

The Role Of Digital Marketing In Business Transition And Adaptation In The Covid 19 Era

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Abstract

This study aims to determine the role of digital marketing using macroeconomic indicators so that an overview of the role of digital marketing can be obtained and other possible factors that can be optimized in maintaining business and the economy in the era of the COVID-19 pandemic. This study uses 21 years of data, from 2000 to 2020 by modeling "vector autoregressive" to understand the causal relationship between variables. This research is based on secondary data from the world bank and the Indonesian Central Statistics Agency. We find that an increase in economic growth will increase government consumption of goods and services, whereas a decrease in economic growth will decrease consumption against GDP, as well as the percentage of internet users in the total population, which will increase with low economic growth, as evidenced by a significant negative relationship between the two, which is also in line with the relationship between total final consumption and the percentage of internet users who use the internet. This demonstrates that digital marketing has an influence on the Indonesian economy, as seen by the unidirectional link between consumption and internet users. Because a rise in the number of internet users in Indonesia increases spending but not economic development. The negative association between economic development in Indonesia and the rise in consumption driven by the expansion of internet users as a consequence of digital marketing operations indicates that the level of domestic consumption driven by online literacy is satisfied by imported products.

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In 2022, various industries were hit by a protracted corona disaster, forcing businesses to lose money (Xu, Li, & Wei, 2022). Many people find it difficult to have direct contact with their customers in times of COVID 19. Direct selling has always been a powerful selling method in the past. Many business marketers are reviewing marketing strategies such as "introducing and strengthening online business negotiations", and as a marketing issue after Corona, specific responsibilities such as "building customer relationships and acquiring prospects". Different perceptions and different decisions in marketing strategies with post-corona views in different companies. However, companies that have implemented digital marketing solutions are actively responding to changing social conditions and actively maintaining and fostering relationships with their customers (Widmar, Thompson, Bir, & Nuworsu, 2022).

The coronavirus (COVID-19) is changing the way many people work. Many people are adapting to working from home. In supporting work from home communication tools have

grown more and more diverse. Communication will continue to change even after the end of the new Corona. Communication tools that can communicate faster than email will be commonly used. It is hoped that the way work and the business itself will change in this way (Wang, Ye, Hsu, & Chen, 2022). The social paradigm will change after the pandemic (Cheshmehzangi, 2021). Prior to the Covid 19 pandemic, we knew of the Spanish flu outbreak of 1918 which had such an impact that it ended World War I. Every global pandemic is always followed by major changes (Basco, Domènech, & Rosés, 2021).

Covid 19 is forcing companies to rethink their business continuity plans so that they can continue their business even if a pandemic like this happens again. Various efforts have also been made, such as conducting online work. On the other hand, what we need to think about now is what kind of future we will choose. In other words, it is time to look at the root causes of what caused the current situation and how to approach them together (Press & Brzezczynski, 2022).

There are various reasons why viruses, such as COVID-19, are so virulent that they kill their hosts, but scientifically, changes in the global environment have been cited as one factor. Biodiversity on Earth is increasingly being lost, biodiversity has a buffer and regulatory function against environmental changes. It is said that a single disease does not spread easily in an environment where its diversity is sufficiently maintained (Rio & Camacho-Ortiz, 2020).

The global economy will be in a short recession as a consequence of the COVID 19 epidemic. Companies are increasingly incorporating sustainability into management strategies and accelerating purpose-driven management to survive. Companies need not only a vision, mission, and strategy but also goals, which give employees a good sense of the future ahead of their pursuit with the company and motivate them to work. Sustainability and adaptation goals from the COVID-19 pandemic are common goals used by companies around the world. The Covid 19 pandemic forced the business sector consisting of various companies to adapt or close (Lewit, Kotagal, Duron, Falcone, Fortenberry, Greene, Leonard, Makoroff, Midura, Moody, Ramaiah, Gosain, & Slidell, 2022).

Online meetings are the most common form of adaptation in the face of covid 19. Online meetings are becoming commonplace. There are great benefits to meeting remotely. Not only does it eliminate travel time and is much more time-efficient, but it also saves travel costs (Mouratidis & Peters, 2022). Technological evolution is accelerating towards the end of the new corona. The reliability of blockchain is not yet guaranteed, but the future in which companies and individuals can be trusted using this technology is not far off. The accumulation of trust among people as before will not change, but it may be necessary to think about new forms of trust (Khan, Malik, Konečná, Chofreh, Goni, & Klemeš, 2022).

In the era of the COVID 19 pandemic, the advancement of information and communication technology (ICT) is becoming increasingly popular, especially with the increase in online work and learning systems that are becoming more prevalent in various countries around the world as a rational reason for preventing the transmission of COVID 19 (Korkmaz, Erer, & Erer, 2022). In terms of marketing and adaptation to the COVID-19 pandemic, the role of internet technology and its supporting infrastructure is crucial in internet-based marketing, known as digital marketing. Digital marketing is becoming increasingly popular as a result of the effects of the new coronavirus infection pandemic. One of the reasons why digital marketing is gaining attention is the infection with the new coronavirus (COVID-19) that is causing the pandemic. Face-to-face contact has grown more constrained, with travel limitations in place throughout the globe and proposals for teleworking to be replaced by traditional labor. In the wake of the COVID 19 epidemic, digital marketing has emerged as a critical component of any business's

overall strategy (Modgil, Dwivedi, Rana, Gupta, & Kamble, 2022). Digital marketing uses the internet as a technology with multiple platforms, including social media, applications, websites, search engine optimizers, etc. (Shankar, Grewal, Sunder, Fossen, Peters, & Agarwal, 2021).

The offline business model, which relies on customers visiting real establishments, has been struck the hardest, particularly in industries such as food and beverage and retail, and has no option but to seek new client relations in this market, which has resulted in the development of the digital shift. Examples include the growth in the number of restaurants that accept take-out orders over the internet and the increase in the number of delivery services that accept bookings and payments through the internet. Even in B2B businesses, methods for getting leads (prospects) have changed, such as increasing the number of webinars instead of real events, exhibitions, and seminars that have been held so far, and starting digital advertising, including video. Along with that, more and more marketing-focused companies are taking full advantage of digital technology (Ai, Zhong, & Zhou, 2022).

Diversification and widespread use of devices such as smartphones and tablets. The spread of smartphones and tablets has expanded the number of users accessing the Internet to a wide range of people, including adult men and women, the elderly, and children, which is another reason why digital marketing is gaining attention. It is becoming more common for customers to use smart devices to obtain information, purchase services, and products, seek support, and send their own messages. In addition, the ability to access the Internet anytime, anywhere has significantly changed the timing of information collection. What is remarkable is the increasing overlapping buying behavior online and offline, such as looking for product reviews and prices online on smartphones while in stores (Muhamad, Kusairi, Man, Majid, & Kassim, 2021).

In general, the basic footing of digital marketing is internet literacy, meaning that digital marketing depends on how much internet literacy is in a country or in the world. Because digital marketing completely depends on how big the internet users are, internet literacy is an important one in analyzing the role of digital marketing in a country which, of course, can be related to the amount of consumption that occurs in that country (Hagen, Risselada, Spierings, Weltevreden, & Atzema, 2022).

Digital marketing and internet literacy are increasingly important in adapting to the COVID-19 pandemic (Alalwan, Baabdullah, Dwivedi, Rana, Lal, & Raman, 2021). In the macro-economy, digital marketing in the current era has become important as a driver of consumption in the new adaptation or the new normal (Petersen, Paulich, Khodakarami, Spyropoulou, & Kumar, 2021). However, this needs to be studied more deeply.

This study aims to investigate the role of digital marketing using macroeconomic indicators so that an overview of the role of digital marketing can be obtained and the possibility of other factors that can be optimized in maintaining business and the economy in the era of the covid 19 pandemic.

Literature Review

Digital marketing that uses data obtained online is known as big data. Digital marketing is a marketing method that uses all online channels and touchpoints and is based on the data obtained. Today, it is not uncommon for companies to create special departments to strengthen their response. Marketing trends have changed over time, and at the same time, various channels have emerged (HAKIM, MADJID, SUKOTJO, & YUSUF, 2022).

Digital marketing is a revolution from mass marketing by optimizing Internet technology for marketing activities. Mass marketing is the mainstream in mass production and mass consumption. In an era when there are few goods on the market and information to narrow down,

choices are limited, mass marketing based on mass production and mass consumption is mainstream (Herhausen, Miočević, Morgan, & Kleijnen, 2020; Hesse-Biber, S., Leavy, Quinn, & Zoino, 2020).

Mass marketing is marketing that targets an unspecified number of people through media such as newspapers, television, radio, and magazines. Mass marketing is an effective method for companies that have a large share in a particular market, but as the number of items in the market increases and customers becomes the preferred side, from uniform mass marketing, the trend has changed to marketing based on customer position and preferences. Digital marketing is much different from mass marketing, where digital marketing can be more targeted at market segments that have been determined by the company. Marketing based on positioning and customer orientation is called market segmentation or target marketing. In an environment where values vary, and hobbies and tastes vary, marketing to each segmented customer is more effective than mass marketing. So digital marketing tends to be more effective and cheaper than mass marketing. In web marketing, it has become possible to examine in detail the effect of attracting customers for each ad and the number of page views, etc., and use it to increase actions (Rumm, 2005).

Internet-based marketing optimization over time continues to develop until now known as digital marketing. Digital marketing has evolved through the use of big data and AI. With the spread of smartphones and IoT devices, the amount of data that companies can acquire, such as behavior history and usage history, is increasing. Using this big data and AI, a digital marketing that captures customer needs from all the data available online is possible. Digital marketing can be said to be a marketing method that has evolved through the use of big data and AI (Jeon, 2022).

The fact that the core technology of digital marketing and web marketing is the internet and the steps developed on the web are also common, and the differences are easy to confuse. However, one might say, digital marketing is an entity that includes web marketing. Web marketing is marketing that revolves around the web and is a closed marketing method for the web world. In many cases, web marketers will consider how to enrich the web content the company operates and how to attract, guide, and connect customers to actions such as purchases. In particular, we will implement web-centered measures, such as SEO and listing advertising and content enrichment, and use the information obtainable on the web to analyze access, measure effects, and then improve web performance (Caiazza & Bigliardi, 2020).

Digital marketing is marketing that takes advantage of all of the data and touchpoints that are accessible on the internet. General digital marketing optimizes the enabling touchpoints, and the data used includes web, browser, search engine, social media, email, mobile apps, big data, virtual reality, word of mouth websites, digital signage, membership information for digital points of access to the site, and current location information to access the site. It goes without saying that the utilization of data received from smart devices such as smartphones falls under the umbrella term of digital marketing as well. The presence of digital marketing is very required in order to establish a solid connection with smartphone users. While web marketing focuses on developing deeper connections with consumers, digital marketing, which encompasses all online interactions with customers, focuses on generating powerful advocates for a business's brands, goods, and services. Digital marketing is a method for building deeper relationships with customers than web marketing (Chapuzet & Bawono, 2021).

Digital marketing isn't just about increasing sales. But also regarding customer relations which, of course, requires a conducive digital environment. Improving the digital environment is necessary to strengthen customer relationships even after the corona. More and more companies

are using digital marketing solutions for the purpose of building long-term customer relationships, and the reason is that they want to deliver information that meets customer needs. Many companies have the intention of strengthening customer relationships by understanding customer needs and interests. This also applies to digital advertising, where serving the best content ads at the right time when customers are interested or motivated to buy not only conversions but also great customer acquisition in the long term (HAKIM et al., 2022).

The internet is the main technology in supporting digital marketing, so internet literacy is an important indicator in measuring the impact of digital marketing because digital marketing is comprehensive from every social activity of internet users in cyberspace, where there is the influence of internet users on consumption as a representative of the impact of digital marketing (Shankar et al., 2021).

The indicator in the marketing of any kind is the creation of aggregate demand in the form of domestic consumption. So that consumption is the total of all existing marketing. The amount of consumption is, of course, influenced by the large population, which is a key indicator of the magnitude of demand, namely the affordability of consumers so that consumption is created (Bu & Wang, Qiu, & Möst, 2022). Of course, technology cannot be separated from infrastructure, which is a buffer for smooth economic transactions and all economic activities (Pradhan, Arvin, & Norman, 2015). The overall economic activity itself is indicated by the performance of the real sector, which is the aggregate performance of business activities from all companies in a country as indicated by the gross domestic product (WIDARNI, & WILANTARI, 2021). Technology itself has a significant impact on GDP as an indicator of the real sector, which is an aggregate of business performance (WIDARNI & BAWONO, 2021).

Research Method

From 2000 to 2020, this research used "autoregressive vectors" to simulate the causal link between variables in a study with data research of 21 years. This study relies on data provided by the World Bank and the Indonesian Central Statistics Agency. Indonesia's economic growth, consumer spending, government spending, and internet usage are the factors we consider in our analysis.

The following multivariate regression model was used to determine the causal association between economic growth, consumption, government spending, and internet user in Indonesia:

$$EG_t = \beta_0 + \beta_1 CO_t + \beta_2 GE_t + \beta_3 IU_t + e_t \quad \text{eq1 1}$$

$$CO_t = \beta_0 + \beta_1 EG_t + \beta_2 GE_t + \beta_3 IU_t + e_t \quad \text{eq1 2}$$

$$GE_t = \beta_0 + \beta_1 EG_t + \beta_2 CO_t + \beta_3 IU_t + e_t \quad \text{eq1 3}$$

$$IU_t = \beta_0 + \beta_1 EG_t + \beta_2 CO_t + \beta_3 GE_t + e_t \quad \text{eq1 4}$$

Description :

EG : Economic growth

CO : Consumption

GE : Government Expenditure

IU : Internet user

E : error term

t : time series

β : the magnitude of the effect of causality

eq1: equation

This study uses vector calculations where each regression relationship will be brought together so that each variable will alternately become the dependent variable and the independent variable. The zero theory of Dickey-Fuller, taken from the PP test, and $p=1$ is the formula in Δy_t

= $(\rho - 1)y_{t-1} + u_t$, in which Δ – for the first time different operators. This research used the following equation for the "unit root test":

$$\Delta Y_t = \alpha_0 + \beta_0 T + \beta_1 Y_{t-1} + \sum_{i=1}^q \alpha_i \Delta Y_{t-i} + \epsilon_t$$

Description:

Y as the variable is being examined for unit root

T as the variable which indicates the “linear trend,” the “lag difference” means is ΔY_{t-1} ,

α_0 are shown as “constant term,” with the

"t" as a "time trend" indicator.

The null and alternative hypotheses for the "unit root test" are as follows:

H0: $\alpha=0$

H1: $\alpha \neq 0$

Result and Discussion

A stationarity test must be carried out before a causality or VAR assumption can be satisfied. With the Augmented Dickey-Fuller test (ADF), researchers may assess whether or not a series is non-stationary. The error term, which includes the possibility of autocorrelation if the series is non-stationary, is examined to determine whether the series is non-stationary. After doing the unit root test, the following conclusions were reached:

Table 1. ADF's Unit Root Test on EG, CO, GE, and IU data in Indonesia

Variable	Unit Root	Include in the examination Equation	Statistics for the ADF Test	5% Critical Value	Description
Economic Growth (EG)	Level	Intercept	-0.527808	0.8660	
	First Diff	Intercept	-1.929268	0.3129	
	Second Diff	Intercept	-3.319458	0.0293	Stationer
Consumption (CO)	Level	Intercept	-1.838596	0.3523	
	First Diff	Intercept	-1.811369	0.3640	
	Second Diff	Intercept	-3.197277	0.0371	Stationer
Government Expenditure (GE)	Level	Intercept	-2.674413	0.0958	
	First Diff	Intercept	-4.911236	0.0011	Stationer
Internet User (IU)	Level	Intercept	6.626153	1.0000	
	First Diff	Intercept	-0.254496	0.9143	
	Second Diff	Intercept	-7.999192	0.0000	Stationer

The EG, CO, and IU data were stationary on the second difference, while the GE data were stationary on the first difference. The Augmented Dickey-Fuller test is -3.319458 with a critical value of 0.0293. Smaller than the p-value, in this case, the EG data shows stationary in the second difference compared to the original data. From the ADF test, the CO data is -3.197277 with a critical value of 0.0371, meaning that the CO data is stationary in the second difference. The ADF test on IU data is worth -7.999192 with a critical value of 0.0000, meaning that IU data is also stationary at the second difference. In contrast to the three data above, GE data which has an ADF value of -4.911236 and a critical value of 0.0011, this data indicates that GE is stationary at the first difference. From here, we can take the next step in defining vector analysis. Appropriate sensitivity of lag length is required for the causality test and VAR test. Prior to completing a VAR analysis or a causality test, it is necessary to select the most appropriate lag duration for the situation. In this inquiry, the Akaike Information Criteria (AIC) were used to find the right time lag. The shortest or lowest Akaike Information Criteria (AIC) were used to determine the acceptable time lag. Because the data used in this test includes annual data with a data range of 21 years, the gap length ranges from 0 to 4. In the annual period, this delay is considered long enough to characterize EG, CO, GE, and IU.

Table 2. AIC value at Lag 0 to 3 EG, CO, I, and IU data in Indonesia

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-129.6908	NA	79.62776	15.72833	15.92438	15.74781
1	-62.88387	94.31564*	0.216782	9.751043	10.73129	9.848482
2	-44.71145	17.10346	0.252406	9.495464	11.25992	9.670854
3	-14.60182	14.16924	0.207207*	7.835508	10.38416	8.088849
4	1792.324	0.000000	NA	-202.8617*	-199.5288*	-202.5304*

Table 2 shows the findings of the Optimum Lag test. The AIC values at Lag 0 to 4 indicate that the length of the Lag variables EG, CO, GE, and IU are in AIC, SC, and HQ at Lag 4. Since the three criteria results are the same, then lag four will be chosen. During this period, the interactions between EG, CO, GE, and IU are shown in this table. Based on the data, there is no preliminary effect for the four variables, so according to the test requirements, the best lag lies in lag 4. VAR (Vector Autoregressive) is a multivariate forecasting model that is used to construct a forecasting system from interrelated time series data and to analyze the dynamic effects of the presence of random factors that interfere with the system.

Table 3. Vector Model Analysis

	EG	CO	GE	IU
EG	-0.749554 (0.70564)	-0.411904 (0.77126)	0.187672 (0.20447)	-0.651452 (0.83418)
	[-1.06223]	[-0.53407]	[0.91785]	[-0.78095]
CO	-1.021983 (0.54661)	-1.198743 (0.59743)	0.195609 (0.15839)	-0.498916 (0.64617)
	[-1.86968]	[-2.00649]	[1.23501]	[-0.77211]
GE	0.357539 (1.23525)	1.134837 (1.35011)	0.352117 (0.35793)	1.692256 (1.46026)

	[0.28945]	[0.84055]	[0.98376]	[1.15888]
IU	-0.384980 (0.34880)	-0.567791 (0.38123)	-0.049917 (0.10107)	0.476504 (0.41233)
	[-1.10372]	[-1.48936]	[-0.49389]	[1.15563]
C	-9.317186 (4.62121)	-8.836960 (5.05090)	2.945693 (1.33905)	-2.564872 (5.46296)
	[-2.01618]	[-1.74958]	[2.19984]	[-0.46950]
R-squared	0.747462	0.668347	0.834681	0.995428
Adj. R-squared	0.545432	0.403024	0.702426	0.991770
Sum sq. resids	14.71380	17.57725	1.235399	20.56219
S.E. equation	1.213005	1.325792	0.351482	1.433952
F-statistic	3.699752	2.518998	6.311154	272.1444
Log likelihood	-24.53113	-26.22041	-0.995903	-27.71047
Akaike AIC	3.529593	3.707412	1.052200	3.864260
Schwarz SC	3.976958	4.154778	1.499566	4.311626
Mean dependent	4.977976	4.544521	8.872568	17.21472
S.D. dependent	1.799132	1.715920	0.644327	15.80659

The relationship between EG and EG itself is negative and not significant, with a coefficient of -0.749554 and a t-statistic of 0.70564; the relationship between EG and CO is negative significant, with a coefficient of -0.411904 and a t-statistic of 0.77126 which means the lower the EG, the higher the CO. Likewise, the relationship between EG and GE is significant positive with a coefficient of 0.187672 and a t-statistic of 0.20447, meaning that the higher the EG, the higher the GE. The relationship between EG and IU was significantly negative, as evidenced by the coefficient -0.651452 and t-statistic 0.83418. This shows that when high economic growth encourages high government spending, high economic growth will cause the growth of internet users per population to decline.

The relationship between CO and EG was negative and not significant, with a coefficient of -1.021983 and a t-statistic of 0.54661. The relationship between CO and CO itself is not significantly negative, with a coefficient of -1.198743 and a t-statistic of 0.59743; the relationship between CO and GE is positive, not significant, with a coefficient of 0.195609 and a t-statistic of 0.15839. Likewise, the relationship between CO and IU is negative, significant with a coefficient of -0.498916 and a t-statistic of 0.64617, meaning that the lower the CO, the higher the IU.

This shows that the government's high consumption of goods and services will encourage high economic growth as well, as well as public consumption, which will increase along with the increase in government consumption. From this, we can see that this variable of government consumption has the most positive impact compared to other variables on the four variables.

Granger causality is a test used to see a causal or reciprocal relationship between two research variables so that it can be seen whether the two variables statistically influence each other (two-way or reciprocal relationship), have a unidirectional relationship, or have no relationship at all (do not influence each other).

Table 4. The Granger Causality Analysis

Null Hypothesis:	F-Statistic	Prob.
CO does not Granger Cause EG	0.14840	0.9585
GE does not Granger Cause EG	2.45983	0.1297
IU does not Granger Cause EG	2.88365	0.0946
GE does not Granger Cause CO	1.09884	0.4196
IU does not Granger Cause CO	2.73718	0.1052
IU does not Granger Cause GE	1.09984	0.4192

Based on the granger test, of the relationship between CO and EG, GE and EG, IU and EG, GE and CO, IU and CO, and IU and GE, none of which has a probability above five percent. With this, the Granger causality analysis results with the EG, CO, GE, dan IU variables show that there is no one-way link since The significance level (p-value) is less than or equal to 0.05.

Conclusion

An increase in economic growth will increase government consumption of goods and services, whereas a decrease in economic growth will decrease consumption against GDP, as well as the percentage of internet users in the total population, which will increase with low economic growth, as evidenced by a significant negative relationship between the two, which is also in line with the relationship between total final consumption and the percentage of internet users who use the internet. This demonstrates that digital marketing has an influence on the Indonesian economy, as seen by the unidirectional link between consumption and internet users. Because a rise in the number of internet users in Indonesia increases spending but not economic development. The negative association between economic development in Indonesia and the rise in consumption driven by the expansion of internet users as a consequence of digital marketing operations indicates that the level of domestic consumption driven by online literacy is satisfied by imported products.

Limitation

This study includes limitations, such as the use of secondary data, which means that data outside of the secondary data we utilized was not analyzed, and research conducted outside of our research period was not examined.

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