



ELECTRONIC WORD OF MOUTH (E-WOM): A PATH TO BUILD THE IMAGE OF UNIVERSITY

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ABSTRACT

Globalization in higher education has a direct impact on competition among universities in Indonesia which become keener. The competition has not been only within universities in the country but also with universities from other countries. This keener competition has motivated each university to improve its quality continuously, so that they could survive and winning the competition. Furthermore, there was a universities ranking that standardized and recognized internationally, such as; Webometrics Ranking of World Universities, which was based in Spain. Webometric was a system that provided an assessment of all universities in the world through the university's website assessment.

Meanwhile, the progressiveness of Internet Technology has made the spread of word of mouth (WOM) was not limited to directly face-to-face communication, but already in the form of electronic word of mouth (e-WOM). E-WOM has become a phenomenon that was essentially improving the image of organization especially in the context of Webometric measurement. This study aimed to identify and analyze the influence of someone's motivation who engaged in e-WOM by using organization's websites to enhance the image by exploiting the reputation and Webometric ranking. The research object was Sepuluh Nopember Institute of Technology (ITS), one of the largest University at Indonesia. Data was collected through the questionnaire to the academics community. This quantitative research engaging Partial Least Square (PLS) and enhancing with qualitative assessment. The results showed that there were significant correlation between factors of e-WOM towards improving the image of organization for reputation and webometric ranking.

Keywords: *Electronic Word of Mouth, Webometric, Image of Organization*

1. INTRODUCTION

Globalization in all aspect through internet has already impacted on competition among organization at all over the world. The usage of information technology or internet beside the Age of Organization, and the Size of Organization were proved significantly in achieving the organization's performance [1]. Especially in the universities, the competitions was not only within universities in the country but also with universities from other countries. This keener competition motivated each university to improve its quality continuously, so that they could survive and even win the competition. One of the strategy to improve the competitiveness of the university was through the used of internet to display the official website, and constructing good image of university [2]. An explanation of the competitiveness term has given by [3], "The word power in a phrase competitiveness". The power was a strength and the competitiveness means reaching more than others,

or be different from the others in terms of quality or any certain advantages. It means that competitiveness could be interpreted as a power to be better than the other or to be excellence at certain things done by a certain person, a group or an organization.

Meanwhile, there was the universities ranking measurement, called Webometric that used and recognizing international standard, which was based in Spain. Webometric was a system that provides an assessment of all universities in the world through the university's website. Based on www.webometrics.com data, January 2016 edition, a reputable university at Indonesia, Sepuluh Nopember Institute of Technology (ITS), as the research object, which was at 21st best universities in Indonesia and at 2954th world ranking (<http://www.webometrics.info>). Actually, in the national ranking, this position changed drop quite dramatically comparing to the previous edition which was at ranked 8th at 2015. It was very surprising and it shown the weak competitiveness



of ITS compared to other universities. In the further circle, the competitiveness of the university would build the image of the university and essentially increasing their reputation in the public's view (national or international), and greatly affected the university rankings. In brief, the image or reputation of the university was: (i) one of the factors in enhancing competitiveness, (ii) most of the elements key of intangible resources, and (iii) become the source of conditions for sustainable competitive advantage of organization [4].

The used level of information and communication technologies, including the Internet on university, became one of the important aspects that can contribute to the university popularity. In the era without internet, there was no competition problems in higher education institutions. The situation totally different while there has been the emergence of internet and information technology. Almost all organization has been growing and entry the competition with utilized internet [5]. Internet has created a new paradigm in communication and empowering the word of mouth (WOM) to be Electronic Word of Mouth (e-WOM). E-WOM made the spread of words has not limited within face-to-face communication, but already in the wide form through any internet media such as World Wide Web (WWW).

E-WOM worked powerfully, when customers or potential customers looked for information about the product or the organization profile, sharing knowledge, experience and opinions, both positive and negative via online [6]. E-WOM affected the improvement of the image, as well as reported by some researches. Research by [7] explained that there was significant influences from e-WOM to brand image. E-WOM was one of the marketing strategies that could be used to promote the university both the products and services, [8] [9]. By knowing the importance how e-WOM influencing the image improvement as part of competitiveness through Webometric ranking, then it was a must to manage the essential of e-WOM.

Based on those backgrounds, this study has been design and proposed to determine and analyze the correlation between someone activities in engaging e-WOM through the organization's website to the improvement of the organization image, achieving better reputation, and improving Webometric ranking. The main structure of research would be a quantitative approach. Model and hypothesis was developed based on literatures review and phenomenon on the field. The findings and discussions were the result of statistic output

and resume of arguments collected from respondent.

2. LITERATURE BACKGROUND

2.1 Electronic World of Mouth (e-WOM)

According to [10], the e-WOM was a social communications in the Internet where web user often send messages and receive messages related to product information via online. This done due to the WWW Internet network allowed the word of mouth as: (i) a natural form of communication, (ii) to be spread widely, (iii) broader coverage, (iv) faster, (v) effective, (vi) efficient, and (vii) cheaper through online media and became e-WOM [7].

E-WOM gave consumers a new world in which they could communicate and influence each other [10]. By the increasing of internet popularity, e-WOM grown from a single communication to become communication between unlimited networks and dispersed nature [11]. Furthermore, Internet and information technology was not only provided facilities for the consumers to give their opinion about the product but also become tool and marketing channel for the organization [12]. E-WOM could increase the effectiveness of marketing, but it also able to destroy the reputation of the organization's brand image that has been built difficultly if it has not match the expectations of consumers [12].

2.2 Webometric

In 1997, two years after the introduction of web-based metric, a new metric method was found and named as the Webometrics [13]. This method was described as a study of the entire computer-based communication networks including WWW, with the help of Infometrics Method. According to [14] explained Webometrics was "The study of the quantitative aspects of the construction and the use of information resources, structures and technologies on the web drawing on Bibliometrics and Infometrics approaches". Another theory states that webometrics was part of Infometrics [15]. Webometrics was used as a gauge of the WWW and became able to know the number of hyperlinks, type hyperlinks, website structure, and usage patterns. The pioneer of university rank in the style of webometrics are Cybermetrics Lab, a group study of the Centro de Información y Documentación (CINDOC) which is part of the National Research Council (CSIC), Spain. They started to do university rank in 2004, and has been

publishing the university ranking every six months (January and July) per year.

Webometrics activity is releasing the university rank in the world based on several criteria: visibility (V), size (S), rich files (R), scholar (Sc). According to [16], there were four components as the indicator of the Institutional Repository Webometrics ratings as follows:

1. Size (S) (20%),

Size (S) was the number of pages of the university official website that found of four search engine: Google, Yahoo, Live Search and Exalead. Number of pages by typing keywords on search engines such as "www.its.ac.id".

2. Visibility (V) (50%),

Visibility (V) was a site (domain) can be seen on search engines Yahoo! Search, Live Search and Exalead using the keywords (for example) "link: its.ac.id". Visibility describe how many other sites that cite or provide a link to our site.

3. Rich Files (R) (15%),

Rich Files (R) was the volume of files on the University's website in the format of Adobe Acrobat (.pdf), Adobe PostScript (.ps), Microsoft Word (.doc) and Microsoft Power Point (.ppt) file.

4. Scholar (Sc) (15%),

Scholar (Sc) was the amount taken from the Google Scholar containing scientific papers, reports, and other academic writings. These refer to the amount of research that has been conducted by the university concerned. By using the keyword (for example) "Institute of Technology" at Google Scholar website.

2.3 University Image

Image is an impression that are in people mind about an object, person, organization, or place [17]. Image was a trust of someone ideas and impressions against something [18]. The image was an impression, feeling or conception that exist in the public about the company, an object, person or institution [19]. A good image of an institution would have a beneficial effect. Otherwise, if the image is negatively built, it will be detrimental the institution. A good image of an institution or organization, is an asset because the image have an impact on public perception [20]. As identified by [21] there were four roles of the image for an institution:

1. The image has an impact to expectation. A positive image makes it easier for institutions to communicate effectively, and makes people understand. A negative image having the same effect certainly, but in the opposite direction. The neutral or

unknown image may not cause destruction, but it does not make the communication by word of mouth become more effectively.

2. Image was a filter that affects the perception on institution activities. Technical quality, especially functional quality, has been seen by this filter. If the image was good, then image become shield. Shield was only effective for small mistakes in technical or functional quality
3. Image was a function of experience as well as consumer expectations. When consumers build an expectations and the reality of the experience in the form of technical and functional service quality, quality of service perceived generating image changes. If the perceived service quality meets or exceeds the image, the image will get reinforcement and even increased.
4. Image has an important influence on management. It means that the image has an internal impact. A negative and unknown image clear may be a negative influence on the internal public institution itself.

Image or reputation gained through the set of capabilities and experience accumulated so that the universities have the best performance for stakeholders. In China, [22] illustrated that world class of university is a university that has an established academic reputations and supported by a rich academic resources. Improvement of the image or reputation of higher education can be achieved through the ranking system of Webometric. Webometric which was a mapping of the strength of universities on the performance of the web that was built as a media gateway communication.

Each institution has an image, whether planned or not planned, a good image can offer a lot of the success of the organization [23]. Image has two components [24]: functional and emotional. Functional components comprised a real stimulus that can be easily measured, such as physical properties, while the emotional component associated with a psychological condition that becomes apparent in the feelings and attitudes. Meanwhile, according to [25] components that form the image of the university was the academic reputation or the quality of the academic university, campus appearance, cost, location, distance from residential houses, the possibility of future careers

and social activities. The image could not be formed as the goods at the factory, but the image was an impression that was obtained by the knowledge of someone about something.

3. CONCEPTUAL MODEL

The proposed model of e-WOM as university image framer analysis was developed based on literature review at sub-chapter 2. This research conceptual model has built to explore relationship between factors of e-WOM to achieve organizational (colleges/universities image). The conceptual model could be seen in figure 1.



Figure 1 Research Conceptual Model

The dimensions of the e-WOM measurement drawn primarily based on research [6], and [26]. The study consisted of 9 (nine) variables: (i). Platform assistance, (ii). Venting negative feelings, (iii). Concern for other consumers, (iv). Positive self enhancement, (v). Economic incentives, (vi). Helping the company, (vii). Advice seeking, (viii). E-WOM, and (ix). University image.

Derived from the conceptual model above there are some research hypothesis. The hypothesis was a temporary answer to the formulation of research problems. The research hypothesis were as follows:

H1: Assistance platform motivation significantly influences the electronic word of mouth.



- H2: Venting negative feeling motivation significantly influences the electronic word of mouth
- H3: Concern for others consumers motivation significantly influences the electronic word of mouth.
- H4: Positive self enhancement significantly influences the electronic word of mouth.
- H5: Social benefits motivation significantly influences the electronic word of mouth.
- H6: Economic incentives motivation significantly influences the electronic word of mouth
- H7: Helping the company motivation significantly influences on the electronic word of mouth
- H8: Advice seeking motivation significantly influences on the electronic word of mouth.
- H9: E-WOM motivation significant influences on improving the university's image.

4. RESEARCH METHOD

This research type was the study of causality, descriptive, and quantitative. This research was categorized as causality, which aimed to describe the relationship between variables whether there was correlation that was developed through the conceptual model. This research was a descriptive study, because it aimed to provide an explanation for the influence between variables in the model by testing the hypothesis. This study used a quantitative approach, which was done by measuring the phenomenon under study and exploring the data from the survey questionnaire and interviews. At this stage, research instruments used in the study were prepared. It consisted of a list of statements that were designed according to the indicators and sub-indicators of the variables in the conceptual model. The sampling technique used was convenience sampling, which was done by selecting a free sample [27].

Respondents in the study were the academic community within research object organization's website. Total amount of respondents were 100 participants. According to [28], the minimum threshold of respondents when using SEM is 5 times from the number of observation parameters or variables. In this research, there are 10 variables to be measured. So that a questionnaire would be distributed to at least 50 (fifty) of respondents within research object organization such as students, staff / academic staffs, and lecturers.

On validity and reliability testing of research instruments, all of the indicators of each

variable were declared valid because the value of r count $>$ r table that all values of r calculated indicators of each variable were greater than 0.3610. While instrument reliability test resulted reliable for all the variables except the variable of venting negative feelings (desire expressing dissatisfaction) due to the value of Cronbach Alpha $<$ 0.6. Therefore, Venting Negative Feelings (desire expressing dissatisfaction) has been excluded from the model.

Data from the questionnaire was processed using SEM (PLS) to test the hypothesis. Interpretation of the PLS output was made to explain the causal relationships between variables at once to answer the linkages between factors of e-WOM with image of university.

5. FINDINGS AND RESULT

Previously, venting negative feelings variable was not qualified due to reliability testing, so this variable was excluded from the model. In previous reliability test using SPSS 17.0 software, the results showed that the alpha value was 0.571 which was less than 0.6 or did not reach the required value. According to [29] Cronbach alpha value should be higher than 0.7. If the Cronbach's alpha values between 0.6 - 0.7, the level of consistency was still acceptable. Venting negative feelings variable was important, so that it was explored more deeply of this variable through interviews with some of the respondents or informants. After conducting interviews with several informants, the findings in this variable indicate that the disappointment, dissatisfaction and negative experiences indicators are not significant to the venting negative feelings variable. The research resulted for the variable of assistance platform (X_1), venting negative feeling (X_2), concern for other consumers (X_3), positive self-enhancement (X_4), economic incentives (X_5), helping the company (X_6), seeking advice (X_7), university e-WOM (Y), and image (image of university) (Z) can be seen in Table 1.

Table 1. Hypothesis Testing Result

Path Coefficient	Original Sample (O)	Sample Mean (M)	Standar Deviation (STDEV)	T Statistics (O/STDEV)	P Values
X1 -> Y	-0.135	-0.114	0.117	1.153	0.252
X3 -> Y	0.174	0.173	0.097	1.793	0.076
X4 -> Y	0.383	0.354	0.106	3.622	0.000
X5 -> Y	-0.118	-0.099	0.113	1.044	0.299
X6 -> Y	0.225	0.258	0.085	2.999	0.003
X7 -> Y	0.179	0.189	0.082	2.190	0.031
X8 -> Y	0.261	0.248	0.073	3.594	0.001
Y -> Z	0.535	0.538	0.071	7.590	0.000

Based on Table 1, it could be seen that the path coefficients only have 6 pathways that significantly influence because the value of the t statistic (shown in column t statistic) ≥ 1.986 the variable X4 or positive self-enhancement (desire to increase self-image), variable X6 or economic incentives (the desire for incentives from the company), variable X7 or helping the company (helping companies desire), variable X8 or advice seeking (desire to seek advice and recommendations from others), variable e-WOM (Y), and also by the level of the significance of the value of $p < 0.05$. As for the path variables X1 or platform assistance (one belief to the platforms used), X3 (concern for other consumers), namely the desire to help others, variable X5 or social benefits (the desire to share information and interact with the social environment) is not significant because t statistic value ≤ 1.986 and p value > 0.05 .

Goodness of Fit (GoF) value was used to measure the validity of the overall model. GoF value obtained from the average communalities index multiplied by R^2 [30]. Gof Value stretched on 0-1 with a value interpretation value is 0.1 (GoF small), 0.25 (GoF Moderate), and 0.36 (large GoF). GoF value is equal to 0.513, which means large GoF value index.

E-WOM was proved having significant effect on improving the university image. This study supports [7] which stated that there was significant influence from e-WOM to brand image. This research result illustrated that the image was perceived by the academic community knowledge about the institution. The image can be formed by the reputation and webometric ranking. The more frequent it provided information about the reputation of the object and the organization achievement, it would improve the image of the university. The expertise level of lecturer (competency) were contributed to improve the university image [31]. The contribution of

graduates to the image of the university, was related to the extent to which graduates could be accepted by the user community [32]. According to [33], one of the higher education image meter is rating and ranking as well according to [32] was one of the university image measuring. In a Webometric ranking, the more frequent presents information of scientific papers publication, files or documents in the format (ppt, doc, pdf, ps), publication in English, the website which can be accessed by Google, Yahoo, Live Search and Exaleadsearch engines, then the rank in Webometric will increase. The increasing amount of publication files content or volume in the ITS website (with the format of ppt, doc, pdf, ps), presented in English language, could be accessed with a search engine (google, yahoo) significantly contributed to the improvement of webometric ranking (<http://www.webometrics.info/en/Objetives>).

This study has a practical contribution to the university policy makers with the aim to improve their understanding of the factors that motivate a person to do electronic word of mouth via website and give an understanding of the importance of electronic word of mouth in improving the university image to increase Webometric ranking. Practical contribution in the form of advice to research object (ITS) for the webometric ranking improvement were as follow:

1. Platform assistance variable:
 - a. Renewing information presentment on the research object website which was up to date.
 - b. Improving the facilities / features which available on the research object website to be easy to use.
 - c. Increasing the amount of information on the research object website
 - d. Increasing the promotion activities through research object website



2. Venting Negative Feeling Variable:
 - a. Make policy to the changes in research object website display in terms of color so that people will be more motivated to access the research object website, so that the number of visitors is increasing.
 - b. Renewing the research object website features that provide ease of navigation for users.
 - c. Increasing the amount of up to date information on the research object website.
 - d. Renewing sub menu of research object website so that each sub menu has no error (empty)
3. Concern for Other Consumers Variable:
 - a. Improving the presentation of information about research object on their website.
 - b. Improving the presentation of information regarding research object quality on their website.
 - c. Suggesting the use of research object website to the academic community in the process of academic activities, publications and others.
 - d. Motivating the academic community to continue on using the research object website, in the process of academic activities, publications and others.
4. Positive Self Enhancement Variable:
 - a. Improving the performance of research object website to be more user friendly.
 - b. Increasing the amount of information about students achieving on research object website.
 - c. Increasing the amount of information about the research object excellences on their website.
 - d. Improving the presentation of clear information on research object website.
 - e. Improving the performance of the research object website by having a link to each work unit.
5. Social Benefit Variable:
 - a. Providing a discussion forum on the website.
 - b. Presenting the latest information on the website.
 - c. Renewing the website design to make it more comfortable to use.
6. Economic Incentive Variable:
 - a. Improving the presentation of information on the website about various things, so that users can economically experience the benefit without having a lot of money to come to the site.
7. Helping the Company Variable:
 - a. Creating a policy to encourage the publication of scientific works of faculty and students on the research object website.
 - b. Improving the performance of the website.
8. Advice Seeking Variable:
 - a. Improving and optimizing the role of the website to provide support to the academic community in the form of an adequate network connection.
 - b. Improving the admin communication in giving positive feedback to the user.
 - c. Providing facilities forum on research object website so that communication from user to admin or between users interwoven in better way.
9. Electronic Word of Mouth (e-WOM) Variable:
 - a. Strategies to improve the university image for webometric ranking:
 - Integrating the entire website in the Faculty / Department / Research in the website. In this case, the transformation of education, research and research center is needed. These three areas should be synergized to present information and publications through the performance of the website.
 - Fixing the website content with the up to date information.
 - Promoting scientific articles uploaded from lecturers and students at the website.
 - Making policies for researchers to upload the publication manuscript in Indonesian and English.
 - Uploading files in extension of pdf, doc, ppt, and ps as balanced.
 - Presenting a sub domain courses, alumni, digital repository, etc.
 - b. Strategies to enhance the image and reputation of the research object:
 - Increasing the promotion activities using electronic word of mouth through the website. Because the current online marketing system is highly effective

- because everyone can easily access the information through the internet.
- Marketing the achievements through the website.
- Increasing the amount of information about the quality of lecturers through the website.
- Increasing the amount of information about the quality of graduates through the website.
- Increasing the amount of information about student's current achievement through the website.
- Increasing the amount of information about the reputation of research object through any form of media.
- Presenting the information about accreditation of each department in the faculty.

6. DISCUSSION

After conducting an analysis from the findings, there was a final model of the motivational factors to do e-WOM for image enhancement of university to achieve Webometric ranking. Several factors that was built based on previous theories and experience studies were already explored with surveys and interviews. These surveys and interviews has confirmed that there was a relationship between motivation factors to do e-WOM towards the university image enhancement to increase Webometric ranking.

Positive self-enhancement motivation (the desire to improve themselves positively) significantly affected the electronic word of mouth. This study supports [6] idea, which found that the motivation of consumers involved in communication on the web for their potential to increase themselves positively based on their experiences.

Social benefit motivation (willingness to share information and interact with the social environment) did not significantly influence the electronic word of mouth. This study did not correspond to [6] research result and did not support [34] theory of Computer Mediated Communication (CMC) which was the term used for communication between people who interact via different computer. The CMC theory was not about how two or more machines might interact with each other, but how two or more people could communicate with each other. The social benefit motivation did not affect to e-WOM due to the lack of discussion forum has found on the research object website. It triggered no causal relationship

(feedback) between the academic community (users) and admins of the website (Litvin, et al., 2008). Someone of the academic community who desired to share information and interact with the social environment was not facilitated.

Economic incentive motivation (the desire for economic benefits/ incentives from the company/ institution) significantly affected the electronic word of mouth. This study supported [6] findings but contradicted with [26] which found the motivation of economic interests (economic incentives) did not significantly impact on the e-WOM behavior in China. This was caused by e-WOM did not give a lot of economic stimulus from sites in China.

Helping the company motivation (the desire to help the organization or institution) significantly affected the e-WOM. This study supported [26] to prove that helping the organization positively and significantly taken effects on the e-WOM. The willingness and support of the academic community to publish scientific papers on the research object website was a manifestation of the desire to help the organization/ institution (helping company). This factors were very favorable has been found at the research object. This situation would shortly without unwittingly would improve the university image on reputation and Webometric ranking.

Seeking advice motivation (the desire for advice) significantly affected the e-WOM. The study was not suitable with [6] that the advice-seeking was not proven to consumer motivation behind the decisions of consumer to directly involve on web communication. As well [26] research which stated that the advice-seeking motive did not have a significant impact to the e-WOM behavior in China.

Finally, this research concluded that Electronic Word of Mouth (e-WOM) had a significant effect on improving the university image. This study fully supported [7] which highlighted that there was significant influence from e-WOM to brand image. However consideration regarding local cultures, specific people behaviors, and religions might were interesting factors to be explored in the further research.



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