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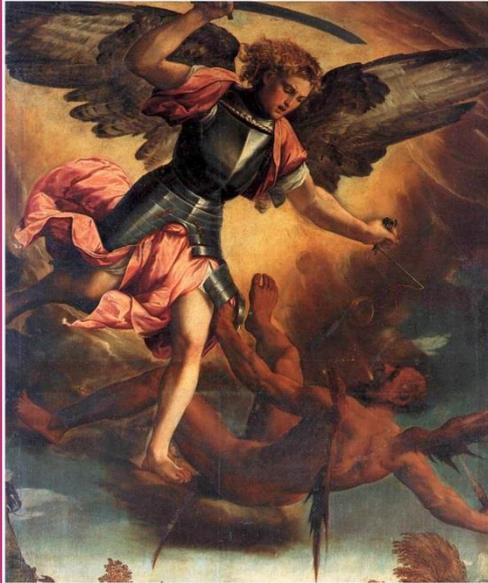
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The Influence of E-Marketing and Information System on University Image

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Abstract

The aim of the study is to investigate the influence of e-marketing and information system on the university image via the Gesca PLS analysis tool. The results of this study provide empirical evidence that e-marketing and information systems have a significant effect on improving university image in the eyes of students. In conclusion, the information system could help improve the image of the university because the information system had the ability to convey a variety of positive information from the university which led to positive changes in its image.

Keywords: E-marketing, information system, university, image.

La influencia del e-marketing y el sistema de información en la imagen universitaria

Resumen

El objetivo del estudio es investigar la influencia del marketing electrónico y el sistema de información en la imagen universitaria a través de la herramienta de análisis Gesca PLS. Los resultados de este estudio proporcionan evidencia empírica de que los sistemas de información y marketing electrónico tienen un efecto significativo en la mejora de la imagen de la universidad ante los estudiantes. En conclusión, el sistema de información podría ayudar a mejorar la imagen de la universidad porque el sistema de información tenía la capacidad de transmitir una variedad de información positiva de la universidad que llevó a cambios positivos en su imagen.

Palabras clave: E-marketing, sistema de información, universidad, imagen.

1. INTRODUCTION

Universities are currently required to be able to market their universities more aggressively than before, especially amid the level of competition. In Indonesia, there are two types of universities, namely the university wider mandate from the IKIP (Teacher Institute), which is known as the university LPTK (educational institutions) and non-LPTK universities. However, referring to the results of the ranking of universities in Indonesia issued by the Minister of Research

Technology and Higher Education in 2018, LPTK universities are always positioned below non-LPTK.

In Yogyakarta, Gadjah Mada University ranks first, while one of the LPTK Universities in Yogyakarta is ranked 10. In Bandung, the University of Indonesia Education (UPI), its position is ranked 12th under the Institut Teknologi Bandung (ITB). 2. Another example in the area Sulawesi, Manado State University and Gorontalo State University are ranked below that of Sam Ratulangi University or Tadulako and Haluheleo Universities. Although the ranking refers to the quality of education, it can also be assumed that the image of LPTK universities is still considered lower than non-LPTK universities. Therefore, raising the university's image might be a solution for increasing public interest in choosing LPTK Universities.

Whatever market the shape will always be growing rapidly, so for the university ideally it is not to make the University brand only a logo. Because it needs creative marketing efforts to improve the brand to be even bigger and continue to grow in the hearts of consumers. Brand image is a form of product identity, in this case, the university is an identity of a place or location for learning life that is attractive to students. A brand identity is an option for existing students and can attract new students. A brand image is not born by itself. University brands, especially LPTK universities cannot be built quickly, need hard work. It is predicted that creative marketing factors through the use of information technology can be a solution to improve the university's image.

One of them is using e-marketing strategies. Selim (2012) explained that the form of e-marketing can make consumers more easily get good information about the products they will buy. In this case, through e-marketing, it is possible for higher education products offered by certain universities to be better read and marketed, so that it is expected that the quality of higher education products can be well illustrated, which in turn can enhance the positive image of the university.

Besides being predicted, information systems can also help universities improve their image. Selim (2012) explain that Internet-based information systems can help information spread more quickly than for example television technology. In contrast to e-marketing that is more software-based, the information system is broader in terms of software and hardware. Hardware that supports software runs well, of course, will help product information may spread to consumers, including university products. Besides that, the academic process that is helped by the existence of a qualified information system is possible to make students satisfied and the image of the university rises and by itself will disseminate that information to others (Chen, 2016; Jenaabadi & Issazadegan, 2014). Referring to this opinion, it is predicted that e-marketing and information systems can help universities improve their university image.

E-marketing and university brand image

How e-marketing can influence the university brand image can refer to the influence of e-marketing on changes that occur in

marketing strategies. According to Mohammad et al. (2003), internet marketing can change the marketing strategy of four things. The first thing is a change in market segmentation, with the use of internet marketing activities not only occur in a small scope, but in the broad scope of global marketing, the second affects the faster marketing time cycle, the third thing is more transparent, fourth or final marketing activity e-marketing changes the collaboration between business strategies and operational strategies. According to Jain (2014), e-marketing can change marketing strategies because e-marketing is a variable that functions as behavior that affects. In this case, it affects consumers. While still according to Jain's (2014) dissertation, the consumer process to choose is based on the achievement of consumers' needs for product information when viewing or opening a website.

If connected, it can be concluded when the consumer needs for product information are obtained according to the needs of the product marketer's website, it is possible that the product can continue to be remembered and imaged well. Selim (2012) explains an organization's vision must be able to be translated into every item and service marketed so that the vision of the organization must be the image of the organization. When a university succeeds, developing its website can describe the vision of the organization, so that the image of the university can be drawn from its website. This opinion is in line with the definitions of Strauss and Ansary (Salehi et al., 2012), namely E-Marketing is the use of information technology in the process of making, communicating, and conveying values to customers, and can also be used to maintain customer relations for mutual benefit.

Therefore, e-marketing is a form of behavior to influence (Jain, 2014), so that what can be influenced is consumer perception of the University (e.g. UNG). Perception can be built either from information from the human environment (Kreitner and Kinicki, 2010). While the brand image is information related to a brand that will continue to exist in the minds and memories of consumers. Therefore, it can be assumed that e-marketing can have a positive impact on the formation of positive consumer perceptions, which is indicated by the university's brand image that is inherent in the human mind. Then from this opinion can be explained a hypothesis 1 (one) as follows:

H1: E-marketing has a positive effect on university brand image.

Information system and university brand image

Selim (2012) explains that information systems will help companies and organizations build their competitive advantages. Referring to Fatta, it can be made an opinion that the application of information systems built into organizations including higher education organizations is the driving force for these organizations to build competitive advantage. Barney (1991) explains that a competitive advantage can be demonstrated through valuable products and services. This valuable product is a product that is indicated to have a strong product image in the minds of consumers (see explanation in the following section).

In the context of universities, as providers of higher education services with high intangible levels (Chen, 2016), the use of information system applications that are able to integrate various types

of information will be good for prospective students. Information that will help consumers see or feel the quality of the university's services, introduce university vision and mission, and suitable study programs (Azoury et al., 2014; Muyambiri & Chabaefe, 2018). Therefore, the application of information systems will help universities build their university image. Research from Husda et al. (2017) provides empirical evidence that when management information systems are running well in the university sector, it will have an impact on the trust and improvement of the university's reputation.

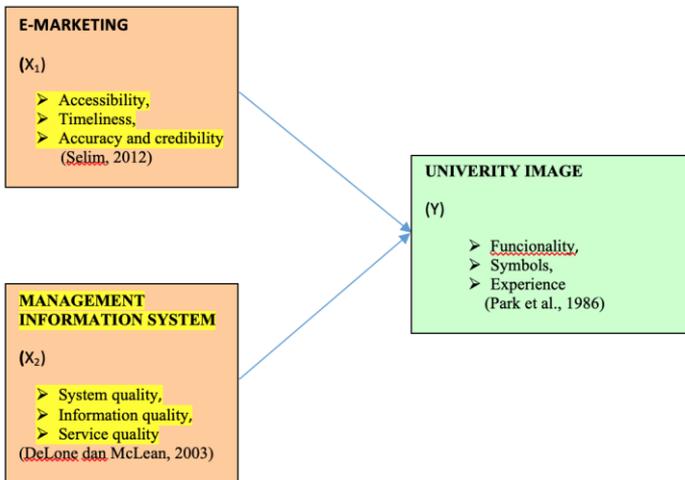
H2: Information systems have a positive effect on university brand image.

Measurement

This research is a quantitative study with a survey method. The object of this research is LPTK universities in Eastern Indonesia, especially Sulawesi, namely Makassar State University, Gorontalo State University and Manado State University. The sample in this study were students who had at least 3 semesters of study at the same university. The questionnaire in the study was developed based on previous research. The construct of e-marketing is the utilization of the official website and social media of the university whose indicators are Accessibility, timeliness, accuracy and credibility (Selim, 2012). Construct system information according to Laudon and Laudon (2010) is an information system that can help companies eliminate the distance of location as a company problem and make work procedures become faster and no longer manual.

In measuring whether the information system in the organization has reached Laudon and Laudon's (2010) three criteria, Delone and Mcleone (2003) to establish an information system that can run well is seen from three indicators, namely: system quality, information quality and service quality. Finally, the construct of the university image is measured by indicators of functionality, symbols and experience (Park et al., 1986).

2. RESEARCH MODEL AND VALIDITY



In this study the results of validity and reliability tests using the Gesca PLS analysis tool can be presented in the following results:

Variabel	Number of items	Factor Loading	AVE	Cronbach Alpha	Composite Reliability
E-	9	0.614-	0.584	0,779	0,849

Marketing		0.833			
Information system	4	0.701-0.834	0.626	0,708	0,833
University image	6	0.511-0.828	0.510	0,819	0,858

Table 1: Validity and Reliability Report

Based on table 1, it is shown that the loading factor of all e-marketing constructs, information systems, and university images show a number higher than 0.5 and a value of AVE that is also greater than 0.5, which means it has fulfilled the convergent validity. The results of this conclusion refer to Hair et al. (2010) which explains to test the convergence validity of the factor loading value and the acceptable AVE is higher than 0.5. Reliability results also show very good results where all constructs are above 0.7. Hair et al. (2010) describe the value of Cronbach alpha and composite reliability which is ideal if the value can be higher than 0.7.

3. RESULTS AND DISCUSSION

By using the GesCa statistical application the results of this study can be known. The first results that can be known are the test results from the research model. The results of this study indicate the GFI value of this model is 0.985. This value means that the research model has fulfilled what Hair et al. (2010) as a research model that is a good fit. Then to test the hypothesis the reference value is a higher

value of the critical ratio (CR) than 1,960 two-tailed (Hair et al., 2010). In Figure 1 below, the results of the hypothesis testing of this study are shown.



Figure 1: Hypothesis Test Results

In figure 1, it can be explained that hypothesis 1 can be accepted because the effect of e-marketing variables on university image results are significant because with an estimated value of 0.487 it produces a CR value of 9.01 which is higher than the value of 1.96. Then for hypothesis 2, there is a significant effect of the information system on university brand image because with estimate 0.547 it produces a value of CR 12.82, a value higher than 1.960. One of the marketing functions is to meet consumer needs and make consumers aware of it and choose products offered Selim (2012) thus e-marketing by utilizing information technology also aims to make consumers aware of or know about the products offered in the market. Even through e-marketing, it is possible to speed up delivering marketing messages more quickly and widely. With the information that is faster and wider, the public will also get information faster from the products offered, including higher education products.

The results of this study are in line with the results of other studies. For example, research from Strauss and Ansary Salehi et al. (2012) which explains that E-Marketing is the use of information technology in the process of making, communicating, and conveying values to customers, and can also be used to maintain customer relations for profit together. Therefore, e-marketing can be a form of behavior to influence (Jain, 2014), so that what can be influenced is consumer perceptions of the University (e.g. UNG). Perception can be built either from information from the human environment (Kreitner and Kinicki, 2010; Ulandari et al., 2019).

The relationship with the brand image is a university brand image that is information related to a university brand that will continue to exist in the minds and memories of consumers. Jain (2014) also supports the statement that e-marketing can change marketing strategies because e-marketing is a variable that functions as behavior that influences consumers. Then the consumer process to choose is based on achieving consumer needs for product information when viewing or opening websites. Which can be in accordance with the needs of the product marketer's website, it is possible that the product can continue to be remembered and imaged well. So, by itself, e-marketing has a significant positive impact on the formation of positive consumer perceptions, which is indicated by the university brand image that is inherent in the human mind.

4. CONCLUSIONS

Selim (2012) explains that information systems can help companies and organizations build competitive advantages, so that information system built into organizations including higher education organizations are the driving force for these organizations to build competitive advantage. Then if competitive advantage can be demonstrated through valuable goods and services (Barney, 1991). This valuable product is a product that is indicated to have a strong product image in the minds of consumers. In the context of universities, as providers of higher education services with high intangible levels (Chen, 2016), the use of information systems that are able to integrate various types of information will be good for students. The information helps consumers see or feel the quality of the university's services, introduces the university's vision and mission, and suitable study programs (Azoury et al., 2014). Therefore, it can be concluded that information systems can help universities build their university image. Research from Husda et al. (2017) provides empirical evidence that when management information systems are running well in the university sector, it will have an impact on the trust and improvement of the university's reputation. It was concluded that the information system could help the university improve the image of the university because the information system had the ability to convey a variety of positive information from the university which led to positive changes in its image.

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