

Analyze Digital Economic Transformation to Increase Economic Growth in ASEAN-6 Countries

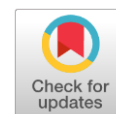
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Abstract

The advent of digital technologies such as e-commerce and electronic payment systems has radically changed business operations and consumer involvement, making digital transformation a crucial factor for competitiveness and efficiency in the ASEAN market in the context of globalization. ASEAN countries are responding to the growth of the digital economy by carrying out transformations. This study investigates the impact of digital economy transformation, Foreign Direct Investment (FDI), exports, and Consumer Price Index (CPI) on economic growth in ASEAN-6 countries. This research used secondary data from Indonesia, Malaysia, Singapore, the Philippines, Thailand, and Vietnam in the period of 2015 to 2024. The method used was a fixed-effects panel data model with standard errors and Cross-Section Weight-Cross-Section SUR (PSCE) covariances. This differs from previous research that uses measures of digital infrastructure such as broadband subscriptions, internet penetration and mobile technology as proxies for the digital economy. This study original as it measures the digital economy using Gross Merchandise Value (GMV) a direct indicator of digital economic output, rather than digital access or readiness. This technique gives a clearer picture of how the actual size of digital economic activity compares to economic development in ASEAN. The results of the study suggest that the digital economy and FDI have no substantial effect on economic growth, whereas exports and CPI have a considerable beneficial impact.

Keywords: Economic Growth, Digital Economy, Foreign Direct Investment, Exports, Consumer Price Index, and ASEAN-6

JEL Classification: O47, O33, F21, F14, and E31

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Introduction

In the present day, with the globalization of progress, the pace of technology is quickening, especially in the digital area. The Fourth Industrial Revolution (IPR) has transformed markets and changed the relations between firms and consumers. Around the globe, countries are quickly embracing digital technologies like e-commerce and cloud computing to drive economic growth. The ultimate goal is to boost the efficiency, inclusiveness, and the ability of the global economy to respond to global crises and difficulties. To keep and increase a country's competitiveness in the international arena, digitalization is a must (Aprilla Sinta et al., 2024).

The development of the digital economy is pushing ASEAN countries to make transformation efforts. The ASEAN Digital Economy Framework Agreement (DEFA) is a landmark move towards the establishment of a harmonised regulatory framework for the digital economy in the ASEAN region. The goal of developing uniform rules and standards is to combat regulatory fragmentation and thereby promote innovation and speed up digital transformation. DEFA aspires to boost ASEAN's status as a competitive technological hub through this method. The agreement also seeks to foster cross-sectoral cooperation in technology development that is expected to contribute to sustainable economic growth and regional integration. Thus, the implementation of DEFA is of paramount importance to policymakers and stakeholders wishing to improve the digital competitiveness of the region and ensure inclusive economic growth (Darmastuti et al., 2024). Given that improving connectivity is an essential prerequisite for promoting digital transformation, the importance of enhancing connections is becoming progressively vital. It is essential to ensure the active involvement and contribution of all principal stakeholders in the commercial digitalization process to promote sustainable economic growth propelled by digital technology. This approach will facilitate the development of a digital economy. The satisfaction of this need is essential to achieve the goal of promoting economic advancement (Munawarah et al., 2022).

The rate of economic growth in the ASEAN-6 countries, namely Indonesia, Malaysia, Singapore, Thailand, Vietnam, and the Philippines, can be seen in Figure 1.

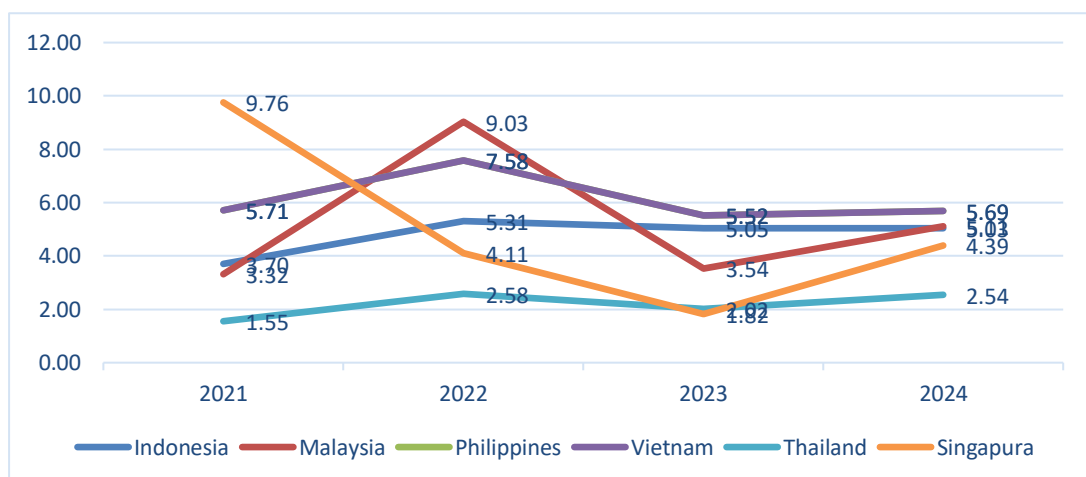


Figure 1. Gross Domestic Product of ASEAN-6: Indonesia, Malaysia, Singapore, Thailand, Vietnam, and the Philippines, 2021-2024 (in Percent)

Source: World Bank (2026)

Based on World Bank data in 2025, gross domestic product (GDP) in the ASEAN-6 countries varied in 2021 and 2024. 2021 and 2022 were periods of recovery following the pandemic, demonstrating an improvement. Several countries saw higher economic growth. For instance, the GDP of Malaysia went from 3.32 percent to 9.03 percent, and the GDP of Vietnam increased from 2.55 percent to 8.54 percent. On the other hand, Singapore's GDP declined from 9.76 percent to 4.11 percent. Economic growth slowed in all of the ASEAN-6 economies in 2023. While some countries experienced growth in 2024, Indonesia's GDP in 2024 was down slightly from 5.05 percent to 5.03 percent, demonstrating relative stability around 5 percent.

The digital economy is an important engine of economic progress, and we need tailored methods to promote it. Consequently, policy frameworks should be designed to stimulate innovation and to promote digital transformation in all sectors systematically. The development of e-commerce, which is one of the main factors of economic growth, requires the establishment of regulatory procedures and incentives that would allow firms to integrate digital platforms efficiently. The actions will boost economic activity and generate multiple possibilities, which is why evidence-based policy interventions in the digital sphere are so important ([Suhendra et al., 2025](#)).

Table 1. Projections Gross Merchandise Value (GMV) in ASEAN-6 Countries, 2024 to 2025 (in Billion USD)

No.	Country	2024	2025 (Projection)
1	Indonesia	90	100
2	Malaysia	26	31
3	Singapore	29	32
4	Philippines	26	31
5	Vietnamese	36	43-45
6	Thailand	36	40
	Total	263	305

Source: Temasek et al. (2025)

According to the e-Conomy SEA 2025 report released by Temasek, Google and Bain & Company, data on Gross Merchandise Volume (GMV) for 2024 and 2025 indicate a positive growth trend in all ASEAN-6 countries. Indonesia was up 14 percent, Malaysia, Singapore and the Philippines 13 percent, and Thailand 12 percent. Vietnam's biggest gain was 20 percent. The ASEAN region continues to be a key driver of this growth, and the ASEAN-6 GMV is forecast to reach over 305 billion dollars by 2025.

Foreign direct investment (FDI) is an important tool that helps a lot in the development of economic growth of a country. It stimulates capital accumulation and information dissemination, thereby improving economic conditions. This results in an increase in the production of goods and services. Foreign investment also has the potential to have a catalytic effect and to shape and direct the course of economic growth ([Santosa et al., 2025](#)).

Table 2. Foreign direct investment (FDI) in ASEAN-6 Countries 2020 – 2024 (in Million USD)

Country	Year				
	2020	2021	2022	2023	2024
Singapore	74,900	115,600	141,200	159,700	170,500

Indonesia	18,600	20,100	21,700	21,600	22,800
Vietnamese	15,800	15,700	17,900	20,200	23,500
Malaysia	3,200	12,100	16,900	14,500	16,200
Philippines	6,800	12,000	9,200	8,900	9,500
Thailand	-4,900	14,600	10,100	4,400	5,800
TOTAL ASEAN-6	114,400	190,100	217,000	229,300	248,300

Source: World Bank (2025)

According to the World Bank data (2025), FDI to ASEAN-6 grew from 144.4 billion dollars in 2020 to 248.3 billion dollars in 2024. The negative value of Thai investment in 2020 was caused by a huge investment (money exodus) at the beginning of the COVID-19 pandemic.

Empirical data on the relationship between foreign direct investment and economic growth have proven inconclusive. This discrepancy can be due to the different study methodologies and environmental factors used in the different studies. The empirical results of the ARDL panel model reveal that foreign direct investment (FDI) has a negative impact on economic growth in the long run and a favorable impact in the short term. This temporal unpredictability adds to the inconsistent literature ([Ko et al., 2025](#)). In addition, the effect of FDI on economic growth is nonlinear and, to a large extent, depends on the quality of institutions in a country. FDI does not contribute considerably to economic growth when the institutional quality is below the key threshold. The findings suggest the relevance of considering both time and institutional factors when assessing the influence of FDI in economic development. The incorporation of these features would possibly give policymakers and scholars a more detailed understanding of the complexities associated with the FDI growth nexus, and may also direct the development of more effective policies ([Saidi & Ochi, 2023](#)).

Exports are necessary to economic progress since they enhance a country's market share, production capacity, and Gross Domestic Product (GDP). The increase in national revenue is directly associated with the amount of exported commodities. This is because of the increased demand from foreign countries for the goods and services that the country provides to its own people. Capital inflow encourages local firms to invest, which promotes technical progress and improves output. In addition, the rise in export activities results in higher local production, income levels, and employment prospects, which are part of social and economic growth ([Mankiw, 2022](#)).

The world is entering the era of the digital revolution. The relevance of exports is becoming clear. With the development of communication and information technology, companies may penetrate the worldwide markets more efficiently and faster. Rapid development of cross-border e-commerce, electronic payments, complex logistics, and large-scale data analysis has lowered transaction costs and expanded the volume of global trade. [Higón & Bonvin \(2024\)](#) and [Rosyidah et al. \(2023\)](#), say the use of digital technology in the commercial sector improves the ability of enterprises to participate in foreign markets and broadens the spectrum of export potential, notably for Micro, Small and Medium Enterprises (MSMEs). Moreover, digitization enhances the productivity of the manufacturing and logistics industries and at the same time supports export initiatives, helping the economy to grow in the end.

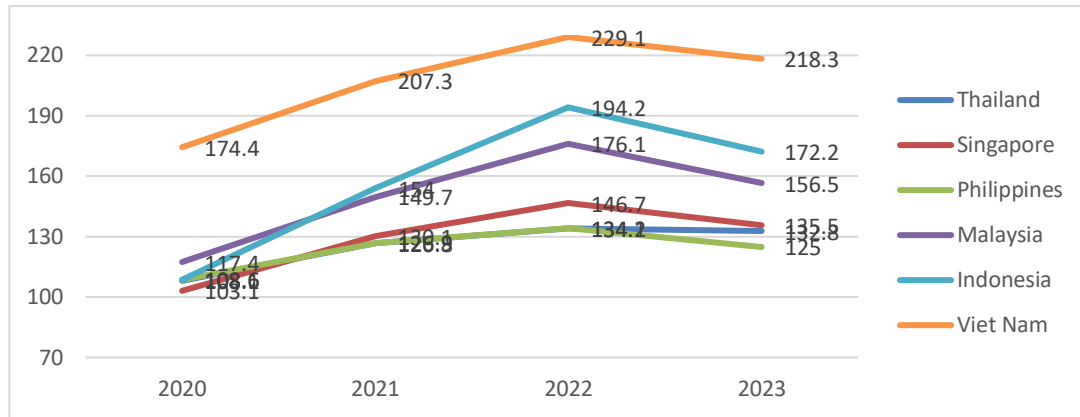


Figure 2. Exports of ASEAN-6 Countries (Indonesia, Malaysia, Singapore, Thailand, Vietnam, and the Philippines, 2021-2023 (in Percentage)

Source: World Bank (2025)

From 2020 to 2023, ASEAN-6 countries showed strong exports despite fluctuations. Indonesia, Malaysia, and Vietnam experienced an increase in exports every year from 2020 to 2022, while Singapore, Thailand, and the Philippines showed a higher response. However, in 2023, ASEAN-6 countries experienced a decline. This can be seen in Figure 2, where Vietnam has the highest export value compared to other countries in the ASEAN-6, which is the highest among these countries, at 174.4 percent in 2020, 207.3 percent in 2021, 229.1 percent in 2022, and 218.3 percent in 2023.

In the contemporary era of transformation, digital commerce functions as a strategic approach for corporations seeking to engage with international markets more efficiently. As highlighted by [Abeliansky & Hilbert \(2017\)](#), the level and adoption of digital technology are closely linked to improved export performance, making digital economic transformation a crucial factor for economic growth in the ASEAN-6 region. The findings of [Myovella et al. \(2019\)](#) support the export-driven growth hypothesis, where international trade significantly contributes to GDP.

The Consumer Price Index (CPI) is a vital macroeconomic indicator used to assess economic growth. Serving as a benchmark for average price changes in household goods and services over specified periods, the CPI is frequently regarded as the primary reference for evaluating inflation. According to [Mankiw \(2022\)](#), CPI movements that show controlled inflation are essential for safeguarding purchasing power and fostering a favorable environment for economic growth. This aligns with empirical research that [Oyadeyi et al. \(2025\)](#) reaffirm the threshold effect of inflation. Moderate and stable inflation rates have been shown to support economic growth, while inflation rates that exceed reasonable thresholds risk hindering the economy.

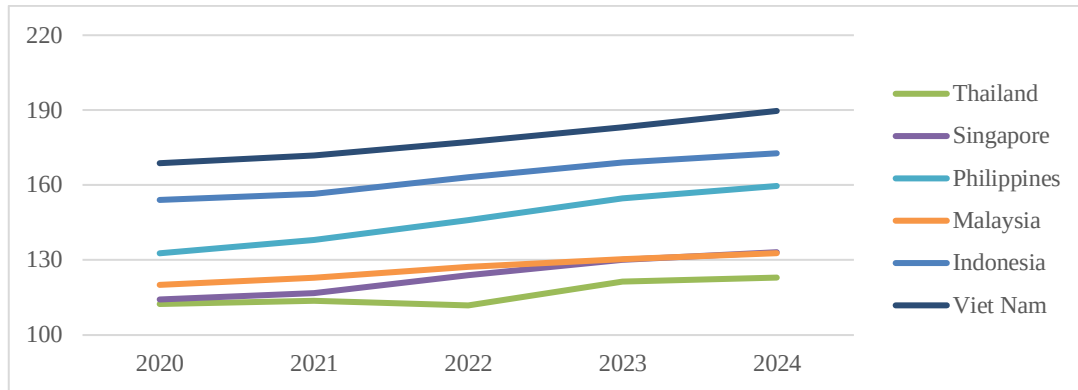


Figure 3. Consumer Price Index of ASEAN-6 Countries (Indonesia, Malaysia, Singapore, Thailand, Vietnam, and the Philippines, 2021-2024 (in Percentage)
Source: World Bank (2025)

The World Bank's statistics reveal that the Consumer Price Index (CPI) in the ASEAN-6 countries has, in general, been on an upward track from 2020 to 2024. That is expected to continue through 2024. Vietnam had the second most impressive growth of 26.94 percent after the Philippines, which saw a growth of 20.92 percent. Singapore saw a growth of 18.92 percent, Indonesia saw a growth of 18.66 percent, Malaysia saw a growth of 12.69 percent, and Bangkok saw a growth of 10.69 percent. Inflation is a measure of changes in prices, which is heavily influenced by economic activities, particularly the growth of e-commerce and the use of digital platforms, measured by the Consumer Price Index (CPI). Inflation means changes in the price level. "We are seeing big digital transformation initiatives happening right now in the Philippines and Indonesia and have witnessed rapid growth in the adoption of digital wallets and e-commerce. This tendency is linked to these initiatives, which have led to the fast development of these innovations. However, Thailand and Singapore are focusing on bringing technology into their manufacturing and supply chain management systems. The general inflation rate influences the purchasing power of consumers and the cycles of production and consumption in the region.

There is no consensus on the relationship between the Consumer Price Index (CPI) and economic growth, as evidenced by several studies. [Lamah et al. \(2021\)](#), the CPI measures changes in price levels (i.e., inflation), not actual increases in production capacity or investment. This distinction is essential since rising CPI levels do not necessarily imply advances in real economic output or living conditions. High CPI levels can indicate inflationary pressures, which reduce purchasing power and increase the cost of living and thus have a negative impact on consumers and businesses. Furthermore, the high costs of constructing digital infrastructure can generate strong pressures on the state budget, reduce the budgetary space for debt management, and may not necessarily generate economic activity. Policymakers need to combine the imperative to invest in digital infrastructure with larger fiscal priorities to enable sustainable economic growth. Governments should track inflation, as well as the allocation of public resources, to reach development objectives without sacrificing budgetary sustainability. To benefit from digital transformation, it is crucial to adopt an integrated approach to tackle both short-term financial restrictions and long-term development goals to sustain economic stability and inclusive prosperity.

Most of the studies that analyze the relationship between the digital economy and economic growth in ASEAN use the digital infrastructure factor as a proxy for economic production and not Gross Merchandise Value (GMV). These variables include broadband infrastructure, internet penetration, and mobile technology. [Le \(2025\)](#) concluded that the digital transformation indicators such as mobile technology and the Internet do not have a major and direct effect on economic growth. From an economic perspective, the benefits of digital transformation are not reached overnight, but over a lengthy period of time. [Hana Saidah & Dikdik Kusdiana \(2023\)](#) also say the same thing: fixed broadband subscriptions have a positive impact on GDP. This means that advances in digital infrastructure are creating economic growth but with a lag. Collectively, the studies establish a strong case for investing in digital infrastructure, even though the benefits are not immediately visible. Hence, policymakers in the ASEAN area need to focus on long-term policies and steady investment in digital transformation to unlock the full potential of economic growth.

Consequently, there are no studies that examine whether Gross Merchandise Value (GMV) as a direct indicator of digital economic performance is more or less correlated with economic growth in ASEAN than infrastructure-based proxies. They have also not systematically analyzed the time dynamics of the relationship, using an output-based metric. Use GMV as the key statistic for the digital economy, not metrics connected to digital infrastructure. GMV is a better basis to evaluate the effectiveness of digital economy policies and to identify the best investment opportunities to maximize quantifiable economic returns because it represents the real value of digital transactions and not just the accessibility or preparedness of infrastructure.

This study aims to analyze the influence of digital economic transformation, investment, exports, and consumer price index on economic growth in ASEAN-6 countries.

Literature Review

Economic Growth (GDP)

The Solow-Swan model places capital accumulation, labor, and technological progress as the driving factors of aggregate output, but treats technology as an exogenous variable. [Mankiw \(2022\)](#) GDP is the total income and aggregate expenditure within an economy. GDP can be used to calculate two variables simultaneously: the total income of all economic actors and total expenditure on goods and services. Therefore, GDP per capita reflects average individual income, which serves as a measure of a nation's prosperity.

Digital Economic (GMV)

[Don Tapscott \(1996\)](#) first introduced the term to describe an economic system driven by digital technology, the internet, and electronic transactions. The economics of platforms builds on the idea that digital platforms are market intermediaries between producers and consumers. This leads to a strong reduction of the costs of transactions with respect to traditional marketplaces. [Osma \(2024\)](#) states that the value of the platform for the users on one side increases in proportion to the number of users on the other side. The increasing value of the platform proves this. E-Commerce and digital commerce have witnessed rapid growth in recent years, a phenomenon driven by this

dynamic that accelerates exponential growth in digital technology. In recent years, this has been the case.

Therefore, the rise of smartphone-based digital platforms has improved the company's scalability and network effects, as stated in Metcalfe's Law and the Katz & Shapiro study (Soares & Nieto-Mengotti, 2024) on network effects in the platform marketplaces. This tendency also gives these theories much more utility in terms of explaining how digitalization is happening today.

The impact of digitalization on the global value chain (GVC) is examined by Kai et al. (2026). They conclude that the higher the digital economy index scores, the higher the involvement in the GVC. Information and communication technology (ICT) advances are transforming the way people trade around the globe by minimizing the cost of doing business for both buyers and sellers. For instance, digital platforms allow us to follow shipments in real time, transfer money across borders, and connect with partners in other countries. Such innovations help supply chains to be more efficient and enable enterprises to increase their export success. The link between digitization and export growth is the power of ICT to accelerate and to make operations more efficient, enabling greater international trade by more people.

GMV was a significant indicator for evaluating the performance of e-commerce, online transportation, and food service companies Temasek et al. (2025), GMV is the total value of all goods or services sold on a platform in a given time period. Gives an idea of how the business is doing. For example, GMV is a direct indicator of the number of transactions when examining online markets or ride-hailing apps. But GMV ignores cancellations, refunds, or platform fees; thus, revenue statistics can be exaggerated. But GMV continues to be a popular yardstick for estimating the contribution of the digital economy to GDP and guiding allocation decisions in a rapidly changing economy.

In the growth theory developed by Solow, technological progress is an exogenous factor, i.e., not influenced by the economy, but is considered a key element of economic growth. The paradigm says that innovation leads to more production, but it does not explain where innovation comes from. The theory of endogenous growth, according to which the main factors of continuous economic expansion are inside the economy, not outside it, avoids this problem. In this way, the endogenous growth paradigm highlights the importance of factors such as investment in innovative technologies, development of human capital, and creation of new knowledge. In general, governments benefit from investments in research and development, education, and digital infrastructure over time. They are not affected by external technological changes, but business policies and regulatory acts can impact them. This insight has important implications for the strategies the economy needs to adopt to achieve digital transformation and sustained competitiveness (Oktaviana et al., 2025).

Foreign Direct Investment (FDI)

In Harrod-Domar theory, the development of capital is a prerequisite for the maintenance of sustainable economic growth. Because capital formation increases the productive capacity of the economy and stimulates demand in the economy, this process enables communities to raise their output and to employ more people.

Antari et al. (2025), also suggest that foreign investment is an important determinant of economic growth. They say this is because foreign investment can bring

new employment, new technology and new capital, which ultimately leads to long-term development.

Export (EXPT)

This allows countries to take use of their comparative advantages and use them to their advantage. They can export surplus output and import commodities that are produced more efficiently by their trading partners. Specialization leads to a more efficient use of resources (labor, capital, and raw materials), and hence to a higher output and more economic prosperity. International trade is one of the major contributors to economic growth, and as a result. This argument is in line with the proposition that exports offer access to wider markets but also spur home firms to innovate and improve their competitiveness (Mankiw, 2021). If these processes are sustained over a long period of time, they lead to higher standards of living and sustained growth in the long run.

Jannah & Efendi (2024), export has a great impact on economic growth, due to this, economic growth is affected by the economic growth due to an increase in exports. In an open economy, exports are a major source of foreign exchange. The rise in output drives economic growth and so provides a big contribution to economic stability. The production of additional commodities and the sale of these items to a variety of different nations increase output.

Consumer Price Index (CPI)

According to Statistics of Indonesia (2022), the Consumer Price Index (CPI) is a vital economic indicator that measures fluctuations in the prices of goods and services purchased by consumers. Variations in the CPI reflect the rate of inflation or deflation, indicating increases or decreases in the prices of goods and services essential for daily household needs. The consumer price index measures changes in the prices of goods and services consumed by the public, which affect the public's purchasing power and, in turn, increase demand for products (Sinaga et al., 2025).

Research Method

The research uses a panel data regression to determine the relationship between the independent and dependent variables. The correlation of the dependent variables with other factors can be investigated with regression analysis. However, panel data is a mix of cross-sectional and time-series data. (Gujarati & Porter, 2021).

This regression study uses three common methods to estimate panel data models, namely, Common Effects Model (CEM), Fixed Effects Model (FEM) and Random Effects Model (REM). The 2015–24 data are from six Association of Southeast Asian Nations (ASEAN) countries: Indonesia, Malaysia, Singapore, the Philippines, Thailand and Vietnam. The period covered by the present review includes the pandemic caused by the COVID-19 virus. This pandemic likely generated major disruptions in economic activities and changed the relationships among several variables. However, the results should be interpreted with caution, as the pandemic may have affected the stability and reliability of the selected panel data model for this study.

The dependent variable is the Gross Domestic Product (GDP). GDP is measured at constant prices. The independent variables are: Digital Economy (measured by

Gross Merchandise Value in US dollars), Foreign Direct Investment (measured by net inflows in US dollars), Exports (measured by the Export Volume Index), and Consumer Price Index (CPI).

Table 3. Operational Definition of Variables

Variable	Definition	Indicator (Data Source)
Gross Domestic Product (GDP)	Gross Domestic Product (GDP) is one of the most important economic indicators, which measures the total value of all products and services produced in a country in a period of time. The Gross Domestic Product (GDP) also facilitates the comparison of the growth rates of different countries. The economy's performance can also be analyzed. A decline in GDP may indicate an economic slowdown. (UNCTAD, 2023).	GDP at constant prices in <i>US dollars</i> (World Bank, 2025)
Digital Economy	The digital economy is the economy that uses digital technology to perform economic activities and generate value. This economy is composed of electronic trade, internet financing, and digital services. They are intended to make it easier for consumers and businesses to transact across international borders. The spread of digitalization has been an impetus for innovation, which has led to the creation of new chances for economic growth (Mulyana et al., 2024).	Gross Merchandise Value (GMV) in <i>US dollars</i> (Temasek et al., 2025).
Foreign direct investment	FDI (foreign direct investment) is the process by which people or companies from one country invest capital in another country to gain control over companies or assets located in that country. FDI is often a source of capital, technology, and knowledge that tends to stimulate economic growth and job opportunities (UNCTAD, 2023)	Net inflows of FDI in <i>US dollars</i> (World Bank, 2025)
Exports	Exportable goods and services are the goods and services of a country distributed to markets around the world. Exports are very important to generate income, to keep jobs, and to promote economic progress. Export values are a valuable instrument that can be used to evaluate a nation's competitive standing and its integration within the framework of the international economic system (Mankiw, 2022).	<i>Export Volume Index</i> . (World Bank, 2025)
The Consumer Price Index	The Consumer Price Index (CPI) is a measure which is used to assess the average movement of prices of goods and services which are purchased by households over a period of time. The Consumer Price Index (CPI) is an important indicator of inflation that helps policymakers assess the stability of the economy. It can represent changes in the cost of living and gives this information to policymakers (Mankiw, 2022; Statistics of Indonesia, 2022).	<i>Consumer Price Index</i> (World Bank, 2025)

The econometric model is as follows:

$$\text{LnGDP}_{it} = \alpha_0 + \beta_1 \text{LnGMV}_{it} + \beta_2 \text{LnFDI}_{it} + \beta_3 \text{LnEXPT}_{it} + \beta_4 \text{LnCPI}_{it} + e_{it} \quad (1)$$

Logarithmic transformation is used for these variables, because it measures in monetary units and show substantial variability across countries and over time. According to [Gujarati & Porter \(2021\)](#), using logarithmic transformations to stabilize variance will reduce the data to heteroscedasticity, linearization of nonlinear relationships, and allow interpretation of regression coefficients as elasticity.

Results

Panel data testing model selection, this test is to determine which model to use: a fixed-effects model or a random-effects model.

Table 4. Chow Test (Likelihood Ratio)

Effects Test	Statistics	df	Prob.
Cross-section F	674.868521	(5.50)	0.0000
Cross-section Chi-square	253.598507	5	0.0000

Source: processed writer using EViews 13

The Chi-square probability value is 0.0000, which is less than alpha 0.05, so H0 is rejected. Therefore, the fixed-effects model should be used.

Table 5. Hausman Test Table

Test Summary	Chi-Sq. Statistic	Chi-Sq. df	Prob.
Random cross-section	99.330291	4	0.0000

Source: processed writer using EViews13

The Chi-square probability value is 0.0000, which is less than alpha 0.05, so H0 is rejected. Therefore, the fixed-effects model is used.

Based on the normality test results, the data were normally distributed because the JB test statistic (0.437451) exceeded 0.05.

Table 6. Multicollinearity Test

	LN_GMV	LN_FDI	EXPT	CPI
LN_GMV	1.000000	0.150149	0.480617	0.349563
LN_FDI	0.150149	1.000000	-0.004915	0.056138
LN_EXPT	0.349563	0.056138	0.646393	1.000000
LN_CPI	0.480617	-0.004915	1.000000	0.646393

Source: processed writer using EViews 13

The results show that the coefficient values between independent variables are less than 0.9. According to the Pearson correlation criteria, if the correlation coefficient value is not greater than 0.9, then multicollinearity is not an issue.

Table 7. Heteroscedasticity Test using the Glejser Test

Variable	Prob.
LN_GMV	0.0000
LN_FDI	0.0000

LN_EXPT	0.0388
LN_CPI	0.4126

Source: processed writer using EViews 13

The results show a probability value of 0.4126 for the consumer price index, which exceeds 0.05, indicating that the study is affected by heteroscedasticity. To address heteroscedasticity, Weighted Least Squares (WLS) or weighted linear regression can be used.

The test results show a DW-test value of 1.368569, indicating autocorrelation. Autocorrelation can be addressed by using *the cross-section SUR standard error*.

Based on the classical assumption test, the results of the regression estimation using *the Weighted Least Squares (WLS) - Cross-Section SUR (PSCE) test* can be seen in the following table:

Table 8. Regression estimation results of variables that affect GDP in ASEAN-6 with Fixed effect Model with Cross-section Weight- Cross-Section SUR (PSCE) Standard errors & Covariance

Variable	Coefficient	t-ratio	Prob.
C	20.63263	40.43454	0.0000
LN_GMV	0.007281	0.473380	0.6380
LN_FDI	-0.003228	-0.303448	0.7628
LN_EXPT	0.951231	6.008646	0.0000
LN_CPI	0.297379	8.652398	0.0000
R-Square	0.998453		
F-ratio	3585.841		
(significant)	0.000000		
The number of significant variables		2 of 4 variables	
N		60	
Dw		1.496108	

Source: data processed by the author with EViews13

Based on the regression estimation results, the research model is as follows:

$$\text{LnGDP}_{it} = 20.63263 + 0.007281\text{LnGMV}_{it} - 0.003228\text{LnFDI}_{it} + 0.951231\text{LnEXPT}_{it} + 0.297379\text{LnCPI}_{it} + e_{it} \quad (2)$$

The regression results indicate that the Export variable has a p-value of 0.000, which is below 0.05, demonstrating a significant positive impact on GDP. Similarly, the CPI (Consumer Price Index) has a p-value of 0.000, indicating a significant positive effect on GDP. Conversely, the GMV and FDI variables have p-values above 0.05, suggesting they do not have a statistically significant influence on GDP.

The regression results show a GMV probability of 0.6380, which is above 0.05, indicating that the digital economy does not influence economic growth in ASEAN-6 countries. The e-Conomy SEA 2025 study indicates that the digital economy within the ASEAN region is experiencing a phase of monetary gain. This arises as a result of a prolonged period of steadily increasing quantities. [Temasek et al. \(2025\)](#), also noted that subsidies have been the principal catalysts of Gross Merchandise Volume (GMV), irrespective of their impact on sustainable economic development. This is the inference that can be derived from our findings. This is the conclusion that can be derived from the gathered data. Consequently, subsidies are the primary element of gross merchandise volume.

According to research by [Hanna \(2020\)](#), the results from the research show that there has been no rise in the contribution to the overall national production connected with transactions taking place on digital platforms, as shown by [Hanna \(2020\)](#). This was decided when the investigation was over. Furthermore, the heavy dependence on imported goods has prevented the digital economy from making a meaningful contribution to the nation's economic growth. This is due to the increasing need for e-commerce platforms mainly based on goods bought from other sources. Therefore, the digital economy has not acted as a stimulant for economic growth. The results of the research by [Ha & Chuah \(2023\)](#) and [Abdillah \(2023\)](#) on the relationship between digitalization and economic growth in Asian countries are consistent with the conclusions in this article. Their findings suggest that some dimensions of Internet use are not strongly associated with economic development. But other parts of the digital ecosystem, such as the number of fixed broadband customers, are important pieces in the overall evaluation. This is not what you were expecting. Digital infrastructure indicators are about a nation's durable structural capability. Things like usage or transaction value (e.g., gross merchandise volume) are probably to be unimportant. The results demonstrate that the various aspects of the digital economy have differing effects on economic growth from the perspective of data. This is shown in the Results section. GMV, essentially representing the transaction value on digital platforms like e-commerce, online transportation, and food delivery, does not necessarily correlate directly with macroeconomic indicators like GDP growth, because most of these transaction values may be shifts (substitutions) from existing conventional economic activities, rather than the creation of new added value on net.

The regression results show a probability value of 0.7628 for FDI, which is above the 0.05 significance level, and a negative coefficient of 0.003228. This suggests that FDI does not impact economic growth. [Liang et al. \(2021\)](#), found that foreign direct investment (FDI) has an important role in the growth of the economy in developing markets, and the use of FDI depends on the level of development of the country receiving the FDI. In order to improve the function of foreign direct investment (FDI), we need to think about the functions of domestic investment, infrastructure, and finance. Most of the ASEAN-6 countries are still developing, and Singapore is the only developed country with a stable economy. According to [Adekunle et al. \(2020\)](#), therefore, foreign direct investment will only stimulate the economic growth of a country if it is already developed. Moreover, in the 2025 e-Conomy SEA ([Temasek et al., 2025](#)), the development of digital investment (AI/Data Center) requires the use of competent human resources to create the sentence effectively.

The regression estimation results show a probability value of 0.0000, which is less than 0.05, and a coefficient of 0.951231. This shows that exports have a positive and significant influence on economic growth. The theory of comparative advantage explains that each country benefits from international trade if it specializes in the production of goods with a relatively lower opportunity cost compared to other countries, then exports its excess production and imports goods that trading partners more efficiently produce. This principle is the theoretical foundation for the belief that trade, especially exports, can contribute to long-term economic growth ([Paul R. Krugman et al., 2022](#)). This is similar to research from [Gunawan et al. \(2024\)](#), which shows that exports play an important role in driving the country's economy, increasing foreign exchange reserves that can be used to finance its economic sectors. [Natasya &](#)

[Saputra \(2023\)](#) state that if a country engages in exports, it will earn profits or income from international trade.

The regression estimation results show a probability value of 0.0000 (less than 0.05) and a coefficient of 0.297379. This shows that the Consumer Price Index has a positive and significant influence on economic growth. This is in line with [He \(2023\)](#), the analysis found an association between inflation and economic growth that looks like an inverted U. This shows that low to moderate inflation has a positive effect on the economy until it reaches a certain level, beyond which it starts to have a negative effect on growth. The coefficient, as it turns out from the results of this inquiry, is incredibly low, about 0.006058, or 0.6 percent. This means that inflation is still at a level that is positive for economic growth and not negative for economic growth. According to the findings of [Puji Astuti & Prasetyanto \(2022\)](#), the Consumer Price Index has an effect on the growth of the economy over the long term. One factor that can be used to measure inflation is the Consumer Price Index. According to [Ramadhanty et al. \(2024\)](#), an increase in the overall price levels does not necessarily have a negative impact on the economy. In fact, it may even coincide with an increase in the amount of economic activity that occurs inside the country. According to the demand-pull inflation theory, moderate price increases are a reflection of an increase in aggregate demand in the economy. This finding is consistent with the theory. If there is an increase in the demand for products and services, then there will be an increase in output, which will stimulate the economy even if prices are going up ([Mankiw, 2022](#)).

Conclusions

Based on the results and discussion explained above, it can be concluded that the digital economy variable (GMV) has no significant influence on economic growth in ASEAN-6 countries. The investment variable (FDI) has no significant influence on economic growth in ASEAN-6 countries. The export variable has a positive and significant influence on economic growth in ASEAN-6 countries. The Consumer Price Index (CPI) variable has a positive and significant influence on economic growth in ASEAN-6 countries.

Implications

Policy Implications

Empirical evidence suggests that digital economy (GMV) and foreign direct investment (FDI) variables do not substantially affect the growth of ASEAN-6 countries, while exports and the consumer price index (CPI) do. Policies should focus on increasing exports and controlling inflation. To maximize the benefits of using the digital economy, countries should encourage the increase of domestic goods on e-commerce platforms by reducing import restrictions and increasing the proportion of local content in the GMV.

Implications for Practice and Industry

In this case, entrepreneurs with business interests must strengthen their sales strategies to improve local e-commerce competencies and produce competitive and superior digital products. In addition, improving the ability of human resources in the use of the

latest technology obtained from foreign investment is a matter that must be considered in the strategic to optimize production capacity and ensure sustainable economic performance.

Direction of Future Research

Further research is suggested to look for indicators that are appropriate for the digital economy and investment on economic growth, in addition to variability between countries and governance elements as moderating factors to produce a more thorough understanding of the various impacts of the digital economy and investment on economic growth in ASEAN countries. In addition, a deeper exploration of the social consequences of CPI-driven growth, particularly its impact on consumer well-being and income distribution, will enhance the analytical scope and practical significance of this research.

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