The Impact of Advertising Application in Social Media into Information Processing and Purchase Decision Cosmetic Products in Pekanbaru City

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Abstract—This research aimed to know the impact of advertising application on social media Facebook and Instagram into information processing and purchasing decisions of cosmetic products in the city of Pekanbaru. Three variables of this study were advertising (X1), information processing (Y1) and purchasing decisions (Y2). The population was the community ever making purchase cosmetic products on Facebook and Instagram, with a sample of as many as 100 respondents were selected using purposive sampling. The criteria of the respondents were Facebook user who lived in Pekanbaru and have ever transacted by using Facebook, those who aged 17 years old and above, those who have ever seen ads on Facebook. Collecting data in this study was conducted by distributing questionnaires to respondents. Then, 10 respondents were selected to be interviewed. In terms of data analysis, this study used Structural Equation Modeling (SEM). The obtained data in this study were analyzed quantitatively using (Partial Least Square) with the help of smartPLS version 3.0 program. The results of this research showed that: 1) advertising had a positive influence and significantly to information processing, 2) advertising did not have a positive influence and significantly to the purchasing decision, 3) information processing had a positive and significant influence towards purchasing decisions, and 4) advertising had positive and significant influence towards purchasing decisions through information processing. In this study, marketers who use social media Facebook to advertise its products are recommended to promote his ads as attractive as possible both in terms of pictures, words or cataloging cosmetic products to make it easier for consumers in search of his needs. Marketers are also required to expose the cosmetic products clearly with the words that are easily understood by the consumer. Furthermore, the future researcher should be able to expand the scope of research not only limited to cosmetic products and social media Facebook only.

Index Terms—advertising, information processing, and purchasing decisions

1 INTRODUCTION

The increasing complex needs of the consumers are likely to make consumers being more selective in choosing the desired products through the available information. Hence, every marketer has to be smart in taking the right way to inform the product. Therefore, a marketer who can read the market situation and conditions appropriately is needed. A marketing business always requires a mean in delivering information to consumers to achieve their goals. One of which is by issuing advertisements about a company’s products that are attractive to consumers.

Advertising has been a modern business phenomenon. No company wants to go ahead and win the business competition without the help of advertising. Thus, the role of advertising in modern business is important. Consequently, one form of corporate loyalty lies in how much funds are allocated for the advertisement.

Along with the current development, many media can be used to promote the products of a company, one of which is social media. Social media has been a daily necessity in communication activities and receiving information. Advertising on social media or commonly referred to as online advertising is usually used as a form of online transactions by utilizing technological advances. The transaction can be in the form of advertising trading products or services through social media such as Facebook, Twitter, Instagram, Blogspot, website, and others. Accordingly, the increasing number of Internet users will give a big impact on the business world. Due to the increasing number of internet users, companies have the opportunities to market and advertise on social media such as Facebook. Consequently, a marketing agency, We Are Social released an annual report on Facebook users analysis reports in terms of gender.

Since Pekanbaru has a tropical climate, people will pay more attention to take care of their bodies and faces in order not to be exposed to sunlight which can damage their skin. Surely they will look for needs of suitable cosmetics products for the skin which can support their appearance. Cosmetic products are not only powder, lipstick, foundation or perfume but also skincare products like masks, creams, facial, and other skincare. Therefore, it is not surprising that there have been many advertisements for cosmetic products offered through social media like Facebook. Based on the explanation above, the researchers were interested in bringing up a study under the title “The Effect of Advertising Application on Facebook on Information Processing and Purchasing Decisions of...
Cosmetic Products in Pekanbaru.”

The problems of the study were formulated as follows: 1) How does advertising on Facebook affect the processing of information on cosmetic products in Pekanbaru? 2) How does advertising on Facebook affect the purchase decision of cosmetic products in Pekanbaru? 3) How does information processing on Facebook influence the purchase decision of cosmetic products in Pekanbaru? 4) How does advertising on Facebook influence the purchase decision of cosmetic products through information processing in Pekanbaru?

The purposes of this study were as follows: 1) To determine the effect of advertising on Facebook on information processing on cosmetic products in Pekanbaru, 2) To determine the effect of advertising on Facebook on the decision to purchase cosmetic products in Pekanbaru, 3) to find out the effect of information processing on Facebook on the decision to purchase cosmetic products in Pekanbaru, 4) To find out the effect of advertising on Facebook on the decision to purchase cosmetics products through information processing in Pekanbaru.

2 REVIEW OF LITERATURE

2.1 Advertising

Kotler and Keller (2009) defined the advertising as all forms of non-personal presentations and promotion of ideas, goods, or services by certain sponsors to be paid. According to Kottler and Keller (2009), the making of advertising programs has to begin with identifying the target market and purchase motives. Five decisions have to be made based on the 5 AD in advertising namely:

a. Mission
   • Giving information
   • Inviting
   • Reminding
   • Encouraging the decision to buy a product

b. Message
   The message carried by the advertisement has to be able to communicate the value possessed by a product by using words and images. Advertising is also a medium that tells the buyer what the product is like.

c. Medium
   The medium is chosen based on the ability to reach an effective target market without ignoring the cost. The medium is the best means of distributing advertisement.

d. Funding/Money
   Usually, the advertising budget is determined by the decision on the price in each function, marketing reach, frequency, and desired impact. Thus, the funding needs to take into account the bills that have to be paid by the company for the cost of making advertisements with large costs. However, the ads can represent the company to introduce the product to prospective buyers.

e. Measurement
   The measure referred to here is the benchmark obtained after the ad is advertised. The measurement is conducted to know whether the ad succeeds or even deteriorated the brand image of the product. This will be seen from the success of product sales and public responses regarding the product related to the advertisements aired.

2.2 Information Processing

Consumer information processing is the process by which consumers are directed towards information, invited to look for information, understand information, place information in their memory and recall it for later use in decision making (William McGuire,1995 in Ratih,2012).

According to William McGuire, there are five stages of information processing (the information processing model) namely:

1) Exposure
   Exposure is an activity carried out by marketers to convey stimulus to consumers. Stimulus can be in the form of advertisements, packaging, brand, and gifts.

2) Attention
   Not all stimuli can get attention due to limited cognitive resources. Thus, consumers select the stimulus that will be noticed and will be processed further. This process is known as perceptual selection.

3) Comprehension
   This stage is an attempt by consumers to interpret the stimulus. At this stage, the consumer perceptual organization, a grouping of stimulus see it as a single unit. The three principles of perceptual organization are:
   • Images and backgrounds: images are objects or stimuli that are placed in the background.
   • Grouping: people usually group stimulus to form a unity of meaning.
   • Closure: the understanding of the consumer to understand an object not the full sense even though there are parts of the object that are missing or incomplete.

4) Acceptance
   Consumer acceptance of a stimulus can be seen from consumers’ perceptions of a product which later become a product image. In the context of marketing, consumer perception can be in the form of product perception, brand perception, service perception, price perception, product quality perception, and producer perception.

5) Retention
   Retention is the process of moving information to long-term memory. The information stored is a consumer’s interpretation of the received stimulus.

2.3 Purchase Decision

Purchasing decisions according to Kotler (2000:251) is a problem-solving process that consists of analyzing or introducing needs and desires, searching for information, evaluating sources of selection for alternative purchases, purchasing decisions, and post-purchase behavior.
2.4 Purchase Decision Making Steps

**Figure 1.** Purchasing Decision Making Steps

<table>
<thead>
<tr>
<th>Introducing Problems</th>
<th>Looking for Information</th>
<th>Evaluating Alternatives</th>
<th>Purchasing Decisions</th>
<th>Post-Purchase Behavior</th>
</tr>
</thead>
</table>

Source: Kotler and Susanto, 1999

2.5 Research Framework

**Figure 2.** Research Framework

Source: Data Processed in 2017

2.5 Hypotheses

H1: Advertising on Facebook has a significant effect on information processing.

H2: Advertising on Facebook has a significant effect on purchasing decisions.

H3: Processing information on Facebook has a significant effect on Purchasing Decisions.

H4: Advertising on Facebook has a significant effect on purchasing decisions through information processing.

3 Research Methods

Sugiyono (2012) defined population as a broad view area involving of objects or subjects that have certain qualities and characteristics decided by researchers to be studied and then drawn conclusions. The population in this study were people who had purchased a cosmetic product on Facebook and Instagram.

According to Sugiyono (2012), the sample is part of the number and characteristics possessed by the population. The sampling techniques employed in this study was a non-probability sampling technique, specifically a purposive sampling. According to Trianto (2015), the purposive sampling technique is a sampling technique based on criteria. The criteria of the respondents of this study were: 1) and Instagram users who live in Pekanbaru and have transacted on Facebook, 2) those who aged 17 years and over, and 3) those who have seen advertisements on and Instagram.

The number of samples was set by using theHair's formula. Hair et al. (2006) stated that determining the number of samples plays a very important role in estimating and interpreting results, especially when using Structural Equation Modeling (SEM) analysis. The minimum sample size is 5 observations for each estimated parameter and the maximum is 10 observations for each estimated parameter. In this study, the number of research indicators was 17 indicators. Thus, the formula used was as follows:

Number of samples = Number of indicators x 5 ±d 10
= 17 x 6
= 102

Thus this study involved 102 respondents as the sample. The number of samples was following the number of samples in research using the Structural Equation Modeling (SEM) – Partial Least Square (PLS) technique where the ideal number of samples was 30-150.

In this study, the data were collected using the following instruments:

1. Questionnaire
   A questionnaire is several formal written questions aimed to obtain information from respondents (Simamora, 2004). The questionnaire distributed in this study was in the form of open questions using a Likert Scale. The Likert scale provides the opportunity for respondents to express their feelings in the form of agreement to a question.

2. Interview
   The interview technique used in this study was a semi-structured interview. This technique aimed to find problems more openly where the respondents were asked for their opinions and ideas. The researchers interviewed 10 respondents in this study.

3.1 Definition of Variable Operations

3.1.1 Advertising
   Advertising is any form of non-personal presentation and promotion of ideas, goods, or services by certain sponsors that need to be paid (Kotler and Keller, 2009). The indicators are memory on advertising, brand awareness, target market, mission, message, media (medium), and measurement (Mujiyana, 2012 and Hening Ari Putra 2014).

3.1.2 Information Processing
   Information processing is the process by which consumers are directed toward information, invited to look for information, understand information, place information in their memory and recall it for later use in decision making (William Mc Guire, 1995) in Ratih (2012).
   The indicators of information processing are exposure, attention, understanding, acceptance, and retention(William Mc Guire, 1995) in Mujiyana, Lana, Mukhyi (2012), Ratih (2012).

3.1.3 Purchasing Decision
   The purchasing decision is a decision-making process in buying or purchasing a product that starts from the introduction of the problem, looking for information, evaluating alternatives, making purchasing decisions, and finally showing post-purchasing behavior whether the consumers are satisfied or dissatisfied with a product that was...
The purchase decision indicators are type and shape of the product, product brand, consideration in purchasing, the suitability of the attributes and desires, and payment methods (Maria Carolina, 2014).

4 FINDING AND DISCUSSION

Figure 3. Structural Model

Source: Processed Data, 2017

Figure 4. Boot strapping Output

Source: Processed Data, 2017

- Hypothesis 1
  H1: Advertising on Facebook and Instagram has a significant effect on Information Processing
  The hypothesis testing showed the T-statistic value of 9.211 > 1.96 or P-value of 0.000 < 0.05. It can be said that advertising had a significant effect on information processing. In other words, attractive advertising will improve information processing to consumers. From the data served, hypothesis 1 was declared acceptable.

- Hypothesis 2
  H2: Advertising on Facebook and Instagram has a significant effect on Purchasing Decisions
  The hypothesis testing served the data which indicated that the T-statistic value of 0.227 <1.96 or P-value of 0.000 < 0.05. It can be stated that advertising did not have a strong influence on consumers to make a purchase decision for a product. Thus, hypothesis 2 was rejected.

- Hypothesis 3
  H3: Information processing on Facebook and Instagram has a significant effect on Purchasing Decisions
  From the hypothesis testing, it can be seen that the T-statistic value of 6.280 > 1.96 or P-value of 0.000 < 0.05. It can be concluded that information processing has a significant influence on purchasing decisions. Therefore, hypothesis 3 was accepted.

- Hypothesis 4
  H4: Advertising on Facebook and Instagram has a significant effect on Purchasing Decisions through Information Processing
  The hypothesis testing results showed that advertising (predictor) had a direct influence on purchasing decisions (criterion) (t = 3.432 > 1.96; p < 0.05) and advertising (predictor) had a direct effect on information processing (mediator) (t = 9.265 > 1.96; p < 0.05). The results were in contrast to the effects of information processing (mediators) are incorporated into the model. From the test, it turned out that the influence of the mediator was included in the model. It appeared that the influence of Advertising on Purchasing Decisions was greater by being mediated by the Information Processing variable.

5 CONCLUSION AND SUGGESTIONS

5.1 Conclusions
1. Based on the results of the study, it was found that Advertising has a positive and significant effect on Information Processing on cosmetic products in Pekanbaru. That finding was influenced by the seven Advertising indicators namely market segments, missions, messages, media, benchmarks, recall of advertisements, and brand awareness. Ads with attractive appearance can make consumers understand and remember these ads. In this case, the information processing about a product can increase. Based on the results of interviews conducted, several respondents considered that an attractive advertisement and clear exposure would be their consideration in the future to decide whether to buy the product or not.

2. Based on the findings of the study, it can be concluded that Advertising has no significant effect on the Purchase Decision of cosmetic products in Pekanbaru. This was because advertising did not have a direct effect on purchasing decisions where consumers make a lot of consideration before making a purchase. Looking at the advertisement only will not make consumers directly buy the product. From the interviews that had been conducted, the respondents said that they will make more consideration before making a purchase. According to one respondent, she had an unpleasant experience because she felt cheated by advertising cosmetic products. The images offered did not match the product she had purchased.
3. The results of this study indicate that Information Processing has a positive and significant influence on the Purchase Decision of cosmetic products in Pekanbaru. This finding indicates that good information processing from consumers will influence their purchasing decisions on a product. Based on the results of interviews with several respondents, they said that they will make a purchase decision after looking at how a clear explanation of the cosmetic product. A clear explanation is certainly a consideration and will encourage the consumer to make a product purchase.

4. The findings of this study showed that Advertising has a positive and significant influence on Purchasing Decisions through Information Processing. This indicates that when the influence of the mediator is included in the model, the influence of Advertising on Purchasing Decision will be greater by being mediated by the Information Processing variable. This means that Information Processing can be an intervening variable between Advertising and Purchasing Decisions. This is in line with interviews conducted with several respondents. They stated that after seeing advertisements, they will see more about the presentation of the product specifications offered. This is a consideration them in making purchasing decisions.

5.2 Suggestions

1. Marketers who use social media especially Facebook and Instagram need to arrange a neat product catalog to advertise their cosmetics. This is done to facilitate consumers in finding their needs. Additionally, marketers should be good at posting interesting photos to make consumers more interested in buying the product. Besides marketers have to do exposure with clear product specifications to make the consumers understand and remember the ads well. Marketers are also expected to be honest in marketing cosmetics products because some online shops have committed fraud to consumers to get more profits.

2. In meeting their needs, consumers are required to look for products that are needed. Moreover, consumers ought to be observant and thorough and to take consideration before making a purchase decision to avoid dissatisfaction or disappointment after purchase.

3. Social media especially Facebook and Instagram as a medium that markets cosmetic products can further maximize existing features. Facebook and Instagram as one of the social media can enhance its features by making innovations more attractive to make consumers interested in seeing them. It is also likely that Facebook and Instagram can provide special features for marketers to advertise their products.

4. Further researchers are obliged to be able to expand the scope of research not only to cosmetic product and Facebook and Instagram. social media. Furthermore, they can also examine some other variables that also influence the formation of information processing and consumer purchasing decision not investigated in this study such as celebrity endorser/ endorser, promotion, price, brand image, brand quality, service quality, et cetera.

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