The effectiveness of short message service advertising using EPIC model on consumer perception and purchase intention

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Abstract. This study was aimed to find out the effectiveness of Telkomsel SMS advertising using EPIC Model, and to find out the influence of SMS advertising to perception and purchasing interest partially and simultaneously. The method used was descriptive verification with purposive sampling technique. Then the data was analyzed using path analysis. The results showed that the effectiveness of Telkomsel SMS advertising using EPIC model has 3.58 EPIC rate. Meanwhile, the influence of SMS advertising to customer perception was 40.6%, customer perception to purchasing interest was 25.6%, and SMS advertising to purchasing interest of Telkomsel sim card users was 19.4%.

1. Introduction
The rapid Information and Communication Technologies (ICT) development makes companies move from conventional into digital media advertising. Digital media advertising in Indonesia has grown fast. The analysis showed that digital media advertising will be more affective compared to conventional one because society nowadays has been accustomed to internet through their smartphone [1].

The development of digital marketing in Indonesia keeps increasing from time to time. With the penetration of internet and social media which increases, Indonesia now shows its potential as promising market target in Southeast Asia, especially in product marketing. In other side, the purchasing number of digital marketing on social media is high. GetCraft reported that in 2016 the advertisers spent about 1.9 billion rupiah per year for the budget of digital marketing. It showed that there was income increase felt by the advertisers thus it probably increased shopping budget in the next years [2].

One of popular digital marketing types is SMS advertising. SMS advertising is directly delivered to customers. The high penetration on mobile phone has increased the use of mobile devices to send the advertisement of product or service. SMS, especially, succeeded well. A study was conducted by Tsang, Chun Ho, and Liang showed that the use of mobile and SMS information service has increased drastically since 2001, which more than 100 billion SMS delivered each year in all over the world [3]. Meanwhile, in Indonesia, the number of cellular users has reached 250 million users [3]. The number of prepaid cellular sim card users in Indonesia can be seen in Figure 1:
From Figure 1, it shows that Telkomsel has the highest market with 157.4 million users. In the second place is Indosat with 85 million users. Meanwhile, 3 and XL are in the third and fourth with 56.5 million and 44 million users.

Telkomsel is as a provider with the highest number of users in Indonesia has SMS advertising as their product. It allows the company to send one-way messages with maximum 160 characters with sender identity adjusted to the need. The identity is created in 11 characters. Telkomsel also provides various SMS services, such as bulk, targeted with customized sender profile, interactive with reply options for receivers, and location-based advertising which allows the user to send SMS to certain location users (www.Telkomsel.com).

There were some weaknesses of SMS advertising, such as mostly the implementation of SMS advertising did suit to Indonesian advertising ethics, which from the total percentage of SMS advertising, there was below 50% perfect. The main problem occurred on “free” word use, coding language, inappropriate price to the good’s quality, and incomplete information.

SMS advertising has direct and significant influences to customer attitudes. It did not only introduce and promote the product but also created the content better to make customers feel comfortable then got interested in reading the messages. Thus, making them have good impression to the product, which finally they would like to purchase the product.

The majority (84%) of customers has good responses to messages they received on their mobile phone, - as long as in the beginning, they agreed to receive it [5]. The study also stated that SMS frequency should not have been more than three messages in a day. Many messages would have high risk to be considered as spam making the receivers delete them without reading. The customers like entertainment and informativeness of messages [6].

2. Literature review

2.1. SMS advertising
SMS advertising is defined as short message service sent to cellular users aiming to give information in certain time and location promoting service and idea, thus the value of all stakeholders can be generalized [7]. SMS advertising is one-way SMS sent from one telecommunication operator to many users’ numbers. As SMS advertising is one–way, it suits to be used as promotion media. SMS advertising is also well-known as SMS Broadcast, SMS Blast, SMS Reminder or SMS Info. The time delivery of SMS can be scheduled thus it allows the sender to determine the time. The all costs of delivery will be paid by the sender with no charging for the receivers.
2.2. **EPIC model**
EPIC Model is one of tools to measure advertising effectiveness developed by AC Nielsen, - one of famous research marketing companies in the world [8]. EPIC model has many dimensions as follows:

2.2.1. **Empathy.** Empathy dimension shows customers’ interest to the marketing communication type, and describes how customers see the relation between marketing communication type and their personality.

2.2.2. **Persuasion.** Persuasion dimension informs about the marketing communication type such as what can be used to strengthen the brand character thus the marketer understands the effect of marketing communication to customers’ desire to purchase the product.

2.2.3. **Impact.** Impact dimension shows whether the brand can be looked prominent compared to other similar brands.

2.2.4. **Communication.** Communication dimension is customers’ ability in remembering the message given, customers’ understanding, and impression strength of the message.

2.3. **Perception**
Perception is defined as the process by which an individual selects, organizes, and interprets stimuli into a meaningful and coherent picture of the world [9]. Customer's perception is influenced by some components from the message content as follows:

2.3.1. **Entertainment.** Entertainment on message is attractive and exciting writing or picture making message receivers interested in reading it [10]. The entertaining message content is expected to increase customer loyalty and to give more value from the customer.

2.3.2. **Informativeness.** Informativeness is advertising content that is directly informative to the destined customer. The customer expects fast, directional and easily understandable information.

2.3.3. **Irritation.** Irritation is an unexpected interference by the customer. Mostly customers dislike useless advertising and they feel bothered if the SMS advertising forces them to use their credit later.

2.3.4. **Credibility.** Credibility is the truth level of message where the advertising can be trusted that promised things on the message are credible. Good SMS advertising must have high credibility on the eye of customer.

2.4. **Customer purchasing interest**
Purchasing interest is customers’ attitude where they have desire to purchase or choose a product based on their experience in choosing, using, and consuming or even desiring the product [11].

The dimensions used to analyze the purchasing interest indicator are explained on micro component model of customer responses [12] as follows:

2.4.1. **Awareness.** Some customers do not realize their needs, thus the communicator duty is to create those needs.

2.4.2. **Knowledge.** Some customers have need of a product but they do not have sufficient experience about the product, thus the information about the product should be given by the communicator.

2.4.3. **Liking.** After the customer has need and information, next step is whether they like the product or not. If they like the product, then they will have desire to purchase.
2.4.4. **Preference.** After they have liking feeling to the product then they need to know the comparison of our product to other products, which is from package, quality, value, performance and etc.

2.4.5. **Conviction.** Customers have owned their liked product but not sure yet to do purchasing. In this step, the duty of communicator is to ensure them and grow their purchasing interest. After this step then the prospective customer will be sure and interested to the product.

2.4.6. **Purchase.** The last step is purchasing step. Some targeted customers have been sure and interested but not yet to purchase, thus it is the duty of communicator to direct them to purchase, for instance, giving discount and trial service.

![Figure 2. Research framework.](image)

From Figure 2. shows that in this research have three hypothesis as follows:

H1 : Effectiveness of SMS Advertising influence to Perception.

H2 : Perception influence to Buying Interest.

H3 : Effectiveness of SMS Advertising influence to Buying Interest.

3. **Method**

This study is descriptive verification aiming to find out and to explain variable characteristics studied in one case [13]. Descriptive method is used to describe or analyze research result, not for making wider conclusion [14]. In addition, verificative method is a research aiming to find out the relationship between two or more variables.

Sample is part of number and characteristic in population with non-probability sampling [14]. Another sampling technique in non-probability sampling used by researchers is purposive sampling. If the number of population is clearly unidentified, thus the sampling technique used is Bernoulli formula, with error level $\alpha =0.05$. Therefore, the sample in this study was 400 respondents.

This study used EPIC Model to find out the advertising effectiveness through SMS. Effectiveness can be measured using EPIC Model [8]. This model has four critical dimensions, namely empathy, persuasion, impact, and communication. To evaluate the advertising effectiveness using EPIC method, simple tabulation analysis and weighted mean calculation were used. Besides EPIC Model, the researchers also analyzed the multiple linear regression with path analysis method. Path analysis is a research method mainly aims to evaluate the direct and indirect between variables.
Based on Figure 3, the structural equation of path analysis as follows:

- Equation of first sub structure:
  \[ Y = \rho YX + \rho_1 \varepsilon_1 \]
- Equation of second sub structure:
  \[ Z = \rho ZX + \rhoZY + \rho ZXY + \rho_1 \varepsilon_2 \]

4. Results

4.1. EPIC model

The measurement of advertising effectiveness using EPIC Model aims to find out the effect of advertising communication to customers in purchasing decision. The study was conducted to find values of empathy, persuasion, impact and communication from Telkomsel SMS Advertising.

4.1.1. Empathy dimension. From the calculation, it was obtained the mean of Empathy (X1) was 3.48. If this result is inputted into decision of EPIC Model, thus it showed that Telkomsel SMS Blast was categorized into effective scale range. It means that the customers are interested in and feel that advertising through Telkomsel SMS suits to their needs.

4.1.2. Persuasion dimension. The mean of Persuasion Dimension (X2) was 3.58, thus it was categorized into effective scale range. It means that Telkomsel Blast SMS makes the customers want to know more about the product promoted and feel interested in purchasing it.

4.1.3. Impact dimension. The mean of Impact Dimension (X3) obtained was 3.56, thus it was categorized into effective scale range. It means that Telkomsel SMS advertising makes the customers feel sure to purchase the promoted product.

4.1.4. Communication dimension. The mean of Communication Dimension (X4) obtained was 3.71, which means Communication Dimension (X4) of Telkomsel SMS Advertising was categorized into effective scale range. This result shows that Telkomsel SMS advertising is comprehended and remembered by the customers.

4.2. The test of first sub-structure model

The result of the first sub structure showed that the contribution of SMS Advertising Effectiveness (X) to Perception of Message (Y) was 16.5%, meanwhile, 83.5% was determined by other factors.

T-test is used to find out the partially influence. The result shows X variable has significant level \(0.000 < \alpha (0.05)\), thus it can be concluded that the relationship between X and Y is significant and
positive (0.406). In addition, t-test value (8.857) > t table (1.965), thus Hypothesis 1 (H1) is accepted. Thus the equation of first sub-structure is:

\[ Y = 0.406X + \varepsilon \]

4.3. The test of second sub-structure model
From the result of second sub-structure model, it was obtained that the contribution of SMS Advertising Effectiveness variable (X) and Perception on Message (Y) to Purchasing Interest Variable (Z) was 14.4%, meanwhile 85.6% was determined by other factors.

The influence of SMS Advertising effectiveness to Purchasing Interest was obtained from t-test value = 3.826 and t-table = 1.965 (t-test > t-table), thus it can be concluded that Hypothesis 2 (H2) is accepted in significant value 0.000 < \( \alpha \) 0.05, and \( \beta \) (+) = 0.194. From the result means the influence is significant and positive. Thus it can be concluded that the influence of SMS Advertising Effectiveness (X) to Purchasing Interest (Z) was 19.4%.

The influence of Perception on Message to Purchasing Interest was obtained the t-test value = 5.038 and t-table = 1.965957 (t-test > t-table), thus hypothesis 3 (H3) can be accepted with sig 0.000 < \( \alpha \) 0.05, and \( \beta \) (+) = 0.256 which means the influence is significant and positive. Thus the equation of second sub-structure:

\[ Z = 0.194X + 0.256Y + \varepsilon 0.9252 \]

4.4. The test of simultaneous influence
The value of F-test was 33.314, meanwhile F table was 3.018452 (F-test > F table). It showed that SMS Advertising Effectiveness (X) and Perception on Message (Y) can explain simultaneously their influence to Purchasing Interest variable (Z).

4.5. The direct and indirect influence
- Direct Effect
  \( X \) to \( Z \) (\( \rho_{ZX} \)) = 0.194.
- Indirect Effect
  \( X \) to \( Z \) through \( Y \) = (\( \rho_{YX} \) \( \rho_{ZY} \))
  = (0.406) (0.256)
  = 0.103936
- Total Effect
  \( X \) and \( Y \) to \( Z \) through \( Y \):
  \( \rho_{ZX} + \rho_{YX} \times \rho_{ZY} = 0.194 + (0.406 \times 0.256) \)
  = 0.194 + 0.103936
  = 0.297936

The path analysis model for this study can be seen as in Figure 4 below:

Figure 4. Path analysis diagram.

Based on path analysis on Figure 4, it has equation as follows:
Sub-Structure 1: \( Y = 0.406X + \varepsilon 0.9138 \)
Sub-Structure 2: \( Z = 0.194X + 0.256Y + \epsilon0.9252 \)

Based on path analysis diagram on Figure 5, it can be concluded that the influence of SMS Advertising Effectiveness (X) to Purchasing Interest (Z) through intervening variable, Perception on Message (Y), 0.103936 or 10.39%

5. Discussion

Based on the calculation of EPIC from Figure 5, the EPIC rate was 3.58. It means that Telkomsel SMS advertising is effective to promote the product to the customers thus they remember and feel interested in the offered product through Telkomsel SMS advertising.

![Figure 5. The effectiveness of Telkomsel SMS advertising using EPIC model.](image)

From the result of first sub-structure, it can be concluded that the influence of SMS Advertising effectiveness (X) to customer perception (Y) was 40.6%. Meanwhile, the influence of other variables to Perception on message was 91.38%. From this study we can know that Telkomsel customers have a good perception when they received SMS Advertising sent by Telkomsel.

From the result of second sub-structure, it can be concluded that the influence of Perception on Message (Y) to Purchasing Interest (Z) was 25.6%. In addition, the influence of other factors to purchasing interest was 92.52%. From this study we can know that with good customer perceptions it will lead them to purchasing interest from products advertised through Telkomsel SMS Advertising.

6. Conclusion and suggestions

The conclusion can be drawn from this study are The effectiveness of promotion using Telkomsel SMS Advertising Telkomsel with EPIC Model is categorized into effective category as it obtained EPIC rate 3.58. The amount of SMS advertising influence to the perception of Telkomsel sim card users in Bandung in 2017 was 40.6%. The amount of perception to purchasing interest of Telkomsel simcard users in Bandung in 2017 was 25.6%. The amount of SMS Advertising influence to Purchasing Interest of Telkomsel simcard users in Bandung in 2017 was 19.4%

The suggestions can be given to Telkomsel to improve their SMS advertising effectiveness are Telkomsel is better to create more creative SMS advertising content, such as using animated message or adding link thus the information will be clearer and more interesting.

- Improving the cooperation with various brands /merchants to vary their products and brand awareness.
- Customizing the frequency of SMS Blast in order not make the users feel bored and bothered because of monotonous promotion.
For further study, the study can use different analysis tools for development in measuring advertising effectiveness level and data analysis technique can use SEM.

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