The Effects of Advertising on Facebook on Admission Interests in Higher Education

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Article Info

Abstract

This research was conducted to examine the effects of advertising on Facebook to increase admission interest in higher education, particularly Universitas Negeri Semarang. Using the experimental research method, the researchers posted two advertisements with different formats at different times on Facebook to measure the engagement score and its effects on student admission. Research results showed that each of the ads performed differently according to their formats. Image-based ad had a greater engagement score of 0.0065 compared to video-based ad which had only 0.0017. Both image-based and video-based ads attracted more female users than male users. The ads also showed a possitive effects on increasing visits to the registration site of Universitas Negeri Semarang (penerimaan.unnes.ac.id). There was no reliable evidence, however, that could show the direct effectiveness of advertising on Facebook to increase university admission. That said, further research is needed to fully answer this research question.

INTRODUCTION

Social media has a big role in personal, business, and institutional communication. This is due to the increasing use of social media in almost all circles of society. Hootsuite (2020) released in January 2019, revealed that social media users in Indonesia are approximately 160 millions or 59% of the total population. Information circulating on social media, therefore, plays a role in determining public behavior and decisions in various fields. In the economic field, Kyriakopoulou dan Kitsios (2017) demonstrated that social media has influenced customer behavior in purchasing products. As for politics, Dutta and Bhat (2017) stated that the ability of social media to deliver political messages and interactions with constituents is greater than traditional media. In education Facebook have a clear impact on interaction and the exchange of views, discussions, and experiences of the subject matter (Dhyab and Varol, 2018).

In higher education management, social media can be used to build a more intensive communication experience with the community and stakeholders. With social media, universities can increase popularity as well as reputation, and improve engagements with prospective students, current students, and public in general.

Bartosik-Purgat et al (2017) further stated that social media has an influence in improving the communication experience in learning between lecturers and students.

The extent to which social media can reach is an opportunity for university administrators to improve the reputation of their institution. According to Curran (2011), one in thirteen world citizens are active Facebook users. In higher education, the popularity of Facebook can be converted into gains in increasing popularity, reputation, and desirable decisions, such as enrolments or cooperation. However, there is no standard formula that can be referred to turn these opportunities into concrete advantages. The absence of a standard formula is caused by the variables that shape popularity, reputation, and expected actions that cannot be completely controlled. There are variables such as social and psychological which also have an important role.

Facebook offers a paid service in the form of Facebook Ads that university administrators can use to increase the involvement of university with the community. With Facebook Ads, university administrators may carry out campaigns broadly beyond their organic reach with more specific targets. Engagement is a basic character of Facebook as a social media, which according

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to Voorveld (2018) has the highest score on the dimensions of social interaction and topicality.

Constantinides and Stagno (2018) state that in managing social media for higher education, administrators need to understand the market structure and behavior of future students as a basis for developing an effective marketing strategy. Researchers of this study suggest that social media for higher education marketing requires a redesign and a change in the communication approach from one-way communication to customer-based engagement. While most higher education marketing departments are not familiar with this type of communication, university administrators will have to make serious efforts to restructure and acquire personnel with the right abilities.

Facebook and Instagram Ads can be used for a variety of purposes, such as business, political, social and academic purposes. In the higher education sector, paid services for Facebook and Instagram can be used to increase popularity, favorability, and electability. These three things are possible because Facebook can reach specific targets based on area, age, and interests so that users can select potential groups to be their advertisement targets. The study of Susilawati, Kencana, and Putri (2014) shows that there are seven factors that influence students' choice of tertiary institutions, namely activities related to the high school students and their graduation time, tuition fee, learning quality, study program, environmental factors, location and family factors, and facilities factors. The amount of cumulative contribution from these seven factors is 66,993%.

Hsu and Bailey (2017) state that the majority of Facebook users are active users as 71 percent of them check their account every day. They are active on Facebook with three main goals, which are building networks with the percentage of 6.20%, maintaining relationships and interactions with other people 72.50%, and updating news 21.30% (Hsu and Bailey 2017).

This article aims to examine the effects of advertisements on Facebook on the interest admission applicants of Universitas Negeri Semarang. To measure the effects, the researchers measured the ads engagement and influence the engagement on the increase of the university's popularity and admission interest.

University Admission

Admission to state universities in Indonesia is carried out through three routes, which are National Entrance Exam to State Universities (SNMPTN), Joint Entrance Exam to State Universities (SBMPTN), and Independent Entrance Exam to Universities (SM) (Regulation of the Minister of Education and Culture Number 6 of 2020). Entrance exam through the SNMPTN is carried out using the high school scores from the first to five semester. Entrance exam through SBMPTN is carried out through a computer-based written test (UTBK), whereas independent entrance exam is carried out based on the policies of each university.

In 2020, as many as 493,750 students took part in SNMPTN and 96,496 of them or 19.54 percent were declared accepted. There are 702,927 applicants for the SBMPTN route, much bigger than the SNMPTN as graduate students in 2020, 2019, and 2018 can participate in the exam. The results of the exam through SBMPTN were announced on August 14, 2020. The registration for the independent entrance exam is managed by each university (CNNIndonesia.com, 2020).

Although normatively all students in the last year of high school have the opportunity to enter public tertiary institutions, in practice not all students have the opportunity to enter through these three routes. In the regulations issued by the Ministry of Education and Culture, it is limited that only students with a good ranking can register for SNMPTN, namely 40 percent of students in schools accredited A, the best 25 percent in schools accredited B, the best 15 percent of students accredited C, and the best 5 percent of students in students in the school is not accredited.

Based on the provisions issued by the 2020 SNMPTN and SBMPTN organizers, students can choose two study programs both at the same or different universities. This leaves students with a very open choice of 141 public universities in the form of universities (83) and institutes (58).

With this process, there is a two-way selection in the process of admitting new students. First of all, students as prospective students make selections against various universities that are available to choose from. Second of all, higher education institutions will select students who register. It is in this first selection process that higher education administrators carry out various strategies so that prospective students choose the study programs they offer. The electability of a tertiary institition by prospective students is important because it validates the existence of the institutions' study programs and public recognition towards the institution.

According to Wibowo and Widodo (2013), there are nine factors that influence students' decision in choosing higher education institutions,

namely perceptions of teaching quality, perceptions of the career quality once they graduate, motivation to work after college, values of life, motivation to achieve goals, campus comfort that the university offers, university's public image, assistance in financing studies, and social status. Meanwhile, Puspitasari and Ranikha (2018) demonstrated the factors influencing university selection mainly include reference sources, institutional image, motivation, family, location, and tuition fee.

Based on a study conducted in Ontario, Canada by Drewes and Michael (2016), the location and availability of scholarships or funding are the two main factors affecting the choice of tertiary institutions. Nevertheless, it should be noted that students have the awareness not to choose universities that are considered not to accept them. Students tend to not apply to universities that will likely reject. Meanwhile, Johnston (2010) states that parents and friends are the most trusted reference sources in deciding universities to attend.

There are several studies on the effectiveness of social media in supporting conflicting university admission campaigns. Johnston (2010) reveals that the role of social media is less powerful than conventional media, while Constantinides (2012) demonstrates that social media is effective in showing the quality of campus facilities, social life, and sports facilities so that they can attract the attention of prospective students.

Facebook Advertisement

According to Siricharoen (2012), social media has been developed since the 1990s, with user profiles being the center of social networking site characteristics. With certain algorithms, it allows users to compile a list of "friends" and search for other users with the same interests. Social networking methods were developed in the 1990s, afterwhich many sites began to develop more powerful features for users to find and manage friends. SixDegree.om was the earliest generation, followed by Friendster and then Twitter, Facebook, and Instagram. Kietzmann (in Siricharoen, 2012) explains that social media introduces substantial and profound changes in communication among individuals, communities, and organizations.

Social media has radically changed people's communication behavior. According to Adewuyi and Adefemi (2016), social media offers unique opportunities for social engagement and unprecedented audience reach. In addition, they are cheap, cost-effective, and easy to use compared to conventional media. Zachos et al. (2018) state that the university community has a great interest in the use of social media. Its users operate on social media not only for entertainment purposes but also for assignments, making announcements, class scheduling negotiations, and doing exams. Students in Jordanian (Arouri, 2015) and Palestine (Shraim, 2014) perceived Facebook as an attractive, valuable and accepted learning resource.

Stephen-Davodowitz (2019) reveals that social media makes use of sophisticated algorithms that allow machines to carefully personalize user identities. This condition allows social media to be managed for marketing communication needs effectively because it has data about billions of users, including demographic data and their preferences.

Social media has also radically changed the way businesses owners advertise their products. The radical change that social media has brought is the availability of targeting options (Curran, 2016; Jooshi and Kalia 2017) that allow advertisements to reach the desired target. Targeting can make a significant difference to the amount of traffic that converts to the web or to sales figures. With this ability, Facebook ads can be used to increase likeness and attraction, thereby positively influencing people's behavior (Joshi and Kalia 2017). The success of advertising on Facebook is influenced by perceived interactivity, ad-avoidance behavior, and privacy (Yakoop, et al. 2012).

Statistically, the effectiveness of advertising on Facebook can be measured by looking at engagement or the level of public involvement. Meanwhile, according to Tikno (2016) the level of advertisement interactivity can be calculated by comparing the overall actions taken by targeted Facebook users with the number of views. This concept can be formulated as follows:

$$E = A/R$$

E = Engagement Rate
A = Action taken (Amount of People who liked, commented, shared, or clicked on the ad)
R = Reach (Amount of People who saw the ad)

RESEARCH METHOD

This research was conducted using a quantitative approach with experimental methods. The experimental method was carried out to extract data by posting two advertisements in video and image format at different times on

the official Facebook page of Universitas Negeri Semarang. Ad 1 in video format is displayed during the SNMPTN registration period and Ad 2 in image format is displayed during the SBMPTN registration period.

The performance of each ad is analyzed based on its level of importance and engagement score. The engagemnet is then linked to traffic of the admission page visit.unnes.ac.id. This is all to see the increase of admission interests to Universitas Negeri Semarang.

RESULTS

To test the effectiveness of Facebook advertising and its effect on the number of university applicants, researchers used two types of advertisements displayed on the official fan page of Universitas Negeri Semarang (https://www.facebook.com/universitasnegerisemarang). The post was carried out to coincide with the SNMPTN and SBMPTN 2020 registration period with two different types of advertisements. Ad 1 is an SNMPTN registration advertisment in

video format shown on February 20 to 27, 2020 (https://www.facebook.com/universitasnegerisemarang/videos/ 537845103527481/). Ad 2 is an SBMPTN registration advertisement in the form of a poster (image) displayed on 11 to 20 June 2020 (https://www.facebook.com/universitasnegerisemarang/ photos/a.10150180491407782/10160045044347782/?type=3&theater).

Both Ad 1 and Ad 2 used age-and-region-based targeting. In terms of age, the targeted users are aged 17 to 21 years with the distribution in Java, parts of Sumatra, and parts of Kalimantan. Age targeting is employed because the potential age for enrolling as a student is at that age. The area-based targeting is intended to optimize potential student candidates based on distance. In order to lead to registration, Ad 2 is connected to Universitas Negeri Semarang's admission site https://penerimaan.unnes.ac.id.

Based on the advertisement performance report provided by Facebook, the trend of Ad 1 from day to day is as follows:

Table 1. Quantitatively, the performance comparison of the Ad 1 and Ad 2.

No	Performance Aspect	Ad 1	Ad 2
1	Reach (R)	944.129	748.413
2	Post clicks	972	2.900
3	Like	574	1.900
4	Share	31	44
5	Comment	30	65
6	Response sentiments	Positive: in the form of follow-up questions in the form of registration methods, tuition fees, registration deadlines, hopes for passing the selection, and suggestions.	Positive: in the form of requests for information on tuition fees, questions about the location of the test, the maximum age of the applicant, the method of payment, and the hope of being accepted.
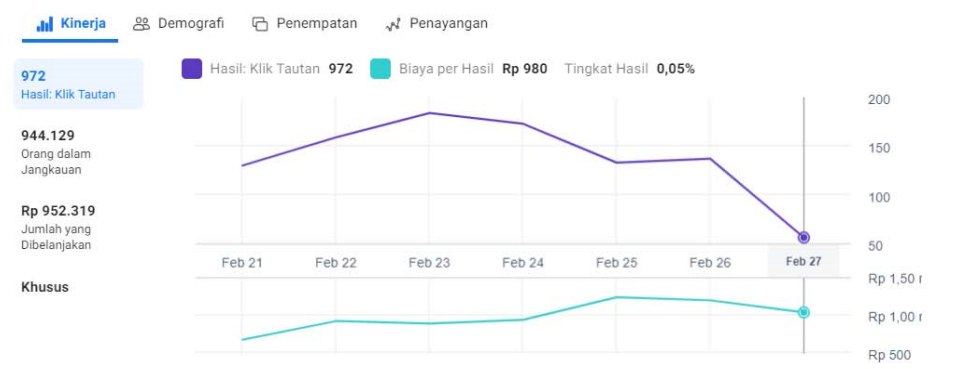
Figure 1. Ad 1's trend statistics on link clicks (source: Facebook)

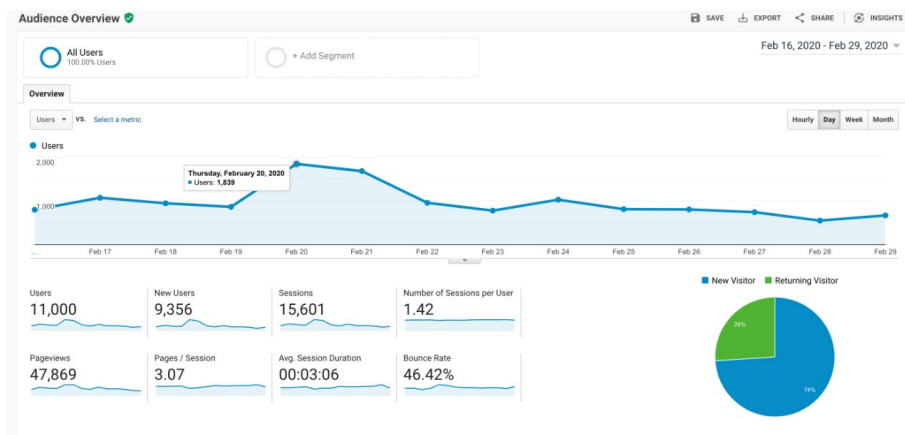**Figure 2**. Ad 2's trend statistics on link clicks (source: Facebook).

Figure 3. Statistics on the number of visitors on penerimaan.unnes.ac.id during Ad 1 publication (20 to 27 February 2020) (source: Google Analyctic).
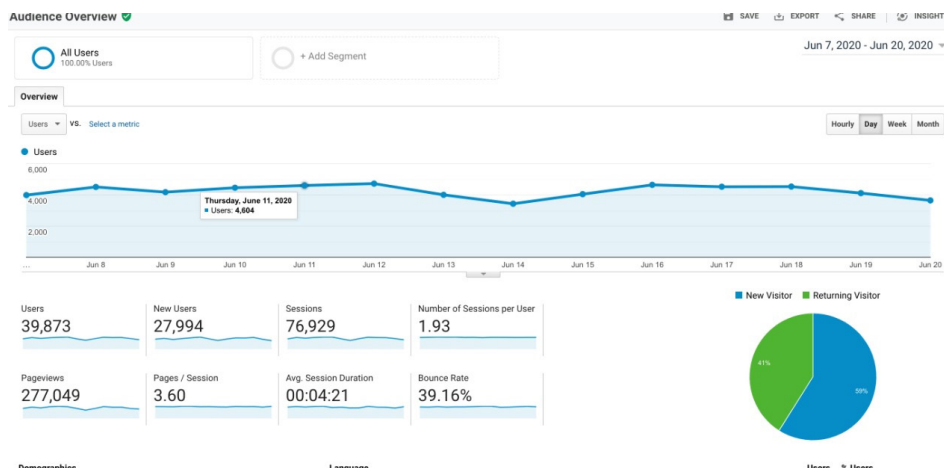

Figure 4. Statistics of the visits to penerimaan.unnes.ac.id during Ad 2's publication (11 to 20 June 2020) (source: Google Analyctic)..

Based on the performance of the two ads above, Ad 2 had a better engagement. The measurement of the engagement score by comparing total action and total reach (E = A / R) shows that E of Ad 1 is 0.0017. Meanwhile, the engagement score of Ad 2 is 0.0065.

Ad 1 had a significant impact on the increase in visits to penerimaan.unnes.ac.id. Based on the following Google Analytic report, there was an increase in the number of daily visits on the penerimaan.unnes.ac.id up to 1,837 visits on February 20, 2020. This performance persisted on the second day of advertising but continued to decline on the 3rd day of advertising. As for Ad

2, it does not have a significant impact on visits to the penerimaan.unnes.ac.id.

Meanwhile, the trend of ad publication to the number of visitors to penerimaan.unnes.ac.id is shown in the graph below. Even though there was no significant increase during the ad publication period, the advertisements had an influence on the increase in the number of visitors to penerimaan.unnes.ac.id.

Video versus Image

The media used in the advertisements above are different—video for Ad 1 and image for Ad 2. The engagement score of the two ads showed a significant discrepancy, namely 0.0017 for the video ad and 0.0065 for the image ad. This score shows a different result with the previous findings by other researchers that show video performance is better than image.

It is possible that the high E score on image-based ad is because images take less time and data to fully serve. Thus messages in the form of images can be received at one time. Meanwhile, the video in Ad 1 is one minute long, making people wait quite some time to play and release large internet data. The Facebook report that reveals the average video duration of Ad 1 was only 0.2 seconds. This is because the ad played only when the Facebook user scrolls the screen, but still counts as having reached the user in question.

This result is supported by a higher share rate for image-based advertising, which is 44 compared to the share for video-format ad that only reached 31. The difference in action on the share aspect can have a significant impact if the shared post leads to chained sharing actions.

Gender Preference

Both Ad 1 (video) and Ad 2 (image) attracted more women than men. The data shows that Ad 1 reached 477,440 or 51 percent of women and 466,688 or 49 percent of men. Conversion of link clicks on women was also greater as women went by 53 percent compared to men by 47 percent, as shown in the following graph.

For Ad 2, the gender preference for female users was greater. The engagement of the advertisement was 56 percent given by female users and 44 percent by male users, whereas the link click conversions were 58 percent by female users and 42 percent by male users.

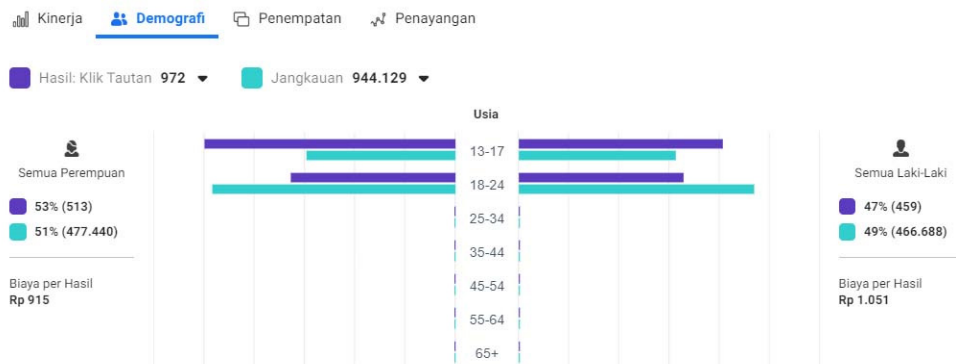The consistency of gender preferences

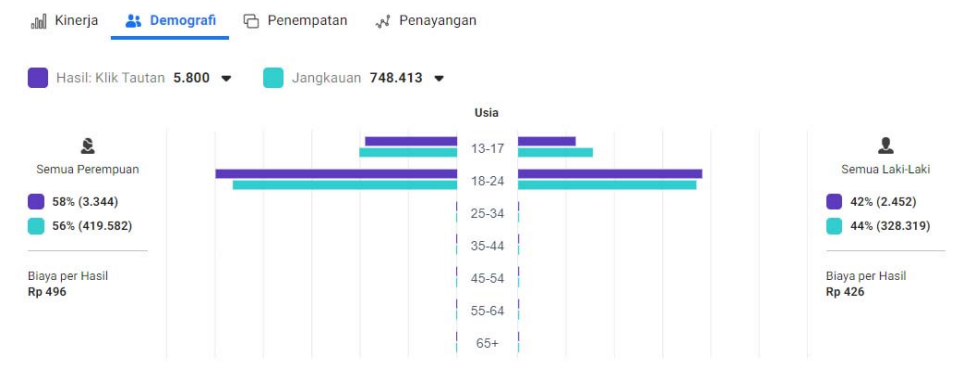
Figure 5. Ad 1's gender preference (video)

Figure 6. Ad 2's gender preference (image)

between the Ad 1 and Ad 2 is relevant to previous studies showing that women tend to click on ads on their mobile devices more often. This trend is consistent in both Android-based and iOS-based devices (Kristynak, 2014). The Kristynak (2014) report shows that the click-through rate (CTR) ratio between women and men is 10.23: 9.47 for Android users. As for iOS-based devices, the ratio was 7.14 for women and 6.49 for men.

The Effects on Admission Interest

Based on data from SNMPTN organizers, the number of applicants for SNMPTN 2020 at Universitas Negeri Semarang was 33,008. Of these 25,001 applicants made Universitas Negeri Semarang their first choice and 9204 applicants made it their second choice. As for the 2020 SBMPTN route, the total number of applicants was recorded at 37,847.

The decision of prospective students in determining their choice of university is a complex choice because it is influenced by various factors at once. Advertising on social media has an impact because it allows prospective students to know about the university and to have a positive impression, which then reinforce the choices that have been made. Social media advertisements are not the only source of reference in university selection decisions.

In addition, the prospective student's socioeconomic background has an influence on the choice of university. In general, Ilgan et al. (2018) revealed that the two most influential factors in determining university choice are the career expectations offered and the quality and popularity of tertiary institutions. However, prospective students from low socio-economic backgrounds tend to give low consideration to the quality or popularity of higher education.

Finally, this study may not have sufficient data to link ad performance on Facebook to the number of registrants. However, advertisements still have a role in the registration process because they could provide basic information such as registration schedules. Ad statistics also showed that Facebook users who tend to be impulsive are more likely to be suggested to click on the registration page. Thus, although it cannot be determined with a certain number, advertisements on Facebook have a positive influence on university admission.

CONCLUSION

Advertising on Facebook is one way that universities can use to promote their education programs to prospective students. Compared to advertising in conventional media, advertising on Facebook excels in optimizing specific targeting based on age, region, and interests. Experiments with two different ad formats have shown that image-based ads have a greater engagement score of 0.0065 compared to video-based ads which are only 0.0017. Both image and video ads attract more female Facebook users than men. This finding is in accordance with the findings of other studies according to which the click-through rate (CTR) in female users is higher. It is not yet known the direct effects of advertising on the number of applicants in tertiary institutions. Facebook advertising, however, has shown a positive effect in increasing registration site visits.

REFERENCES

A. Y. Yakoop, M. M. Anuar, K. Omar and A. Liaw, "Consumers' Perceptions and Attitudes towards Advertising on Facebook in Malaysia," in *World Business and Economics Research Conference*, Auckland New Zealand, 2012.

Arouri, YM. (2015). How Jordanian University Students Perceive the Opportunities and Challenges of Using Facebook as a Supplementary Learning Resource? *International Journal Emerging Technologies in Learning*. 10(1), 46-54

Adewuyi, Emmanuel Olorunleke dan Kazeem Adefemi. (2016). Behavior Change Communication Using Social Media: A Review. *The International Journal of Communication and Health* 2016, *9*(1), 109-116

Bartosik-Purgat, M., Filimon, N., Kiygi-Calli, M. (2017), Social Media and Higher Education – An International Perspective, Economics and Sociology, Vol. 10, No 1, pp. 181-191.

CNNIndonesia.com. 2020. 96.496 *Peserta Lolos SNMPTN 2020, Terbanyak dari Jawa Timur.* https://www.cnnindonesia.com/nasional/20200408114142-20-491551/96496-peserta-lolos-snmptn-2020-terbanyak-dari-jawa-timur. 4 Agustus 2020

Constantinides dan Stagno (2018). Higher Education Marketing: A Study on the Impact of Social Media on Study Selectionand *University Choice. International Journal of Technology and Education Marketing*, 2, 41 -58

Constantinides, Efthymios. (2012). *Higher Education Marketing: A Study on the Impact of Social Media on Study Selection and University Choice. Higher Education Marketing: A Study on the Impact of Social Media on Study Selection and University Choice*

Curran Kevin, Sarah Graham, Christopher Temple. (Advertising on Facebook. *International Journal of E-Business Development (IJED)*, 1(1), 26-33,

Drewes, Torben dan Christopher Michael. (2016) How Do Students Choose A University?: An Analysis of Applications to Universities in Ontario, Can-

ada. *Research in Higher Education.*

Dhyab Rozhgar an Asaf Varol. (2018). Distance Education Features using Facebook. *International Journal of Interactive Mobile Technologies (iJIM).* 12(6), 19-33

Dutta, Nirankush dan Anil K. Bhat. (2017). Use of Social Media for Political Engagement: A Literature Review. *Fourteenth AIMS International Conference on Management,* 517-523

Hootsuite. (2020). *Hootsuite (We are Social): Indonesian Digital Report 2020.* https://andi.link/hootsuite-we-are-social-indonesian-digital-report-2020/.

Hsu Margaretha dan April Bailey. (2017). *A Case Study of the Effectiveness of Facebook Advertising on College Students.* https://www.researchgate.net/publication/320307254. Diakses 23 Juli 2020

Ilgan, Abdurrahman, *et all.* (2018). Factors Affecting University Choice: A Study on University Freshman Students. *The Journal of Buca Faculty of Education*, *46*(1), 199-216

Johnston, Timothy C. (2010). Who And What Influences Choice Of University?Student And University Perceptions. *American Journal of Business Education , 3*(10), 15-23

Joshi, Abhishika dan Arvind Kalia. (2017). Conceptual Analysis of Effectiveness of Facebook Advertisements in India and Abroad. *Journal of Content, Community & Communication.* 6(3), 71-77

Kevin Curran, Sarah Graham, Christopher Temp. (2016). Advertising on Facebook. *International Journal of E-Business Development (IJED), 1*(2)*, 26-33*

Krystynak**,** John. (2014)**.** *How do gender and platform predict mobile advertising and mobile commerce behaviour.* https://blog.applovin.com/how-do-gender-and-platform-predict-mobile-advertising-and-mobile-commerce-behavior/. 10 Agustus 2020.

Kyriakopoulou, E. and F. Kitsios (2017). The influence of social media on consumers' behavior, Proceedings of 6th *International Symposium and 28th National Conference on Operational Research,* Thessaloniki, Greece, pp. 62-66

Peraturan Menteri Pendidikan dan Kebudayaan Nomor 6 Tahun 2020

Puspitasari, Anggraini dan Finisica Dwijayati Patrikha.

(2018). Analisis Faktor-Faktor Yang Mempengaruhi Keputusan Pemilihan Universitas Pada Siswa Kelas XII SMA Negeri 22 Surabaya. *Jurnal Pendidikan Ekonomi, Manajemen dan Keuangan*, *2*(1), 1-10

Shraim, Khitam Yousuf. (2014). Pedagogical Innovation within Facebook: A Case Study in Tertiary Education in Palestine. *International Journal Emerging Technologies in Learning, 9*(8), 25-31

Siricharoen, Waralak Vongdoiwang. (2012). Social Media, How does it Work for Business? *International Journal of Innovation, Management and Technology*, *3*(4), 476-479

Stephens-Davidowitz, Seth. (2019). *Everybody Lies: Big Data dan Apa yang Diungkapkan Internet tentang Siapa Kita Sesungguhnya.* Jakarta: Gramedia Pustaka Utama

Susilawati Made, I Putu Eka Nila Kencana, Ni Made Dwi Yana Putri. (2014). Faktor-Faktor yang Memengaruhi Keputusan Siswa SMA Melanjutkan Studi S1 di Universitas Udayana. *Konferensi Nasional Matematika XVII* – 2014. 443-350

Tikno. (2016). Measuring performance of facebook advertising based on media used: a case study on online shops in indonesia. 8th *International Conference on Advances in Information Technology, IAIT2016*, 19-22 December 2016, Macau, China

Timothy C. Johnston. (2010) Who And What Influences Choice Of University? Student And University Perceptions. n, Murray State University, USA. *American Journal of Business Education.* 3(10).

Voorveld, Hilde A. M. , Guda van Noort, Daniël G. Muntinga & Fred Bronner. (2018). *Engagement with Social Media and Social Media Advertising: The Differentiating Role of Platform Type.* https://www.tandfonline.com/doi/full/10.1080/00913367.2017.1405754. Diakses 23 Juli 2020

Wibowo, Alexander Joseph Ibnu dan Yohanes Eko Widodo . (2013). Identifikasi Penentu Intensi Studi ke Perguruan Tinggi: Studi Kasus terhadap Unversitas Swasta Katolik di Indonesia. *Jurnal Manajemen, 13*(1), 55-72

Zachos, Georgios, Efrosyni-Alkisti Paraskevopoulou-Kollia, dan Ioannis Anagnostopoulos. 2018. Social Media Use in Higher Education: A Review. *Education Science*, *8*(1), 194