The Role of Digital Marketing in Encouraging Foreign Direct Investment, Economic Growth and Domestic Consumption in Indonesia

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Abstract

This study investigates internet users, FDI, consumption, and GDP in Indonesia to understand the relationship between digital marketing and direct investment in Indonesia and the control variables for consumption and economic growth.The World Bank has provided this data as a secondary source. For the years 2000 to 2020, the following variables will be analyzed using two different time series models. The country's GDP is used as a measure of economic growth in this study. Internet users (IU) is the dependent variable, and the other three variables, namely foreign direct investment (FDI), consumption (CO), and GDP, each of which is an independent variable from this study because they function as indicators of how the three variables are related in the long term and short for internet users. We found that internet users as an indicator of information technology literacy as well as an indicator of digital marketing in Indonesia have an impact on foreign direct investment, consumption, and GDP. This shows that digital marketing supports economic growth and domestic consumption and attracts investors to make direct investments in Indonesia.

Keywords: Digital Marketing, Foreign Direct Investment, Economic Growth,Domestic Consumption, Indonesia

JEL Classification: C10, E04, E44

Received: Mei 12, 2021
Accepted: September 12, 2021

DOI : 10.54204/TMJI/Vol312021012

Introduction

Among the main theories about the internationalization strategy, theories that talk about the benefits of Foreign direct investment (FDI) have developed rapidly. The main goal of FDI is to circumvent the restrictions imposed by the most protectionist countries with strong tariff barriers on imports. In this way, when a company establishes itself and manufactures there, these steps no longer affect it. This strategy, known as Tariff-jumping, seeks out these markets to take advantage of the competitiveness developed in open countries and at the same time take advantage of the barriers created by those countries (Wilantari, Widarni, & Bawono, 2021).

FDI replaces, or at least complements, public or private domestic investment. Many developing countries offer these tax incentives in areas with special regulations for economic activity with the investor country. It is common for agreements to be initiated from a group of companies in the same sector. Associations are created with the aim of lobbying and negotiating with target countries and analyzing the impact of conditions on the local economy (Widarni & Bawono, 2022).

One of the strategic factors of FDI is to create production centers in the destination country with low salary costs or strong deregulation of the labor market. Many experts look at this issue from a different perspective. Some argue that FDI produces economic seeds that, in turn, result in further wealth-creating economic development in the target countries. On the other hand, it is said that the harsh conditions of the labor force working in the free zone often occur. It is important to point out that many companies decide to set up specialized production centers in other countries to take advantage of the economies of scale generated by centralizing production. On the other hand, FDI is considered one of the main benefits of globalization, as recipient countries will take advantage of technology from more developed countries, achieve capital formation and benefit from knowledge transfer. For developing countries that are recipients of FDI. There is widespread debate about whether FDI is actually beneficial to the country of origin, especially because of the constant struggle between target countries to choose from. Tax cuts may not offset the creation of real tax revenue, although, as a long-term investment, the balance is likely to be positive. What is evident are the benefits at the level of investment firms who, through international investments in addition to the above, achieve diversification of their portfolios and, therefore, reduction of their investment risks (Sasongko & Bawono, 2021).

Creating consumer-relevant content, though the company's digital platform, is no easy task. Today brands big and small are struggling to catch the attention of their customers. With the advent of sponsored content and the availability of media, it is a challenge to reach the audience with the right content at the right time. To invest in digital ad formats due to the lack of reliable metrics regarding the digital environment. Traditional media advertising is still attractive because it can reach a wide audience (Bawono, 2021).

As Internet penetration continues to grow, companies need to be more vigilant in maximizing digital marketing efforts for greater effectiveness. Storytelling is one of the earliest forms of human communication and is used to convey information between generations. In business, they are critical to capturing the hearts and minds of our customers, as they humanize brands, build relationships, and deliver unforgettable experiences. The ability to provoke emotional or rational reactions is paramount in storytelling and should always be our priority. New trends contribute to achieving more effective communication with the public. Videos are becoming popular in the use of social media. Good storytelling creates a lot of meaningful value for the brand, but a story works best if the target audience thinks so (Astuti & Prabowo, 2021). This study investigates internet users, FDI, consumption, and GDP

in Indonesia to understand the relationship between digital marketing and direct investment in Indonesia and the control variables for consumption and economic growth.

Research Method

The World Bank has provided this data as a secondary source. For the years 2000 to 2020, the following variables will be analyzed using two different time series models. The country's GDP is used as a measure of economic growth in this study. Internet users (IU) is the dependent variable, and the other three variables, namely foreign direct investment (FDI), consumption (CO), and GDP, each of which is an independent variable from this study because they function as indicators of how the three variables are related in the long term and short for internet users. We use the following econometric model:

$$IU_t = \beta_0 + \beta_1 IU_{t-1} + \beta_2 IU_{t-2} + \beta_3 FDI_{t-1} + \beta_5 CO_{t-1} + \beta_6 CO_{t-2} + \beta_7 GDP_{t-1} + \beta_8 GDP_{t-2} + e_t$$

Where,

IU : Internet users

FDI : Foreign direct investment

CO : Consumption

GDP : Gross domestic product

e : Error term

t : Time series

In this study, dynamic ARDL was applied. According to Khan et al., (2020) the ARDL model may be used to investigate, simulate, and predict a shock to the independent variables. If there is a cointegration relationship between research variables, ARDL simulation models may be used.

Result and Discussion

Table 1 shows descriptive statistics based on the variables in the research.

Table 1. Descriptive statistics

	IU	FDI	CO	GDP
Mean	15.71542	1.295734	4.395905	4.911670
Median	10.92000	1.814290	4.798478	5.033069
Maximum	53.72649	2.916115	6.282887	6.345022
Minimum	0.925564	-2.757440	-2.098435	-2.069543
Std. Dev.	15.72629	1.479662	1.719162	1.731411
Skewness	1.175384	-1.412372	-2.742033	-3.271964
Kurtosis	3.258531	4.342584	11.01007	13.97019
Jarque-Bera	4.893832	8.558998	82.45661	142.7721
Probability	0.086560	0.013850	0.000000	0.000000
Sum	330.0239	27.21041	92.31400	103.1451
Sum Sq. Dev.	4946.321	43.78801	59.11035	59.95569

Observations	21	21	21	21

The results of descriptive statistics are expressed in terms of mean, min, max, and Std Dev. IU Mean 15,715, IU Min 0.925, IU Max 53,726, IU Std Dev 15,726. Mean FDI 1,295, Min FDI -2,757, Max FDI 2,916, Std Dev FDI 1,479. Mean CO 4,395, CO Min -2,098, CO Max 6,282, CO Std Dev 1,719. Mean GDP 4,911, min GDP -2,069, max GDP 6,345, Std Dev GDP 1,731. IU is the number of internet users per percentage of the population in Indonesia, FDI is foreign direct investment per percent of GDP, CO is consumption per percentage of GDP, and GDP is Indonesia's gross domestic product.

A stationary test should be done before utilizing the ARDL model to anticipate the value. By evaluating the error component, which includes any danger of autocorrelation if the series is not stationary, Augmented Dickey-Fuller (ADF) may discover whether a series is stationary. The following are the outcomes:

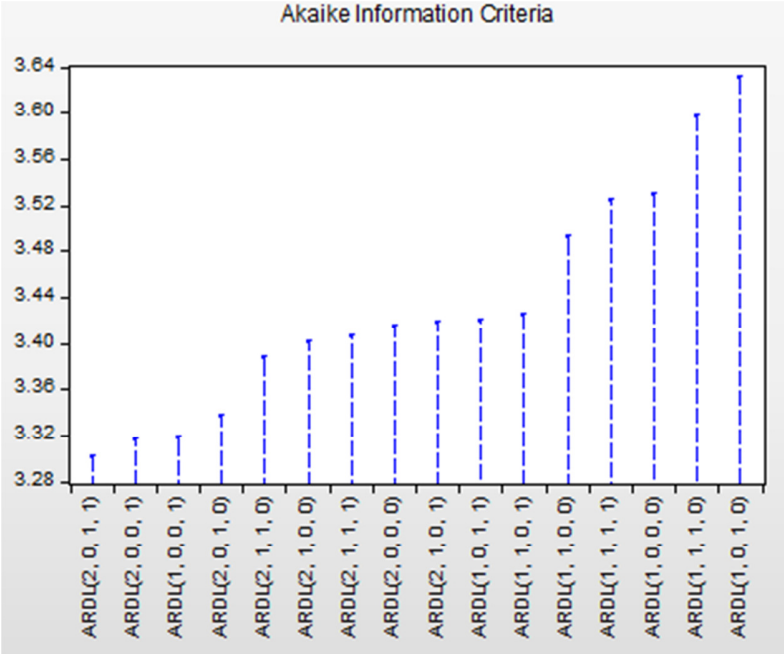
Table 2. Unit Root Test on IU, FDI, CO, and GDP data

Variable	Unit Root	Include in the examination Equation	Statistics for the ADF Test	5% Critical Value	Description
Internet user (IU)	Level	Intercept	6.626153	1.0000	
	First Diff	Intercept	-0.254496	0.9143	
	Second Diff	Intercept	-7.999192	0.0000	Stationer
Foreign direct investment (FDI)	Level	Intercept	-3.418330	0.0226	Stationer
Consumption (CO)	Level	Intercept	-1.838596	0.3523	
	First Diff	Intercept	-1.811369	0.3640	
	Second Diff	Intercept	-3.197277	0.0371	Stationer
Gross domestic product (GDP)	Level	Intercept	-0.527808	0.8660	
	First Diff	Intercept	-1.929268	0.3129	
	Second Diff	Intercept	-3.319458	0.0293	Stationer

The data for IU, CO, and GDP are all stationary in the second difference, while the FDI variable is stationary in the original data. This is indicated by the Augmented Dickey-Fuller Test, with a value of -3.197277 and a probability of 0.0371, because the probability is less than 5%, in this case the CO data

shows stationary in the second difference. The same thing happened to the GDP and IU data which were stationary at the second difference from the original data.

Picture 1. Optimum Lag Test



Optimal lag testing is used to determine which lag is acceptable for use in the following test; as seen in the picture above, 2, 0, 1, 1 lag is the most advised.

Tabel 4. ARDL bounds test

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	5.844863	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

The value of the F-statistical model is 5.844863 which is greater than the upper limit value at the 5% level, even greater than the upper limit value at the 2.5 percent and 1 percent level, according to the results of the ARDL Limit Test model in Table 4. This shows that the four variables studied in this study, namely internet users, foreign direct investment, consumption, and gross domestic product are cointegrated over time, or the four variables move in the same direction.

Tabel 5. ARDL analysis results

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
IU(-1)	0.740677	0.288312	2.569009	0.0261
IU(-2)	0.602824	0.362369	1.663565	0.1244

FDI	-0.062299	0.474619	-0.131261	0.8979
CO	-0.317570	0.375130	-0.846559	0.4153
CO(-1)	-0.637564	0.534719	-1.192335	0.2582
GDP	1.020466	0.390094	2.615950	0.0240
GDP(-1)	-0.673570	0.522410	-1.289351	0.2237
C	2.348958	3.087707	0.760745	0.4628
R-squared	0.997109	Mean dependent var		17.21472
Adjusted R-squared	0.995269	S.D. dependent var		15.80659
S.E. of regression	1.087231	Akaike info criterion		3.300707
Sum squared resid	13.00279	Schwarz criterion		3.698366
Log likelihood	-23.35672	Hannan-Quinn criter.		3.368007
F-statistic	541.9377	Durbin-Watson stat		2.088104
Prob(F-statistic)	0.000000			

The adjusted ARDL model's adjusted R-squared and R-squared values ranged from 0.995 to 0.997. Each independent variable in the ARDL model, namely foreign direct investment, consumption, and gross domestic product can explain 95.5 percent of the variance in the dependent variable of internet users, according to the Adjusted R-squared value of 0.995. This demonstrates that the research paradigm is ideal for doing research. Judging from the ARDL estimation results, the IU variable (-2) has a coefficient value of 0.602 which indicates that the internet user factor in the previous two years is also a factor that affects internet users. For example, a 1% growth rate of internet users in the previous two years would result in an increase in Indonesian internet users by 60.2 percent. The FDI coefficient value is -0.062, which means a 1 percent increase will decrease by 6.2 percent.

Conclusion

Internet users as an indicator of information technology literacy as well as an indicator of digital marketing in Indonesia have an impact on foreign direct investment, consumption, and GDP. This shows that digital marketing supports economic growth and domestic consumption and attracts investors to make direct investments in Indonesia.

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