Jurnal Teknologi Informasi dan Pendidikan
Volume 15, No. 2, September 2022
https://doi.org/10.24036/tip.v15i2

P.ISSN: 2086 – 4981
E.ISSN: 2620 – 6390
tip.ppj.unp.ac.id

Comparison of Facebook and Instagram to Assess the Efectiveness of Advertising Channels in Customer Acquisition

Husein Yusuf Al-aziz[1], Siti Monalisa[2]
[12]Program Studi Sistem Informasi, Fakultas Sains dan Teknologi, Universitas Islam Negeri Sultan Syarif Kasim Riau, Indonesia
**Corresponding Author: 11850311549@students.uin-suska.ac.id*

Article Information

Article history:

No. 677
Rec. January 10, 2023
Rev. January 18, 2023
Acc. February 1, 2023
Pub. February, 2023
Page. 64 – 72

Keywords:

- *engagement*
- *instagram*
- *facebook*
- *social media*
- *T test model*

ABSTRACT

The use of social media as a means of marketing is certainly familiar, this happens because of the very competitive market situation, changing trends and increasingly complex customer demands. Facebook and Instagram are platforms that excel in the field of advertising and also interaction between users. However, with the existence of two superior social media, evaluation is certainly needed to find out which social media has a better level of engagement. The purpose of this study is to find out which social media platform is superior in engagement rate. This study uses the T-test model to compare the level of involvement of the two social media, the first stage is to compare the averages of the two social media and continues by measuring the level of significance between social media. Based on the results of the study, the use of paid advertising on Facebook social media for 23 days has a better engagement rate compared to Instagram. So it can be concluded that the use of Facebook is more effective in terms of engagement compared to Instagram.

1. INTRODUCTION

The development of technology today causes everything to be done online, be it communication, teaching and learning, and business[1]. One of the uses of technology in business through social media[2]. Social media marketing is a social media activity that helps facilitate interactions, disseminate information, provide personalized purchase recommendations, and create word of mouth among customers about trending products and services[3]. Online product or service marketing activities, creating and introducing businesses at more affordable prices and also simple created from marketing activities on social media[4]. In addition, consumers on social media can be more proactive in communicating with sellers and buyers and potential buyers about the products they are

interested in[5]. Social media marketing improves customer engagement, creates brand awareness, enables more targeted new customer acquisition and improves product advertising[6].

Ads on social media are already widely used, these can be seen on popular social networks such as Twitter, Facebook, Instagram, and Pinterest[7]. The number of Facebook users in Indonesia reached 129.85 million users and Instagram reached 99.15 million users in early 2022[8], [9]. Facebook and Instagram are social media platforms that excel in the field of advertising and also have advantages in interacting with users of the application[10]. Social media will create connections between its users, the interaction that takes place can be in the form of exchanging information, news, complaining, greeting each other, and many other things[11]. Building a good relationship with consumers is the most effective form of marketing in establishing relationships with consumers[12]. Facebook and Instagram make it easy for app users to create ads on their platforms, with features like ad targeting and different types of ads that users can create[13]. The higher the engagement rate, the more profitable it benefits advertisers when accounting for cost, the number of viewers viewed, and the potential increase in deals they will have in the future[14]. The measure of market efficiency is determined by the market's ability to facilitate transactions, bring sellers and buyers together, and provide infrastructure[15]. One of the things that must be done to measure the performance of advertisements on social media is to calculate the level of engagement rate between social media, so that it is known which social media is more effective in obtaining an engagement rate. Independent test T test is a tool used to determine significant differences between the average of two independent samples[16].

Similar research has been conducted by Tikno[14], This study measures the performance of media use in Facebook advertising such as photos and videos. The results of this study show that Indonesia has a high engagement rate on ads with video types when compared to photo types. Furthermore, it was also carried out by Tetuko Aldimas Setyawan Eka Pradana, Retno Indah Rokhmawati, Yusi Tyroni Mursityo[17], The results of the study showed that all indicators have a good degree of significance and are acceptable. The variables of social media technology use, customer engagement initiatives, and relational information processes have a strong relationship. Customer relationship performance variables have a moderate relationship and customer relationship oriented variables have no relationship and finally research by İbrahim Kırcova, Yemeni Yılmaz, and Şirin Gizem Köse[18], The results of this study show that social media networks differ according to consumer brand engagement. In addition, consumer brand engagement differs by age, education level, and income level. Other results prove that consumer brand engagement differs by frequency of social media use and time spent using social media. In addition, social trading buying intentions differ according to social media networks.

2. RESEARCH METHOD

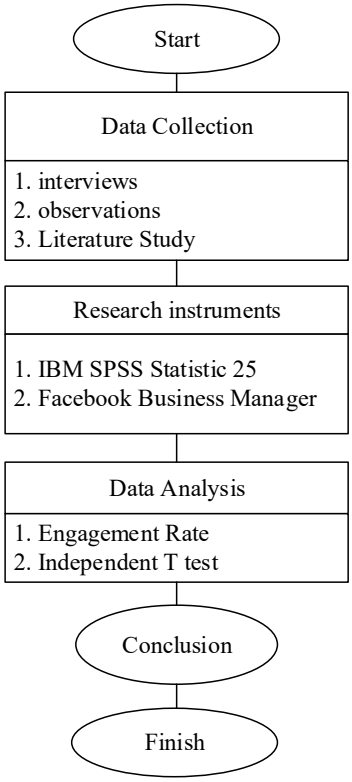


Figure 1. Research Method

2.1. Data Collection

In this study, the researcher had two data, namely primary data and secondary data, primary data is data that is directly taken from the original source, while the data is generated from interviews and observations while secondary data is obtained from books and journals related to research.

2.2. Research Instruments

The research instrument consists of IBM SPSS Statistics 25 and Facebook Business Manager. Facebook Business Manager is used to collect ad data shared by Rotte Bakery over 23 days on Facebook and Instagram. The data taken is the number of reach and interaction sourced from the two media to calculate the engagement rate value, SPSS is used to process engagement rate data using the Independent T test.

P.ISSN: 2086 – 4981
E.ISSN: 2620 – 6390
tip.ppj.unp.ac.id

2.3. Data Analysis

2.3.1. Engagement Rate

Engagement rate is a measurement of performance on a piece of content on social media platforms, especially on Instagram and Facebook which is also a standard metric in marketing on social media[19]. This engagement data consists of several collections of actions such as pressing the like button, leaving a comment, sharing an upload, or just pressing a link contained in an ad.

Engagement is a parameter to determine the effectiveness and efficiency of marketing activities, the formula used to measure the engagement rate of advertising is as follows:

$$E = A/R \quad (1)$$

Which:

E = Engagemet Rate

A=Action/ Interaction (Number of people who interact with ads such as likes, comments, shares)

R = Reach (Number of people who saw the ad).

2.3.2. Independent T test

The Independent T test is used to determine the significance of the treasury between the two ways the data are obtained. The use of independent T test is used in unbound research subjects [12].

In this study there are 2 hypotheses :

1. Hypothesis to determine whether there is a difference between the average of the two engagements that have been obtained.
2. Hypothesis to determine whether there is significance of the difference in average engagement that has been obtained from the two channels.

First hypothesis:

1. If $H\neg 0 = x1 - x2 = 0$

There was no difference in average engagement gains from both channels and H1 was rejected.

2. If $H1 = x1 - x2 \neq 0$

There was an average difference in engagement gains from both channels and H0 was rejected and continued with the next hypothesis to see the significance of engagement gains from both channels.

The use of the t table is one of the factors that become a reference for the results of the calculated test.

Second Hypothesis:

1. If t test > t table

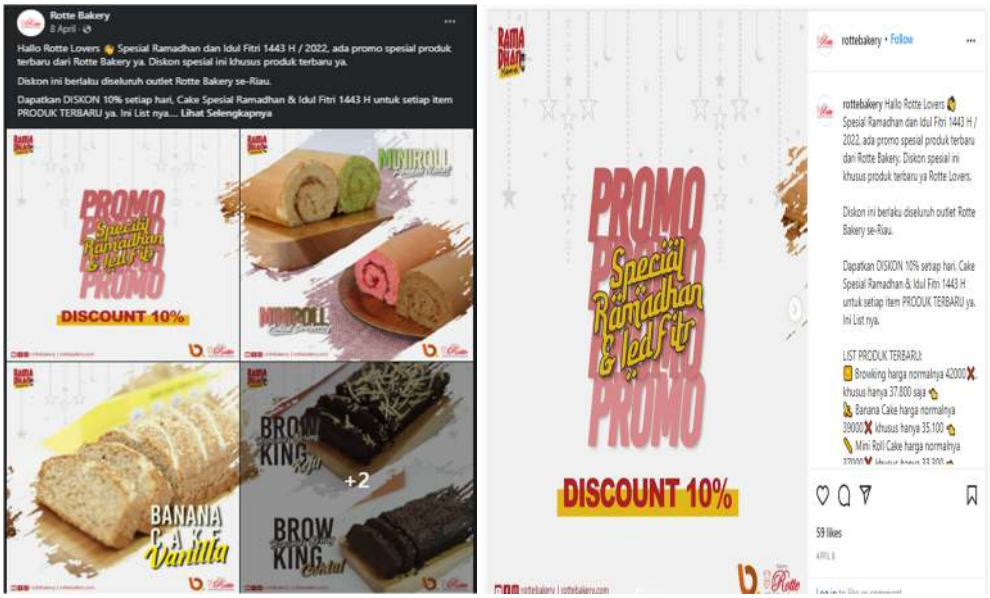
There are significant differences between the two channels.

2. If t test < t table

There are no significant differences between the two channels.

3. RESULTS AND DISCUSSION

The data used in this study is Rotte Bakery product advertising data on Facebook and Instagram channels starting from April 07, 2022 to April 29, 2022. Here is the display of ads that are spread on social media facebook and instagram.



(a) (b)

Figure 2. Display Ads (a) Facebook and (b) Instagram

After the ad is distributed for 23 days, the results will be obtained which will be described in table 1 and table 2.

Table 1. Facebook Ads Data

No	Date	Facebook		
		Reach	Action	Engagement
1	07/04/2022	1481	232	15.7
2	08/04/2022	7199	1042	14.5
3	09/04/2022	8667	764	8.8
4	10/04/2022	7995	584	7.3
5	11/04/2022	7432	564	7.6

P.ISSN: 2086 – 4981
E.ISSN: 2620 – 6390
tip.ppj.unp.ac.id

6	12/04/2022	8368	543	6.5
7	13/04/2022	7514	454	6.0
8	14/04/2022	7398	450	6.1
9	15/04/2022	7650	370	4.8
10	16/04/2022	7233	390	5.4
11	17/04/2022	6298	384	6.1
12	18/04/2022	6271	393	6.3
13	19/04/2022	7271	390	5.4
14	20/04/2022	5938	345	5.8
15	21/04/2022	5391	345	6.4
16	22/04/2022	5498	323	5.9
17	23/04/2022	5670	322	5.7
18	24/04/2022	6965	415	6.0
19	25/04/2022	6835	350	5.1
20	26/04/2022	6725	350	5.2
21	27/04/2022	6516	372	5.7
22	28/04/2022	8037	397	4.9
23	29/04/2022	1781	105	5.9

Table 2. Instagram Ads Data

No	Date	Instagram		
		Reach	Action	Engagement
1	07/04/2022	67	7	10.4
2	08/04/2022	327	26	8.0
3	09/04/2022	393	18	4.6
4	10/04/2022	363	17	4.7
5	11/04/2022	338	17	5.0
6	12/04/2022	380	7	1.8
7	13/04/2022	342	9	2.6
8	14/04/2022	336	13	3.9
9	15/04/2022	348	20	5.7
10	16/04/2022	329	8	2.4
11	17/04/2022	286	17	5.9
12	18/04/2022	285	16	5.6
13	19/04/2022	331	13	3.9
14	20/04/2022	270	8	3.0
15	21/04/2022	245	17	6.9
16	22/04/2022	250	19	7.6

17	23/04/2022	258	12	4.7
18	24/04/2022	317	13	4.1
19	25/04/2022	203	18	8.9
20	26/04/2022	313	14	4.5
21	27/04/2022	296	15	5.1
22	28/04/2022	365	19	5.2
23	29/04/2022	81	5	6.2

The table data above is data that has been processed by the engagement value. Furthermore, the comparison of the average engagement value using SPSS with the Independent T test method is carried out.

Table 3. Calculation of the average Independent T test

Media		N	Mean	Std. Deviation	Std. Error Mean
Result	Facebook	23	6.8304	2.76462	0.57646
	Instagram	23	5.2478	2.08956	0.43570

From this data, the average results of facebook channels (6.8304) and instagram channels (5.2478) were obtained. Based on the results of the average calculation, the first hypothesis is answered, namely H1 = x1 – x2 ≠ 0, there is a difference in engagement gains between the two and continued to the next hypothesis.

Table 4. Significance comparison calculation

	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Equal variances assumed	0.086	0.770	2.190	44	0.034	1.58261
Equal variances not assumed			2.190	40.951	0.034	1.58261

From the table above, it can be concluded that with a significance value of 0.770 > 0.05, it can be interpreted that the data variance between facebook and instagram channels is the same, so that the interpretation of the output table above is guided by the values contained in the 'Equal variances assumed' table. It is known that the value of t test is 2,190 when compared to the table t value of df 44 which is worth 1,680, the result of this comparison can be simplified to t test > t table as the basis for the decision in the independent t test test that H0 is rejected and H1 is accepted. With a value of 2,190 > 1,680, it can be concluded that Facebook ads are more effective in obtaining engagement rate values.

P.ISSN: 2086 – 4981
E.ISSN: 2620 – 6390
tip.ppj.unp.ac.id

4. CONCLUSION

From the results that have been obtained, there is a difference in the engagement rate of Facebook and Instagram, Facebook has an average of 6.8304 while Instagram has an average of 5.2478. Based on testing using the T-test model to justify the difference in engagement rate gain from advertising media, the results of the T-test model can be described, namely: there is significance of the engagement rate gain from the use of advertising media that has been used. And it can be concluded that Facebook is more effective in obtaining engagement rates.

The results of this study are limited to advertisements spread by Rotte Bakery and cannot be used as a reference by companies in other fields because they still have dependence on Rotte Bakery's social media algorithms. For further research, it is expected to use types of advertising media in the form of videos and add other social media as comparison material.

ACKNOWLEDGEMENTS

The researcher thanked the person in charge of Rotte Bakery for giving permission and direction in the research.

REFERENCES

[1] G. Farell, M. Giatman, M. Muskhir, and H. Effendi, "Development of E-Commerce Systems as a Learning Media for Entrepreneurial Education," *J. Teknol. Inf. dan Pendidik.*, vol. 14, no. 2, pp. 88–91, 2021, doi: 10.24036/tip.v14i1.389.

[2] A. Rachmawaty, "Optimasi Media Sosial Dalam Meningkatkan Penjualan di Masa Pembatasan Sosial Berskala Besar," *Temat. J. Teknol. Inf. Komun.*, vol. 8, no. 1, pp. 29–44, 2021, [Online]. Available: https://jurnal.plb.ac.id/index.php/tematik/article/view/535.

[3] C. D. Pranindya, B. M. Wibawa, and J. Gunawan, "Analisis Perilaku dan Loyalitas Pelanggan ZAP Clinic," *J. Sains dan Seni ITS*, vol. 8, no. 1, 2019, doi: 10.12962/j23373520.v8i1.41678.

[4] Y. Bilgin, "Business & management studies: an international journal," no. 1, pp. 128–148, 2018.

[5] C. H. Primasari, Y. P. Wibisono, and T. Q. Padawangi, "Social Media Marketing Sebagai Sarana Peningkatan Kualitas Pemasaran Komunitas UMKM Paroki St. Antonius Kotabaru Yogyakarta." 2020.

[6] N. Eriksson, A. Sjöberg, C. J. Rosenbröijer, and A. Fagerstrøm, "Consumer brand post engagement on Facebook and Instagram – A study of three interior design brands," *Proc. Int. Conf. Electron. Bus.*, vol. 2019–Decem, no. February 2020, pp. 116–124, 2019.

[7] D. Eka Santi, "Peran Online Advertising Pada Pemasaran Axis," *SOURCE J. Ilmu Komun.*, vol. 6, no. 1, p. 58, 2020, doi: 10.35308/source.v6i1.1768.

[8] S. Jumadal, "Pemanfaatan Facebook Live Sebagai Social Commerce Untuk Meningkatkan Penjualan .," pp. 315–327, 2022.

[9] N. Rauf, "Jumlah Pengguna Instagram Di Indonesia Pada 2022," 2022. https://www.tinewss.com/indonesia-news/pr-1853617991/jumlah-pengguna-instagram-di-indonesia-pada-2022 (accessed Nov. 01, 2022).

[10] H. A. M. Voorveld, G. van Noort, D. G. Muntinga, and F. Bronner, "Engagement with Social Media and Social Media Advertising: The Differentiating Role of Platform Type," *J. Advert.*, vol. 47, no. 1, pp. 38–54, 2018, doi: 10.1080/00913367.2017.1405754.
[11] A. K. P. Nasution, "Integrasi Media Sosial Dalam Pembelajaran Generasi Z," *J. Teknol. Inf. dan Pendidik.*, vol. 13, no. 1, pp. 80–86, 2020, doi: 10.24036/tip.v13i1.277.
[12] H. Semuel and K. Y. Setiawan, "PROMOSI MELALUI SOSIAL MEDIA , BRAND AWARENESS , PURCHASE," vol. 12, no. 1, pp. 47–52, 2018, doi: 10.9744/pemasaran.12.1.47.
[13] Facebook.com, "Create a Facebook Business," 2021. https://www.facebook.com/business/help (accessed Jul. 06, 2022).
[14] Tikno, "Measuring performance of facebook advertising based on media used: A case study on online shops in Indonesia," *Procedia Comput. Sci.*, vol. 111, pp. 105–112, 2017, doi: 10.1016/j.procs.2017.06.016.
[15] D. Novaliendry and N. D. Putri, "Design and Build a Photo Studio Marketplace in the City of Padang Using the Codeigniter Framework," *J. Teknol. Inf. dan Pendidik.*, vol. 14, no. 1, pp. 19–27, 2021, doi: 10.24036/tip.v14i1.401.
[16] R. Choudhary, "Application of 'independent t-test' by using SPSS for conducting physical education researches," *Phys. Educ. Sport. Heal.*, vol. 5, no. 1, pp. 237–241, 2018, [Online]. Available: www.kheljournal.com.
[17] T. Aldimas, S. Eka, R. I. Rokhmawati, and Y. T. Mursityo, "Analisis Kepuasan Pengguna Audience Insights Menggunakan Model Sosial Strategis CRM," *J. Pengemb. Teknol. Inf. dan Ilmu Komput. Univ. Brawijaya*, vol. 2, no. 11, pp. 5055–5062, 2018.
[18] İ. Kırcova, Y. Yaman, and Ş. G. Köse, "European Journal of Economics and Business Studies Instagram, Facebook or Twitter: Which Engages Best? A Comparative Study of Consumer Brand Engagement and Social Commerce Purchase Intention," *Eur. J. Econ. Bus. Stud.*, vol. 4, no. 1, pp. 268–278, 2018, doi: 10.26417/ejes.v4i1.p268-278.
[19] E. E. Y. Amriel and R. R. Ariescy, "ANALISA ENGAGEMENT RATE DI INSTAGRAM : FENOMENA LIKE DAN KOMENTAR," vol. 9, no. 2, pp. 1–10, 2021.

P.ISSN: 2086 – 4981
E.ISSN: 2620 – 6390
tip.ppj.unp.ac.id