Sosialisation Of The Ordinary Least Square (OLS) Method Inthe Analysis Of Economic Growth Factors During The New Normal Of Covid-19 In Padangsidimpuan City

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Abstract

The Government of the Republic of Indonesia has now entered a newnormal phase of COVID-19 which has been running for almost two yearswhere the Covid-19 pandemic period is still ongoing even though it hasbegun to decline starting in 2021 yesterday. However, this new normal isstill unable to restore the existing situation as it was before the pandemic,one of which is the economic sector of the Indonesian people. The economicsector has had a very bad impact during the Covid-19 pandemic, becauseall previous economic activities of the community are still moving withconventional systems. This is deeply felt by business actors in traditionalmarkets. The problem that occurs is that business actors are unable to risequickly and are unable to compete with other business actors who arebetter prepared to make sales during the pandemic.The purpose of this study is to learn about the analysis of economic growthfactors during the new normal period of the Covid-19 pandemic inPadangsidimpuan City by applying the Ordinary Least Square (OLS)method by utilizing technology as a promotion / marketing of products soldby business actors in the Sangkumpal bonang market in Padangsidimpuancity. The analysis method used in this study is a quantitative method usingpanel data using A Fixed Effect Model, the steps of this study are thecollection of secondary data obtained from the Central Statistics Agency ofthe Agency after data analysis. Based on the results of the analysis obtainedfrom the results of the study: partially using the Fixed Effect Model Analysistool, it produces negative variables on the Human Development Index inPadangsidimpuan City, comparing the Economy related to the EconomicGrowth Index of the community in Padangsidimpuan City.

Keywords: *QSPM; Covid-19; Digital;Economy; Marketing Strategy.*

Abstrak

Pemerintah Republik Indonesia kini telah memasuki fase new normal COVID-19 yang sudah berjalan hampir dua tahun dimana masa pandemi Covid-19 masih terus berlangsung meski sudah mulai menurun mulai tahun 2021 kemarin. Namun new normal ini masih belum mampu mengembalikan keadaan yang ada seperti sebelum pandemi, salah satunya adalah sektor perekonomian masyarakat Indonesia. Sektor perekonomian mempunyai dampak yang sangat buruk pada masa pandemi Covid-19 ini, karena sebelumnya seluruh aktivitas perekonomian masyarakat masih bergerak dengan sistem konvensional. Hal ini sangat dirasakan oleh para pelaku usaha di pasar tradisional. Permasalahan yang terjadi adalah pelaku usaha tidak mampu bangkit dengan cepat dan kalah bersaing dengan pelaku usaha lain yang lebih siap melakukan penjualan di masa pandemi. Tujuan dari penelitian ini adalah untuk mempelajari analisis faktor pertumbuhan ekonomi pada masa new normal. penanggulangan pandemi Covid-19 di Kota Padangsidimpuan dengan menerapkan metode Ordinary Least Square (OLS) dengan memanfaatkan teknologi sebagai promosi/pemasaran terhadap produk yang dijual oleh pelaku usaha di pasar bonang Sangkumpal kota Padangsidimpuan. Metode analisis yang digunakan dalam penelitian ini adalah metode kuantitatif dengan menggunakan data panel dengan menggunakan A Fixed Effect Model, langkah-langkah

penelitian ini adalah pengumpulan data sekunder yang diperoleh dari Badan Pusat Statistik setelah dilakukan analisis data. Berdasarkan hasil analisis yang diperoleh dari hasil penelitian: secara parsial dengan menggunakan alat Analisis Fixed Effect Model menghasilkan variabel negatif terhadap Indeks Pembangunan Manusia di Kota Padangsidimpuan, membandingkan Perekonomian terkait dengan Indeks Pertumbuhan Ekonomi masyarakat di Kota Padangsidimpuan.

Kata Kunci: QSPM; COVID-19; Digital;Ekonomi; Strategi pemasaran.

INTRODUCTION

Development is a very fundamental aspect, especially for developing countries. Equitable development is the main key so that the ideals of na-sional development can be achieved. Thecomparisonof income and development in various countries suggests a relatively large degree of difference in measuring the level of prosperity in developed and developing countries. High-quality human resourcesare needed to support the development that is currently underway (D. S. Mirza, 2012). The current emerging development paradigm is economic growth as measured by human development seen by the level ofqualityof life manu-vain. The new theory of growth introduced by Paul Romer states that elements of human capital andtechnology are the determining factors for economic growth (A. Winarti, 2015). The Human Building Index is one of the indicators in achieving economic development in order to realize a prosperous society and minimize poverty. The Human Development Index has been introduced by the United Nations Development Programme (UNDP) since 1950 and is published regularly in the annual Human Development Report (HDR). Human development is a process of bandaging the choices made by humans. Among these manyoptions, the most important options are to live a long and healthy life, to have a higher education, and tohave access to the resources needed to live decently (B. P. S. K. Padangsidimpuan, 2019). The success of human development cannot bese parated from the performance of the government which plays a role in creating regulations for the achievement of social justice.

The city of Padangsidimpuan in the period from 2018 to 2020 experienced a fluctuating phase interms of economic growth, this was triggered by the Covid-19 pandemic period which is currently experienced starting at the end of 2019. It can be seen in the table below (Source: Central Statistics Agency).

Table 1. Economic Growth Data of Padangsidimpuan City

Wilayah	Pertumbuhan Ekonomi Kota Padangsidimpuan (Persen)		
	2018	**2019**	**2020**
Padangsidimpuan	5,45	5,51	-0,37
Sumatera Utara	5,18	5,22	-1,07

An ever-increasing Human Development Index. The HDI achievement of Padangsidimpuan City in 2011 of 71.08 continues to increase to 74.38 in 2018. With the achievement of the HDI, Padangsidimpuan is in the positionof human development status in the "high" category. Not only that, this achievement also brought Padangsidimpuan to the seventh position out of 33 regencies/cities in achieving human development in North Sumatra. Looking at the BPS data, the Human Development Index in Padangsidimpuan City in 2018 was included in the "high" category. By studying the analysis of economic growth factors during the new normal period of the Covid-19 pandemic in Padangsidimpuan City and applying the Ordinary Least Square (OLS) method by utilizing technology as a medium for promoting / marketing products sold by business actors in the Sangkumpal bonang market in Padangsidimpuan city is the purpose of this study. Health is well-being and education is mandatory in achieving a decent and valuable life, in this case whether up bringing or health, both are of great importance inshaping broader human capabilities that are at the core of the meaning of development (P. Todaro, Michael and S. C:2003). The urgency in thisstudy is the high impact on economic growth in Padangsidimpuan City due to the Covid-19 pandemic. Based onthis presentation, researchers encouraged researchers to conduct a study on the analysis of economic growthfactors in padangsidimpuan city by utilizing the Ordinary Least Square (OLS) method. This research is very relevantrirn 2017-2045 in the field of development economics, then in prn 2020-2045 on the theme of Economy, Human Resources, Entrepreneurship, Cooperatives and MSMEs.

METHOD

Research Type

This research is included in the type of library research (Library Research), whichis research carried out using literature (literature). Library research collects data or information from books, notes, newspapers, documents, and other references related to research topics derived fromlibraries or institutions related to the required research data (Sugiyono, 2018). The type of data used in this study is aquantitative type of data. Quantitative data is data whose presentation is in the form of numbers that areextracted indirectly through research results and the results of processing qualitative data into quantitativedata (Creswell John:2010). The data sources in this study were obtained from books, research journals and official reports onthe Human Development Index in North Sumatra and Padangsidimpuan City by the Central StatisticsAgency.

Data collection techniques in this study with documentation techniques are records of events thathave passed in the form of writings, images and those published online. Meanwhile, to test the hypothesisin this study using a multiple linear formula, namely the relationship between one bound variable (Y) andtwo or more free variables (X). To state the strength or not of the linear relationship between X and Y canbe measured the coefficient of correlation (coefficient correlation) or r and to find out the magnitude of thecontribution (influence) of X to Y can be seen from the coefficient of determination (coefficient ofdetermination) or R2 (W. Wing Revelation, 2015). The forms of multiple linear regression equations are as follows:
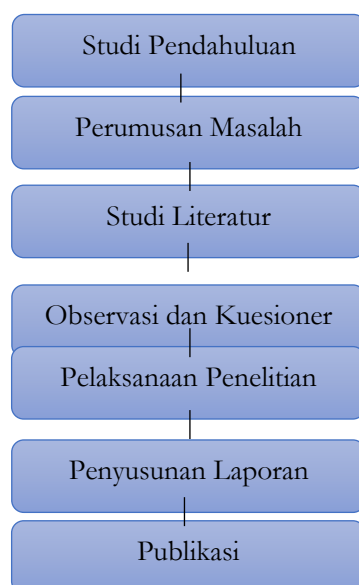
$$Y = a + b_1X_1 + b_2X_2$$

Where:

Y = Human Development Index a = constant

X1 = Poverty

X2 = Economic growth

Conceptual Framework

The conceptual framework of this study is as illustrated in the chart below:

Figure 1. Conceptual Framework

Economic Growth

In general, economic growth is defined as increasing the ability of an economy to produce goods and services. Economic growth is one of the most important indicators in conducting an analysis of theeconomic development that occurs in a country. Economic growth indicates the extent to which economic activity will generate additional income for people in a given period (A. Wardhana, B. Kharisma, and S. A. Noven, 2020). The economy is considered to beexperiencing growth if all real services against the use of production factors in a given year are greater thanin the previous year.

Ordinary Least Square (OLS)

The OLS (Ordinary Least Square) method is a regression method that minimizes the number of squared errors. The parameter estimation method used is the OLS (Ordinary Least Square) method, whichis to estimate the regression coefficient (β) by minimizing errors (errors). The parameter estimator is asfollows:

$$\hat{\beta} = (x^T x)^{-1} x^T y$$

Where β is the vector of the parameter estimated to be the size $(p + 1) \times 1$, X is the predictor variable matrixmeasuringn $\times (p + 1)$ and the observation vector of the response variable is sized n $\times$ 1.

RELUST AND DISCUSSION

In this section, the researcher explained the results of data analysis on economic growth andpoverty on the level of human development index in the city of Padangsidimpuan, namely:

1. Test results of classical assumptions.

The classical assumption test needs to be done because in the regression model it is necessary topay attention to the deviations over the classical assumptions. If the classical assumptions can be met thenthe variables used become efficient.

Table. 1

Key Regression Results of the Effect of Poverty, and Economic Growth on the Index Human Development in Padangsidimpuan City Variable Coefficient t-Statistic Prob.

X1	-0.140095	-1.400165	0.1661
X2	-0.637871	-1.178637	0.2427
	75.48587	21.23171	0.0000

R-squared 0.045893
F-statistic 1.611366 Prob (F- 0.207254 statistic)
Durbin-0.172718
Watson stat

Multicollinearity test

Multicollinearity is a test performed to ascertain whether in a regression model there is intercorrelation or colinearity between free variables. Table. 2
R2 auxialary regression Effect of Poverty, and Economic Growth On Index
Human Development in Padangsidimpuan City.

Tabel 1. Format Baku Tabel

No	Equation	R2*	R2
1	X1X2	0,029	0,045
2	X2X1	0,022	0,045

Information
R2 = R2 main regression results
R2 = R2 auxiliary regression results

From the table above, it can be concluded that in this study there was multicollinearity between independent variables, meaning that each independent variable had a relationship with each other. Thepoverty variable has a relationship with economic growth and vice versa because indeed the factors of poverty and economic growth have a relationship between each other.

Autocorrelation test

An auto correlation test was performed to test whether in a linear regression model there is a correlation between the intruder error in the time or space period and the previous time or space disruptor error (t-1).

CONLUSION

Based on the results of statistical tests, data analysis and discussion in the research above, it can beconcluded that:

1. The influence of the Poverty and Economic Growth variables on the Human Development Index partially or individually through the Fixed Effect Model analysis approach is to produce that the Poverty variable has a negative influence on the Human Development Index in Padangsidimpuan City, as well as the Economic Growth variable negatively affecting the Human Development Index in Padangsidimpuan City.

This is evidenced by the results of statistical testing using the e-views 8 program, namely the t-table result of 1.671 while the t-statistical Poverty variable is (-5.721238), and for the Economic Growth variable is (-1.760387).

2. The influence of the variables Poverty, and Economic Growth simultaneously affects the Human Development Index in Padangsidimpuan City (Fhitung> F-table). It is proven in the results of statistical tests that at a confidence level of 95 percent ($\alpha = 5\%$), with a degree of freedom fornumetors (dfn) = 1 (k-1 = 2-1) and a degree of freedom for denominators (dfd) = 65 (n-k = 70 - 5),an F-table of 3.99 and an F-statistical result of 189.1295 while prob. F the statistics are 0.000000.

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