

The Role of Information Communication and Technology in Supporting E-Marketing Strategy to Improve Marketing Performance Culinary SMEs

Indri Ferdiani Suarna ^{1,*} Henny Hendrayati ² Ratih Hurriyati ³

¹ Universitas Pendidikan Indonesia

² Universitas Pendidikan Indonesia

³ Universitas Pendidikan Indonesia

*Corresponding author. Email: indriferdiani@upi.edu

ABSTRACT

The purpose of this study is to determine and analyze the effect of information technology and communication on marketing performance through e-marketing strategies. The focus of this research is on the culinary SMEs sector after the COVID-19 pandemic. The research method used a quantitative approach by obtaining data through surveys by distributing questionnaires to 183 respondents of culinary SMEs business actors. In this study, the validity and reliability tests were conducted as well. Technical analysis of data employed Structural Equation Modeling - Partial Least Square (PLS-SEM) using Warp PLS 3.0 P software. Based on the Path Coefficient Value, the influence of information technology and communication on e-marketing strategy had a value > t table that was 5.117. The effect of information technology and communication on marketing performance had a value > t table that was 23,402. The effect of e-marketing strategy on marketing performance had a value > t table that was 4,067. With t table at a significant level of 5%, it can be concluded that H1 was accepted, in which information communication and technology had a positive and significant effect on the e-marketing strategy. H2 was accepted which means that information communication and technology had a positive and significant effect on marketing performance. H3 was accepted which means the e-marketing strategy had a positive and significant effect on marketing performance.

Keywords: Culinary SMEs, Information Communication and Technology, E-Marketing Strategy, Marketing Performance.

1. INTRODUCTION

The post-covid-19 pandemic has caused extreme changes in consumer behavior patterns. At this time the information, communication and technology industries are driving the digital economy faster. A major contribution to this progress is the internet, the results of a survey on the number of internet users according to the survey results of the Indonesian Internet Service Providers Association (APJII) for the 2019-quarter II/2020 period noted that the number of internet users in Indonesia reached 196.7 million. This number increased by 23.5 million or 8.9% compared to 2018. The largest number of internet users comes from the province of West Java, which is 35.1 million people [1]. Online productivity is increasing with the internet, including the increase in online shopping and food delivery orders, both through e-commerce platforms and food delivery

service applications. During the Covid-19 pandemic, the number of online shop transactions increased by 400 percent and is predicted to continue in the new normal. The marketplace platform will face competition from large retailers to minimarkets who also open online services to delivery [2].

Based on data from the Ministry of Cooperatives and Small and Medium Enterprises (KEMENKOPUKM) in March 2021, the number of SMEs reached 64.2 million with a contribution to Gross Domestic Product of 61.07 percent or Rp. 8,573.89 trillion [3]. SMEs in Indonesia are required to go digital since digital transformation opens up opportunities for MSMEs to grow more rapidly, and even become part of global supply chains. These businesses have utilized the use of Information and Communication Technology (ICT) in their daily activities, and businesses that can innovate and adapt

quickly in the face of the Covid-19 pandemic situation by shifting their business activities from offline to online [4]. Based on [5] research adapted from [6] measuring e-commerce adoption in SMEs is information on the level of available products and services, transactions that allow for helping online transactions, level of interaction and customization that activates online interaction between customers and companies, and tailor products to users, enterprise connections with suppliers enable electronic relationships to integrate suppliers in procurement, fulfillment, logistics and data sharing.

E-Marketing is part of a customer-oriented e-business. During the Covid-19 pandemic, SME actors used e-marketing a lot through social media. According [7] state that e-marketing is a company's effort to inform, communicate and promote and market its products and services through the internet. Efforts to sustain SMEs by using electronic marketing (e-marketing) in accordance with procedures have had a positive impact amid the Covid-19 pandemic [8].

In the research conducted by [9], marketing performance is a construct that can be used to measure the impact of corporate strategy because marketing performance is a measure of the company's achievement of marketed products [10]; [11]; [12]; Wrenn, 1997). According to Narver and Slater (1990), marketing performance measurement can be done based on the success of new products, sales growth, and annual profit or net income.

The large potential of the digital market in Indonesia is still not fully utilized by national micro, small and medium enterprises. Based on data from Bank Indonesia (BI), out of the 64.2 million SMEs in Indonesia, only 13 percent of them have entered the digital market. Most SMEs actors also experience barriers to entering the digital market due to a lack of knowledge to run an online business, technological unpreparedness, and limited infrastructure [13]. This research is expected to contribute in many ways. First, this study identified various characteristics of business actors based on gender, age, education, and length of business. These two studies are intended to analyze the effect of information technology and communication on marketing performance through e-marketing strategies. Finally, this study aims to demonstrate strategies for improving marketing performance through marketing strategies

2. METHODS

This study used quantitative methods to test and prove the hypotheses that have been made through various tests and data processing. This is stated by [14], quantitative research methods are related to methods for collecting data, sample design, and construction of data collection instruments. The research hypothesis was tested using a Structural Equation Model (SEM)

approach based on Partial Least Square (PLS). PLS is a component or variant-based structural equation model (SEM). Structural Equation Model (SEM) is a field of statistical study that can test a series of relationships that are relatively difficult to measure simultaneously. According to [15] stated that PLS is an alternative approach that shifts from a covariance-based SEM approach to a variance-based approach. Covariance-based SEM generally tests causality or theory, while PLS is more of a predictive model. However, the difference between covariance-based SEM and component-based PLS is in the use of structural equation models to test theories or develop theories for prediction purposes. The sample used was 183 respondents. According to [16] stated that to get a measurement that is considered good, the number of participants is 100–200. The variables in this study are information communication and technology (X1), e-marketing strategy (Y), and marketing performance (Z). The research model is portrayed show by Figure 1 as follows:

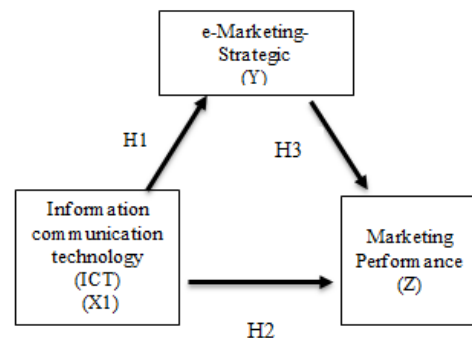


Figure 1. Research Framework

H1 ICT has a positive and significant effect on e-marketing

H2 ICT has a positive and significant effect on marketing performance

H3E-marketing strategy has positive and significant on marketing performance

3. RESULTS AND DISCUSSION

3.1. Characteristics of The Respondents by Gender

The respondents of this study were SMEs from the culinary cluster in the Bandung area. The number of 183 SMEs. Characteristics of the respondents by gender show by Figure 2 as a follow:

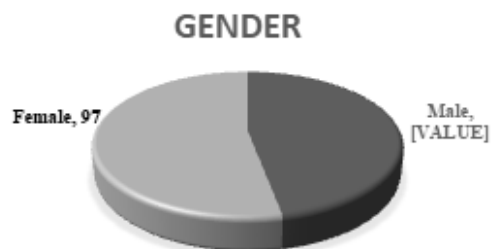


Figure 2. Gender

Based on Figure 2, it can be seen that from a total of 183 respondents, the number of female respondents was 97 people or 53% and the rest 47% or 86 respondents were male. Thus, it can be concluded that more women do business in the culinary field. This is in line with the research of [17] that women made up the majority of respondents who were business owners compared to men. As well as data from Bank Indonesia in 2018 that the number of female SMEs actors in Indonesia reached 37 million or more than 60 percent. Women tend to have very flexible hours and have good job opportunities compared to men, so they are significantly more likely to choose and own micro-enterprises.

3.2 Characteristics of The Respondents by Age (Generation)

Characteristics of the respondents by age show by Figure 3 as a follow:

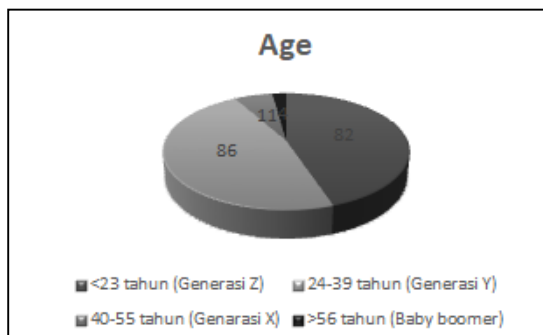


Figure 3. Age

Based on figure 3, it can be seen that from a total of 183 respondents, the highest number of respondents were aged 24-39 years with a total of 86 or 47%. and the lowest is respondents aged >51 years with a total of 4 people or 2.2%. It can be concluded that respondents of culinary SMEs entrepreneurs aged 24-39 years, which is according to BPS belong to the millennial generation that is dependent on technology, open to change, ambitious with limited interpersonal skills, and prone to stress and depression. This is in line with previous research that almost 80% of the creative industry in Bengkulu city is developed by the millennial generation.

3.3 Characteristics of The Respondents by Operating Time

Characteristics of the respondents by operating time show by Figure 4 as a follow:

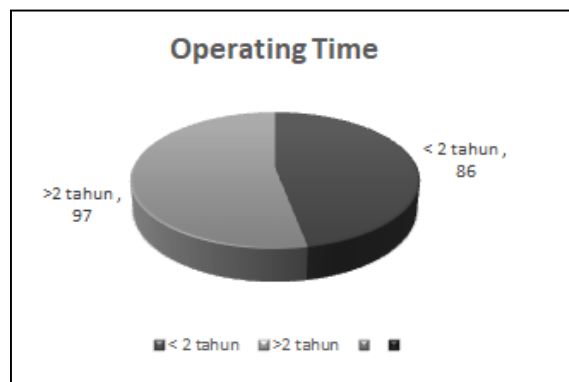


Figure 4. Operating Time

Figure 4 shows that the respondents in this study with the longest time of business > 2 years with a total of 97 or 53% and the least was < 2 years with a total of 86 or 47%. It can be concluded that the duration of the culinary SMEs business is more than 2 years and already have a fairly good competitive strategy and experience in adapting to the trade, technology, and economic climate when threatened by the COVID-19 pandemic. The results of this test are in line with the theory about the longer a person is in his work, the more experienced, mature, and more proficient he will be in the work he is responsible for. The theoretical length of business shows a positive effect on increasing income. The basic assumption used is that the longer a person's effort, the more productive a person's work will be and produce satisfactory work productivity because the length of effort and the level of knowledge allow a person to be more productive compared to relatively less time of running a business [18].

3.4 Characteristics of The Respondents Based on Their Education

Characteristics of the respondents based on their education show by Figure 3 as a follow:

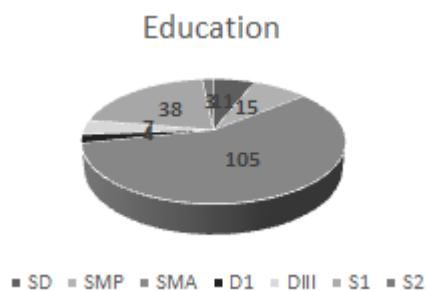


Figure 5. Education

Figure 5 shows that most of the respondents in this study were high school/ vocational high school (SMA/SMK) graduates, with the highest number being 105 people or 57.4%, and the lowest were respondents with Master's degree education with a total of 3 or 1.6%. It can be concluded that the majority of culinary SMEs business actors are dominated by high school or vocational education with the ability to work in teams regardless of position and task. IT skills in counting and writing that are owned when high school is one of the potentials they have. This is in line with the opinion Komisi XI, that the education level of SMEs actors is on average elementary to high school graduates.

3.5 SEM-PLS Analysis

According to [19], the outer model rating is used to assess the relationship between each indicator and the latent variable construct.

1. Convergent Validity

According to [19], an indicator is considered valid if it has a load value > 0.70 , but in some cases, especially with newly developed questionnaires, the load requirements above 0.70 are not met. While indicators with a load below 0.70 should be considered, indicators with a load below 0.40 should be removed from the model. While the AVE limit is 0.50 and the composite reliability is 0.70.

3.5.1 Value of the Load Factor in the Initial Path Model

Loading factor value in the final model show by Figure 6 as a follow:

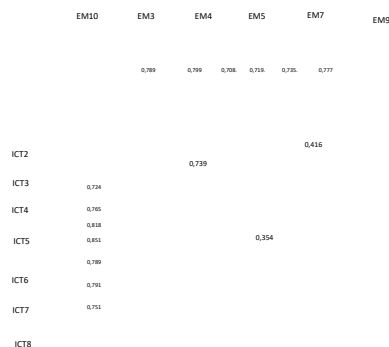


Figure 6 Loading factor value in the final model

Based on the results of the Loading factor value in Figure 6, in the calculation model of the SEM PLS initial path model, there are still indicators with a load factor value below 0.40, namely EM1, EM2, EM6, EM8, ICT1. These indicators need to be trimmed and recalculated. The dropping measure was taken because the five indicators were not strong enough to describe the latent variable construct.

2. Validity and Reliability

a. Calculation of The Mean-Variance Extracted (AVE) Value

The AVE limit value is > 0.50 . The final result of the AVE value means that all variables in the SEM-PLS model are considered valid, which can be seen in the Table 1:

Table 1 Average Variance Extracted (AVE)

	Average Variance Extracted (AVE)
EM	0,524
ICT	0,597
MP	0,787

Based on the results of the Average Variance Extracted (AVE) test in Table 1, the final test results of the convergent validity of the SEM-PLS model show that 18 indicators have a load value between 0.40-0.70 and all variables have an AVE value > 0.50 . From this result, it can be concluded that the research results are valid for all variables. When calculating the Average Variance Extracted (AVE) value, the size of the variance or diversity of Manifest variables is described in the latent construct [20].

b. Calculation of the Cronbach Alpha Value and the Composite Reliability

The results of the computation of Cronbach's alpha and composite reliability values for all variables have Cronbach's alpha and composite reliability values > 0.70 . From this, it can be concluded that all variables used are reliable, which can be seen in the following Table 2.

Table 2 Cronbach's Alpha and Composite Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
EM	0,816	0,818	0,868	0,524
ICT	0,886	0,894	0,912	0,597
MP	0,932	0,933	0,949	0,787

Based on the results of Cronbach's Alpha and Composite Reliability in Table 2, all variables have Cronbach's alpha and composite reliability values above 0.70, from which it can be concluded that all variables used are reliable. According to [20], a variable is considered reliable if it has Cronbach's alpha and composite reliability > 0.70 .

3. Discriminatory Validity

The calculation of the Fornell-Larker criterion and the transverse load value is shown in the following Table 3.

Table 3 Forwell-Lacker Criterion

	EM	ICT	MP
EM	0,724		
ICT	0,739	0,773	
MP	0,678	0,661	0,887

Based on the results of Forwell-Lacker creation in Table 3, the calculation results show that the value of each variable for the variables e-marketing strategy, ICT, and marketing performance is 0.724, 0.773, and 0.887. According [19], discriminant validity aims at the extent to which the indicator reflects the latent variable.

Value cross loading show by Table 4 as a follow :

Table 4 Value Cross Loading

	EM	ICT	MP
EM10	0,789	0,551	0,512
EM3	0,599	0,525	0,451
EM4	0,708	0,578	0,426
EM5	0,719	0,442	0,489
EM7	0,735	0,569	0,579
EM9	0,777	0,524	0,465
ICT2	0,483	0,624	0,326
ICT3	0,543	0,765	0,444
ICT4	0,581	0,818	0,482
ICT5	0,600	0,851	0,529
ICT6	0,616	0,789	0,591
ICT7	0,607	0,791	0,620
ICT8	0,550	0,751	0,527
MP1	0,630	0,606	0,850
MP2	0,639	0,582	0,880
MP3	0,576	0,554	0,887
MP4	0,588	0,599	0,916
MP5	0,567	0,588	0,902

Based on the results shown in Table 4, the calculation results show that the load value of each indicator of the latent variable is larger than the load value of the other variable. Then, it can be concluded that the discriminant validity is good.

3.5.2 PLS (Inner Model) SEM Analysis

1. R² (R-squared)

According to [19], the value of R² (R-squared) is described by the measurements of the model predictions. The dependent variable in this study is the marketing performance of SMEs. Then the value of R² in this study can be seen in Table 5.

Table 5 Value R-square

R Square	R Square	R Square Adjusted
EM	0,546	0,543
MP	0,516	0,511

Based on the results of the R-square value in Table 5, the value of R² (R-squared) for the e-marketing adoption

variable is 0.546, which explains the e-marketing strategy latent variable of 55%. While the other 45% is explained by other variables outside of the research model. The value of R² (R-squared) for the latent variable of marketing performance is 0.516, so it can be interpreted that the latent variable of e-marketing strategy can explain the latent variable of marketing performance by 52%. While the other 48% are explained by other variables outside of the research model.

2. Path Coefficient

According to [20], the path coefficient is useful in understanding the importance of the relationship between latent variables. A path has a significant effect if it has a T-statistic value > T-table with a T-table value of 1.96 (at 5% significance level) and p-values < 0.05. The initial sample value describes the positive or negative relationship between the latent variables. Table 6 show path coefficient value as a follow:

Table 6 Path Coefficient Value

Path of influence	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
EM->MP	0.416	0.426	0.081	5.117	0.000
ICT->EM	0.739	0.744	0.032	23.402	0.000
ICT->MP	0.354	0.345	0.087	4.067	0.000

Based on table 6 is the results of the hypothesis test by the path coefficient show that ICT has a positive and significant effect on e-marketing strategy, then H1 is accepted, meaning that the higher the use of ICT in culinary SMEs, the higher the ability to apply e-marketing strategies. In accordance with the research results of [20] that information communication and technology were positively and significantly related to competitiveness, size, and age of the company or company, not the effects of competitiveness in the use of information communication and technology. Sari et al. showed that the CEO motivation, competition, perceived usefulness, self-efficacy had a positive and significant influence on internet use in SMEs, while the perception of user-friendliness and computer/ internet fear variable did not influence internet use in SMEs. Internet use had a positive and significant effect on improving the performance of SMEs.

ICT has a positive and significant effect on marketing performance, then H2 is accepted, meaning that the higher the use of ICT in culinary SMEs, the higher the marketing performance in culinary SMEs. According to the research by [21] e-marketing is a marketing activity that supports information communication and technology such as information exchange, customer support, customer relationship management, market research, and

strategic planning, resulting in higher financial and operational performance. [22] pointed out that information communication and technology is a valuable mechanism based on a range of software, peripherals, hardware, and mobile technologies that offer diverse opportunities for businesses for the implementation of e-marketing activities.

The e-marketing strategy has a positive and significant effect on marketing performance, H3 is accepted, meaning that the better the use of e-marketing, the higher the marketing performance of culinary SMEs. The results showed a contradiction in the relationship between e-marketing and marketing performance [23]. [23] and [24] found a strong positive relationship between e-marketing and marketing performance. It is necessary to understand the impact of e-marketing on customer and business market behavior. As a result, most business companies have started to develop their e-marketing strategies and tactics for the Web. This in turn will increase the competence and effectiveness of the usual standard marketing functions, so that SMEs have the potential to add customer value and/or increase company profitability.

3. 3. Indirect Effect Value

Hypothesis tests were also performed to determine the size of the indirect effect. The results are shown in the following Table 7.

Table 7 Indirect effect Value

	Specific Indirect Effects
ICT -> EMM -> MP	0,308

Based on the result, the indirect effect value is 0,308.

4. 4. Model Fit

Model Fit show by Table 8 as a follow:

Table 8 Model FIT

	Saturated Model	Estimated Model
SRMR	0,079	0,079
d_ ULS	1,061	1,061
d_ G	0,933	0,933
Chi-Square	730,849	730,849
NFI	0,714	0,714

Based on the results of the model Fit Overall test in Table 8, it can be seen that the model is good and meets the cut-off value, so the model can be said to be "fit" and suitable for use, and the interpretation can be made for further discussion with an NFI value of 0.714, which means that 71% of this research model is good.

4. CONCLUSIONS

Information and communication technology had a positive effect on the marketing performance of SMEs.

The e-marketing strategy could mediate the influence of ICT on the marketing performance of SMEs.

This study has several limitations. First, the research sample only covers small and medium-sized enterprises in one area, so the results cannot be generalized. Second, this study examines the type of culinary business only. Therefore, further research needs to expand the sample coverage and assess other types of businesses. The results of this study indicated that SMEs need to develop marketing strategies, including paying attention to the development of ICT with an emphasis on the marketing mix, namely products, people, places, marketing, promotions, processes, physical evidence. and coordination between functions as well as the development or innovation of new products. The development of the right e-marketing strategy can improve marketing performance.

REFERENCES

- [1] Databoks, "Jumlah Pengguna Internet di Indonesia Capai 196,7 Juta," *databoks.katadata*, 2021. [Online]. Available: databoks.katadata.co.id/datapublish/2020/11/11/jumlah-pengguna-internet-di-indonesia-capai-1967-juta. [Accessed: 29-Dec-2021].
- [2] G. Grehenson, "Transaksi Penjualan Online Naik 400 Persen di Masa Pandemi Covid-19," *Universitas Gajah Mada*, 2020. [Online]. Available: <https://www.ugm.ac.id/id/berita/19452-transaksi-penjualan-online-naik-400-persen-di-masa-pandemi-covid-19>.
- [3] Kemenkeu, "Pemerintah Terus Perkuat UMKM Melalui Berbagai Bentuk Bantuan," *kemenkeu.go.id*, 2021. [Online]. Available: <https://www.kemenkeu.go.id/publikasi/berita/pemerintah-terus-perkuat-umkm-melalui-berbagai-bentuk-bantuan>.
- [4] S. Aisyah, "Dampak Pandemi COVID-19 Bagi UMKM Serta Strategi E-Marketing UMKM di Indonesia," *Universitas Islam Negeri Sumatera Utara*, 2020.
- [5] S. Hsu, "Effects of Competitive Strategy , Knowledge Management and E-Business Adoption on Performance," *J. Hum. Resour. Adult Learn.*, vol. 8, no. December, pp. 42–50, 2012.
- [6] K. Zhu and K. L. Kraemer, "e-commerce metrics for net-enhanced organizations: Assessing the value of e-commerce to firm performance in the manufacturing sector," *Inf. Syst. Res.*, vol. 13, no. 3, pp. 275–295, 2002.
- [7] P. Kotler and G. Armstrong, *Principles of Marketing*, 7th Europe. New Jersey: Pearson Publishing, 2012.

- [8] H. Awali, "Urgensi Pemanfaatan E-Marketing Pada Keberlangsungan Umkm Di Kota Pekalongan Di Tengah Dampak Covid-19," *Balanc. J. Ekon. dan Bisnis Islam*, vol. 2, no. 1, pp. 1–14, 2020.
- [9] A. Puspaningrum, "Market Orientation, Competitive Advantage and Marketing Performance of Small Medium Enterprises (SMEs)," *J. Econ. Business, Account. Ventur.*, vol. 23, no. 1, p. 19, 2020.
- [10] A. Ferdinand, *Manajemen Pemasaran: Sebuah Pendekatan Strategi Research Paper*, Series No. Semarang: Badan Penerbit Undip, 2005.
- [11] R. Handayani and R. D. Handoyo, "With innovation, is the prospect performance of large-medium enterprises expected better?," *J. Econ. Business, Account. Ventur.*, vol. 22, no. 3, pp. 411–423, 2020.
- [12] A. A. Nasution, "Analisis Kinerja Pemasaran PT. Alfa SCORPH Medan," *J. Ris. Akunt. dan Bisnis*, vol. 14, no. 1, pp. 1–14, 2014.
- [13] R. R. Ramli, "Dari 64,2 Juta UMKM di Indonesia, Baru 13 Persen yang Telah Lakukan Digitalisasi," *Kompas.com*, 2021. [Online]. Available: <https://money.kompas.com/read/2021/04/19/173000326/dari-64-2-juta-umkm-di-indonesia-baru-13-persen-yang-telah-lakukan>.
- [14] Schiffman and L. Kanuk, *Costumer Behavior*, Internasio. Prentice Hall, 2000.
- [15] H. Latan and I. Ghozali, *Partial Least Squares Konsep, Teknik dan. Aplikasi Menggunakan Program Smart PLS 2.0 M3*. Semarang: Badan Penerbit Universitas Diponegoro, 2012.
- [16] J. Hair, W. Black, B. Babin, R. Anderson, and R. Tatham, *Multivariate Data Analysis*, 6th ed. New Jersey: Pearson Prentice Hall, 2006.
- [17] D. Chaerani, M. N. Talytha, T. Perdana, E. Rusyaman, and N. Gusriani, "Pemetaan Usaha Mikro Kecil Menengah (Umkm) Pada Masa Pandemi Covid-19 Menggunakan Analisis Media Sosial Dalam Upaya Peningkatan Pendapatan," *Dharmakarya*, vol. 9, no. 4, p. 275, 2020.
- [18] Moenir, *Manajemen Pelayanan Umum di Indonesia*. Bandung: PT. Bumi Aksara, 2008.
- [19] J. Hair, T. Hult, C. Ringle, and M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks, CA: Sage Publications, Inc, 2014.
- [20] S. Yamin and H. Kurniawan, *Generasi Baru Mengolah Data Penelitian dengan Partial Least Square Path Modeling : Aplikasi dengan Software XLSTAT, SmartPLS, dan Visual PLS*. Jakarta: Salemba Infotek, 2011.
- [21] M. Brady, M. R. Fellenz, and R. Brookes, "Researching the role of information and communications technology (ICT) in contemporary marketing practices," *J. Bus. Ind. Mark.*, vol. 21, no. 1, pp. 2–21, 2008.
- [22] R. . Brodie, N. . Coviello, and H. Winklhofer, "Contemporary Marketing Practices Research Program: A Review Of The First Decade," *J. Bus. Ind. Mark.*, vol. 23, no. 2, pp. 84–94, 2008.
- [23] R. H. Tsiotsou and M. Vlachopoulou, "Understanding the effects of market orientation and e-marketing on service performance," *Mark. Intell. Plan.*, vol. 29, no. 2, pp. 141–155, 2011.
- [24] J. O. Brown, A. J. Broderick, and N. Lee, "Online Communities : Conceptualizing the Online Social Network," *J. Interact. Mark.*, vol. 21, no. 3, pp. 2–20, 2007.