides advertising and direct marketing which also have impact on advertising information processing and internet users product-buying decisions.

Respondant in this study only limited on internet user as object of advertisement developed by advertisers. So the results found only based on internet users perspective or consumer. Further research is expected to analyze and compare respondant perceptions from other perspectives, like advertisers or advertising companies.
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