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THE TECH STOCKS' PARADOX: UNRAVELING THE UNEXPECTED DECLINE AMID INDONESIA'S DIGITAL ECONOMY BOOM

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Abstract

This study aims to analyze the influence of digital economy growth, macroeconomic factors, and stock liquidity on the stock prices of Indonesia's technology sector during the period of January 2021 to December 2024. Employing a quantitative approach, this research utilizes the Structural Equation Modeling-Partial Least Squares (SEM-PLS) method processed through the SmartPLS software. The study relies on secondary monthly data, including digital indicators such as private funding value and internet user growth, macroeconomic indicators such as interest rates and exchange rates, and liquidity indicators such as trading volume and frequency. The results indicate that digital economy growth has a positive and significant effect on technology sector stock prices, while macroeconomic factors show a negative and significant impact. Meanwhile, stock liquidity does not exhibit a significant effect. These findings offer new insights into the dynamics of technology stocks in Indonesia, which do not always align with digital development, and highlight the critical role of macroeconomic conditions in investment decision-making. This research is expected to contribute to the development of digital financial strategies in the national context.

Keywords: ***Digital Economy, Macroeconomics, SEM-PLS, Stock Liquidity, Stock Price***

INTRODUCTION

Technology sector stock prices serve as a critical indicator of market perception and valuation of companies in the technology sector (Sihotang, 2023). These prices are influenced by various factors, including company performance, industry trends, and broader economic conditions (Nurlaily et al., 2023) (Elisa & Purwanto, 2024). In many developed and emerging markets, technology stock prices have seen consistent growth, reflecting advancements in innovation and increased demand for technology-driven solutions (Liu et al., 2024). Understanding the dynamics of these stock prices is crucial for investors and policymakers alike, as they often signal broader trends within the digital economy.

The growth of the digital economy, a sector encompassing e-commerce, digital payments, and technology-based services, is one such factor that could significantly influence technology sector stock prices (He et al., 2025). Indonesia's digital economy has experienced remarkable growth in recent years, characterized by widespread technological adoption and significant increases in online transactions (Negara & Sugiana, 2022).

The penetration of internet access in Indonesia has reached unprecedented levels, with over 80% of the population now connected (Fitriya & Aniqoh, 2020). In line with this trend, data in Figure 1 shows that Indonesia's e-commerce Gross Merchandise Value (GMV) reached USD 65 billion in 2024, rising from USD 59 billion in 2023. Overall, the country's digital economy recorded a total GMV of USD 90 billion in 2024. Amid global uncertainty, all segments of the digital economy continued to grow significantly, reflecting the resilience and long-term potential of Indonesia's digital ecosystem.

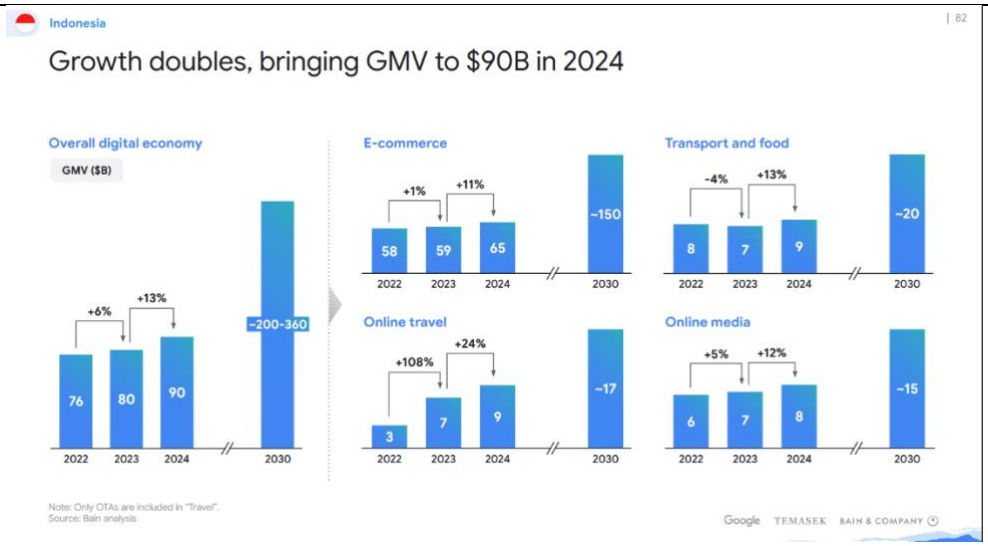

Figure 1. Indonesia's Digital Economy GMV Growth ($B), 2022–2024
Source: Bain Analysis in E-Conomy SEA 2024 Report (Google, Temasek, Bain & Co)

Despite these positive trends, technology sector stocks in Indonesia have not exhibited the growth trajectory one might anticipate given the sector's apparent vitality (Dewi et al., 2022) (Fauzi & Rochmatullah, 2024) which can be seen in Figure 1. This discrepancy between macroeconomic digital indicators and stock market performance raises critical questions about the underlying factors influencing market valuation of technology companies in Indonesia, presenting an anomaly that warrants thorough investigation

Figure 2. Indonesia SE Technology's Stock Price (2021-2024)
Source : Investing.com

This study aims to elucidate the complex interplay of factors contributing to this paradox. By examining the relationship between digital economy growth indicators, macroeconomic variables, and various stock liquidity indicators, we seek to provide a comprehensive analysis of the forces shaping technology sector stock performance in Indonesia.

The urgency of this research extends beyond academic inquiry. Understanding the dynamics at play in this market anomaly could provide valuable insights for investors, policymakers, and technology companies operating within Indonesia's digital economy. It may reveal hidden risks or opportunities within the sector and inform strategies for navigating the unique challenges of Indonesia's evolving digital landscape. By conducting this comprehensive analysis, we aim to contribute to a more nuanced understanding of the factors influencing technology sector stock performance in Indonesia, potentially uncovering insights that could guide investment decisions, corporate strategies, and policy formulation in support of the country's digital economy.

LITERATURE REVIEW

Technology Sector Stock Prices

Technology sector stock prices represent the market valuation of companies operating in the technology sector, including firms engaged in software development, digital platforms, fintech, and e-commerce. These stock prices fluctuate based on various factors such as company performance, industry growth, investor sentiment, and macroeconomic conditions (Hema, 2022) (Aini et al., 2024). In many economies, the technology sector has exhibited strong growth, often outperforming traditional industries due to rapid innovation and increasing reliance on digital solutions (Putra & Aksari Anindhynta, 2024). Given these dynamics, understanding the factors that drive technology sector stock prices is essential, particularly in the context of Indonesia's emerging digital economy.

Research on this sector is scarce. Previous studies on stock market performance have primarily focused on traditional sectors such as banking, manufacturing, and consumer goods (Fanani & Putri, 2023)(Gea & Christian Tobing, 2022). However, research specifically examining technology sector stock prices in emerging markets, particularly Indonesia, remains limited. Furthermore, most research focuses on developed markets, leaving a gap in understanding how technology sector stock prices behave in emerging economies like Indonesia (Oloyede et al., 2023).

Digital Economy Growth

Digital economy growth refers to the expansion and increasing contribution of digital-based industries to overall economic performance (Kurniawati et al., 2021), including e-commerce, fintech, cloud computing, and digital services, as key drivers of economic growth (Goldfarb & Tucker, 2019). This sector is often measured through indicators such as internet penetration, digital transaction volume, venture capital investment, and technology adoption rates (G20 DETF, 2018). A robust digital economy enhances market efficiency, increases consumer access, and improves business scalability, ultimately contributing to stock market growth (Prasidya & Dewi, 2023). In theory, a rapidly expanding digital economy should lead to higher valuations for technology stocks, as greater digital adoption increases demand for tech-based services and attracts investor confidence (Mahmudov & Mullabayev, 2020).

Several studies have examined the link between digitalization and stock market performance, producing mixed results. For example, (Singh & Ranjan, 2024) found that digital transformation growth has a positive effect and significantly enhances stock prices. Similarly, (Afshan et al., 2021) showed that internet penetration, a key indicator of digital economy growth, has a significant positive impact on stock prices, as it expands consumer access to digital services and e-commerce platforms. However, Indonesia's technology sector stock market has not followed this expected trajectory, as some major technology stocks have shown stagnation or decline despite the sector's rapid expansion (Indonesia Investments, 2023). This discrepancy aligns with the findings of (Evlakhova et al., 2024), who argue that the impact of digitalization may be too limited to significantly influence stock prices to the point where it almost does not have an impact, making it a secondary rather than a primary determinant. These contrasting findings suggest that the relationship between digital economy growth and technology stock prices is not yet fully understood, creating a gap for further research.

Macroeconomic Factors

Macroeconomics refers to the study of broad economic factors that influence national and global financial systems (Tsai, 2019). Macroeconomic factors significantly impact stock market performance by shaping investor sentiment, capital flows, and market stability. Key indicators such as GDP growth, inflation, exchange rates, interest rates, and government policies directly affect stock valuations. A strong economy with rising disposable income and GDP growth generally boosts corporate earnings and investor confidence, driving stock prices higher (Wijaya & MN, 2022). Conversely, macroeconomic instability—fluctuating exchange rates, inflation, and unpredictable interest rates—creates market volatility and discourages investment.

Previous studies have yielded mixed findings regarding the impact of macroeconomic factors on stock prices. (Keswani et al., 2024) found that disposable income and GDP growth positively influence stock prices, while factors such as exchange rates, interest rates, inflation, and government policies have a negative effect. Meanwhile, (Sugiyanto & Putra, 2021) reported that economic growth, particularly GDP expansion, positively affects stock prices, but variables like exchange rates, interest rates, and inflation show no significant impact. In contrast, (Depari, 2022) found that inflation negatively affects stock prices, interest rates have a positive impact, and GDP growth does not influence stock prices at all. These inconsistencies indicate that the relationship between macroeconomic factors and technology stock prices remains unclear.

Technology Sector Stock Liquidity

Stock liquidity refers to the ease with which shares can be bought or sold without significantly impacting their price. Highly liquid stocks tend to have narrow bid-ask spreads, high trading volumes, and frequent transactions, making them more attractive to investors (Naik & Reddy, 2021). Liquidity is crucial in stock market stability, as it facilitates efficient price discovery and reduces transaction costs (Brockman et al., 2024). In the technology sector, stock liquidity plays a significant role in determining price movements, as tech stocks often experience higher volatility due to speculative trading and rapid innovation cycles (Manh et al., 2025). Understanding how liquidity affects technology stock prices is essential

Previous studies have produced contradictory findings regarding the impact of stock liquidity on stock prices. (Khoirunisa et al., 2024) found that liquidity indicators such as trading volume and trade frequency positively influence stock prices, as increased market activity attracts more investors and enhances price efficiency. Conversely, (Sezgin Alp et al., 2022) discovered that higher stock liquidity indirectly contributes to a negative effect on stock prices by increasing crash risk, as excessive liquidity can lead to speculative bubbles and sudden market corrections. Meanwhile, (Fanani & Putri, 2023) found no significant relationship between liquidity indicators like trading volume and trade frequency and stock prices, suggesting that other factors may play a more dominant role. These inconsistencies highlight the need for further research on how stock liquidity affects technology stock.

Thus, the research hypotheses are formulated as follows:

H1: Indicators of Digital Economy Growth (X1) has a significant impact on IDXTECHNO (Y).
H2: Macroeconomic factors (X2) have a significant impact on IDXTECHNO (Y).
H3: Indicators of Technology Sector Stock Liquidity (X3) has a significant impact on IDXTECHNO (Y).

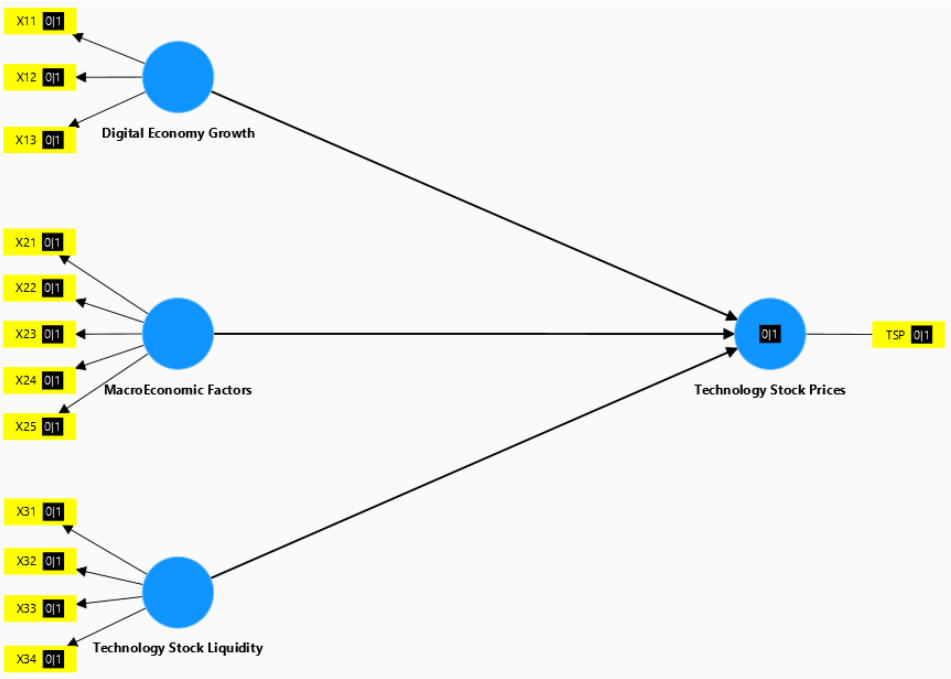

Figure 3. Conceptual Framework
Source : SmartPLS

METHOD

This study employs a quantitative research design, which focuses on numerical data analysis to identify patterns, relationships, and causal effects between variables. According to (Creswell John & Creswell J.David, 2018) in their book, quantitative research emphasizes objective measurements, statistical analysis, and the use of structured instruments to collect and analyze data systematically. The study measures its variables in a structured manner to capture the multifaceted relationships between these economic indicators. The dependent variable, technology sector stock prices, is represented by a composite index of technology companies listed on the Indonesian Stock Exchange (IDX). This serves as a reliable indicator of the market valuation and performance of the sector. Technology sector

stock prices will be analyzed as a standalone indicator. The independent variables are categorized into three main groups: digital economy growth indicators, macroeconomic factors, and technology stock liquidity, each contributing to the overall market dynamics affecting technology sector stock prices.

The growth of the digital economy is measured using three main indicators: Gross Merchandise Value (GMV), private funding value in the digital sector, and the number of internet users. GMV represents the total value of goods and services transacted through digital platforms, providing insight into the scale of digital commerce. Private funding value reflects investor interest and capital flow into the digital ecosystem, indicating market confidence and long-term growth potential. The number of internet users captures digital accessibility and the adoption of online services by the population.

Macroeconomic factors are represented by five key indicators: GDP growth rate, inflation rate, exchange rate (IDR/USD), interest rate (Bank Indonesia policy rate), and foreign exchange reserves. These indicators reflect the broader economic environment in which technology firms operate. GDP growth shows overall economic expansion, inflation and interest rates influence investment costs and consumer behavior, exchange rate fluctuations affect international trade and foreign investor sentiment, while foreign reserves indicate economic stability and the country's ability to respond to external shocks.

The liquidity of technology stocks is assessed using four market-based indicators: trading volume, trading frequency, value traded, and number of trading days. These indicators represent the level of market activity and the ease with which technology stocks can be bought or sold. Higher liquidity generally indicates better market efficiency and stronger investor participation. By analyzing these indicators, this study aims to understand the role of stock liquidity in shaping the valuation and price behavior of technology firms.

Population and Sample

The population of this study encompasses data from both dependent and independent variables over the period 2021 to 2024. For the dependent variable, the population includes all monthly closing price data of the JKTechno Index, representing technology stock performance in Indonesia. With an average of 12 months per year, the sample consists of approximately 48 observations during the study period. For the independent variables, the population includes various metrics: (1) Digital Economy Indicators, such as Gross Merchandise Value contribution, private funding value and the number of internet users; (2) Macroeconomic Factors, including monthly GDP growth rates, inflation rates, interest rates, exchange rates (IDR to USD) and foreign reserves; and (3) Technology Sector Stock Liquidity, measured through monthly trading volume, trade frequency, value traded and number of trading days. The sample for each independent variable is also drawn on a monthly basis across the same 48-month period, ensuring consistent temporal alignment with the dependent variable.

Data Collection

This study collects data from multiple credible sources to ensure accuracy and comprehensiveness. Technology stock prices are obtained from IDX, Bloomberg, Investing.com, TradingView, and, Stockbit. Digital economy indicators are sourced from E-Conomy SEA Report by Google, Temasek, Bain & Co, the World Bank, Data Reportal and We Are Social. Macroeconomic data is retrieved from Bank Indonesia, Trading Economics, BPS, and the World Bank. Stock liquidity metrics come from major financial platforms in this case TradingView and Investing.com, ensuring a comprehensive assessment of factors influencing technology sector stock prices in Indonesia..

Data Analysis

This study employs Structural Equation Modeling (SEM), a statistical technique used to analyze complex relationships between multiple variables by incorporating both direct and indirect effects (Ihsan Khairi & Susanti, 2021). SEM is particularly useful in examining latent constructs, which are variables that cannot be measured directly but are represented through multiple indicators (Karki, 2017). Unlike traditional regression analysis, SEM allows for a simultaneous evaluation of multiple relationships, providing a more comprehensive understanding of the factors influencing technology stock prices.

This study applies Partial Least Squares Structural Equation Modeling (PLS-SEM), a variance-based SEM approach well-suited for exploratory research and handling non-normally distributed data. PLS-SEM is particularly effective for predictive modeling and theory development, making it a preferred choice for financial and economic research (Hair et al., 2022). Additionally, this study employs a reflective measurement model, where indicators reflect their respective constructs rather than forming them. This is particularly relevant for digital economy growth, macroeconomic factors, and stock liquidity, as their indicators are expected to be highly correlated and interchangeable within each construct. The analysis is conducted using SmartPLS software, which provides robust

estimations for complex path models while accommodating small to medium sample sizes. According to (Hair et al., 2022), data analysis in PLS-SEM with a reflective model consists of two main stages: Outer Model Testing and Inner Model Testing. Outer Model Testing assesses the validity and reliability of indicators in measuring latent constructs, using outer loadings, Average Variance Extracted (AVE), Composite Reliability (CR), and discriminant validity through the Fornell-Larcker Criterion and HTMT. Meanwhile, Inner Model Testing evaluates the relationships between latent constructs using path coefficients, R-Squared (R^2), and Standardized Root Mean Square Residual (SRMR) to assess the strength of relationships and overall model fit. This approach ensures that the model has good validity and accurately explains the relationships between variables.

RESULTS AND DISCUSSION

Results

Outer Model Evaluation (Measurement Model)

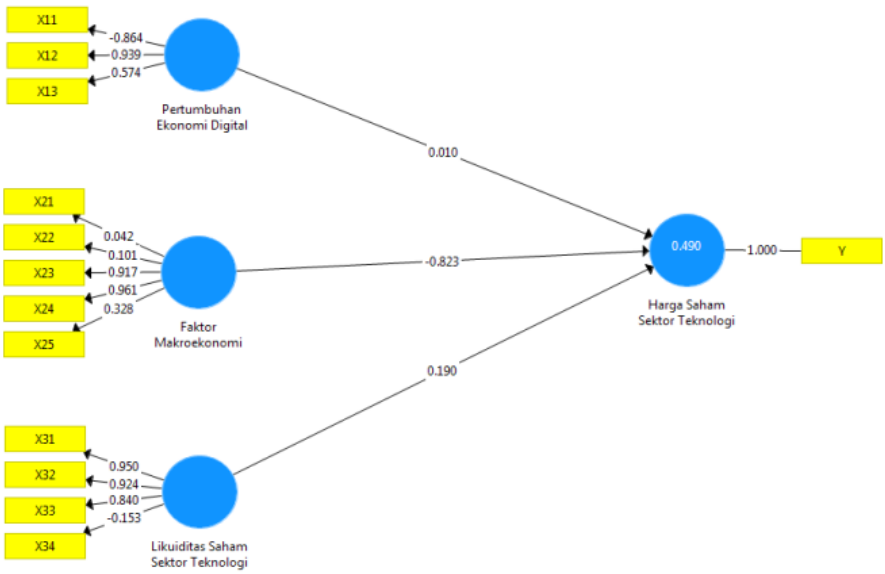

Figure 4. Initial Outer Model
Source: SmartPLS Data Analysis

Based on the visualization of the model and the calculated loading factor values, it was identified that indicators X1.1, X2.1, X2.2, X2.3, and X3.4 had loading factor values below the threshold of 0.70. Therefore, these indicators were removed from the model to improve the measurement quality. After the elimination, a re-estimation was performed, resulting in a revised model as shown below:

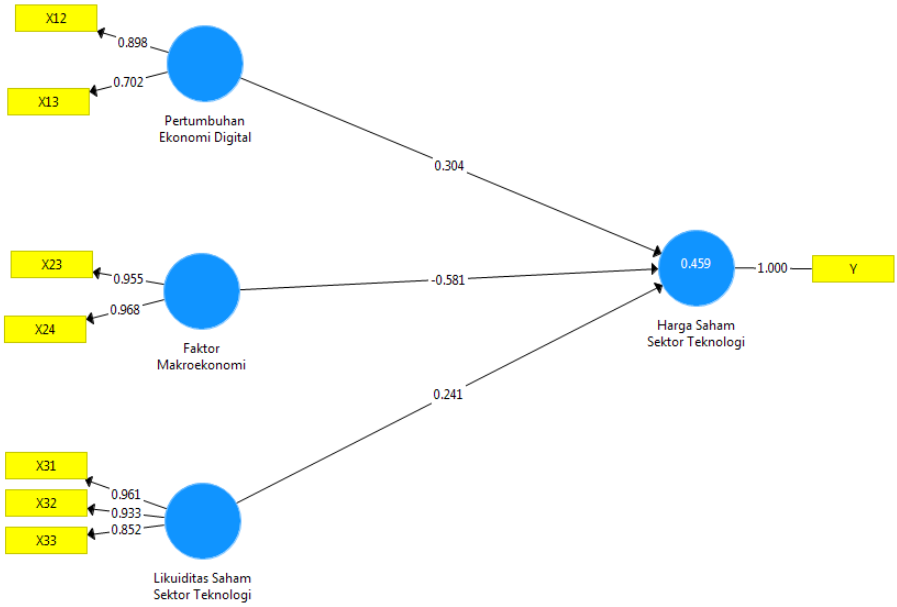

Figure 5. Revised Outer Model

Source: SmartPLS Data Analysis

Validity Test

In this study, the validity and reliability of the research instruments were tested using the SmartPLS software. Instrument validity was assessed through two approaches: convergent validity and discriminant validity. Convergent validity was evaluated using loading factor values, while discriminant validity was examined through cross-loading values.

a. Convergent Validity

Convergent validity in reflective measurement models is determined by the correlation between indicator scores and the construct score, calculated using the Partial Least Squares (PLS) method. An indicator is considered to exhibit good convergent validity if it has a correlation of more than 0.70 with the intended construct. However, according to (Ghozali & Latan, 2015), in exploratory or early-stage studies, loading factor values between 0.50 and 0.60 are still acceptable. In this study, a threshold of 0.70 was applied as the criterion for indicator validity, with computations conducted using the SmartPLS algorithm. The results of the convergent validity assessment based on loading factor values are presented in Table 1 below:

Table 1. Convergent Validity Test Results Based on Loading Factor

	Digital Economy Growth (X1)	Macroeconomic Factors (X2)	Technology Sector Stock Liquidity (X3)	Technology Sector Stock Price (Y)
X1.2	**0,898**			
X1.3	**0,702**			
X2.3		**0,955**		
X2.4		**0,968**		
X3.1			**0,961**	
X3.2			**0,933**	
X3.3			**0,852**	
Y				**1,000**

Based on the results shown in Table 1, all indicators used in the final model demonstrated loading factor values above 0.70, indicating that each indicator is valid and appropriate to represent the respective construct measured in this study.

b. Discriminant Validity

Discriminant validity is used to ensure that each construct in the model is truly distinct from the others. It is assessed by comparing the square root of the Average Variance Extracted (AVE) with the correlation between constructs. If the square root of a construct's AVE is greater than its correlations with other constructs, then discriminant validity is considered to be satisfactory. The results of the discriminant validity test using cross-loading values are presented in Table 2 below:

Table 2. Cross-Loading Values

	Digital Economy Growth (X1)	Macroeconomic Factors (X2)	Technology Sector Stock Liquidity (X3)	Technology Sector Stock Price (Y)
X1.2	0,898	-0,856	-0,780	0,593
X1.3	0,702	-0,392	-0,237	0,367
X2.3	-0,731	0,955	0,659	-0,563

X2.4	-0,846	0,968	0,825	-0,667
X3.1	-0,701	0,731	0,961	-0,414
X3.2	-0,656	0,792	0,933	-0,450
X3.3	-0,455	0,476	0,852	-0,122
Y	0,615	-0,644	-0,422	1,000

The cross-loading results in Table 2 indicate that each indicator has the highest correlation with the construct it is intended to measure, compared to its correlations with other constructs. Therefore, it can be concluded that all indicators used in this study satisfy the requirements of discriminant validity.

Reliability Test

Reliability testing in this study was carried out using the SmartPLS software. Construct reliability was assessed using Composite Reliability (CR) values greater than 0.70 and Average Variance Extracted (AVE) values above 0.50. The detailed results of the reliability test are presented in Table 3 below:

Table 3. AVE, Cronbach's Alpha, and Composite Reliability Values

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Digital Economy Growth (X1)	**0,481**	**0,552**	**0,785**	**0,650**
Macroeconomic Factors (X2)	**0,919**	**0,939**	**0,961**	**0,925**
Technology Sector Stock Liquidity (X3)	**0,915**	**1,018**	**0,940**	**0,840**
Technology Sector Stock Price (Y)	**1,000**	**1,000**	**1,000**	**1,000**

Although Cronbach's Alpha and rho_A are also reported, the assessment of construct reliability primarily focuses on CR and AVE. This is based on methodological considerations in Partial Least Squares Structural Equation Modeling (PLS-SEM), where Composite Reliability is viewed as a more accurate indicator of internal consistency than Cronbach's Alpha, as it does not assume tau-equivalence across indicators (Hair et al., 2022).

Based on the results in Table 3, the AVE value for the Digital Economy Growth construct is 0.650 with a CR of 0.785. The Macroeconomic Factors construct has an AVE of 0.925 and a CR of 0.961. The Liquidity of Technology Stocks construct has an AVE of 0.840 and a CR of 0.940. Finally, the Technology Stock Price construct has both AVE and CR values of 1.000.

CR values above 0.70 and AVE values exceeding 0.50 indicate adequate internal consistency and good convergent validity. Therefore, despite the presence of lower Cronbach's Alpha and rho_A values in one of the constructs, the overall results confirm that all constructs are reliable for measuring their respective latent variables.

Inner Model Evaluation (Structural Model)

Evaluation of the structural model (inner model) in this study was conducted by examining the coefficient of determination (R^2) and the significance of path coefficients between latent variables. These values were calculated using SmartPLS and are illustrated in the following figure:

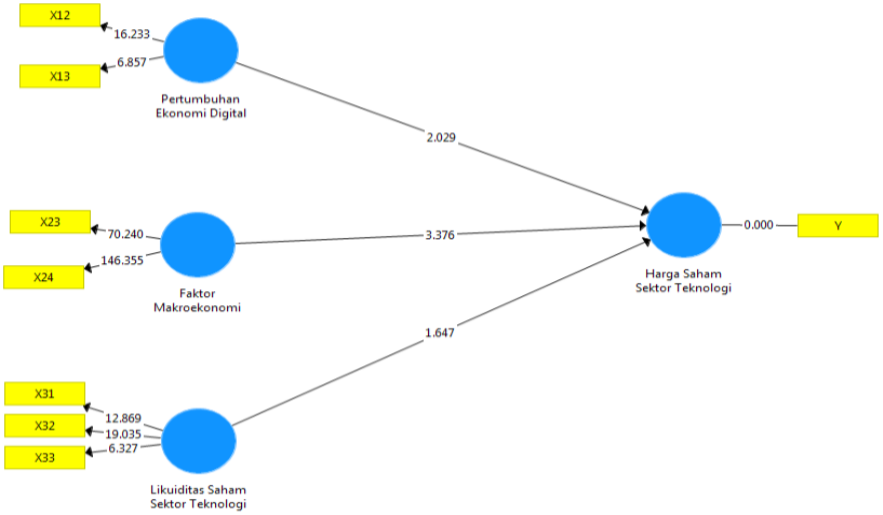

Figure 6. Inner Model
Source: SmartPLS Data Analysis

R² (R-Square) Results

In assessing the structural model using the PLS-SEM approach, analysis begins with reviewing the Adjusted R² value of the dependent latent variable. This value reflects how much of the variation in the dependent variable can be explained by the independent variables in the model. The R² results of this study are presented in Table 4:

Table 4. R² and Adjusted R² Values

	R Square	R Square Adjusted
Technology Sector Stock Price (Y)	0,459	0,422

Based on the calculation results, the Adjusted R² value for the Technology Sector Stock Price (Y) variable is 0.422. This means that approximately 42.2% of the variation in technology stock prices can be explained by the three independent variables in this study: Digital Economy Growth (X1), Macroeconomic Factors (X2), and Stock Liquidity (X3). The remaining 57.8% is influenced by other variables not included in this model, such as leverage ratios (e.g., total debt to total asset, debt to equity), profitability ratios (e.g., profit margin, return on assets, return on equity, return on investment, and earnings per share) (Rahmawati et al., 2024), investor and market sentiment, global technological developments, firm size (Utami & Sudiyatno, 2024), and other external factors.

Hypothesis Testing

This study tested the direct effects of the independent variables on the dependent variable by analyzing the path coefficients using t-statistics. A relationship is considered significant when the t-statistic ≥ 1.960 or the p-value ≤ 0.05 (α = 5%). This threshold indicates a 5% chance of committing a Type I error (false positive), with a 95% confidence level that the hypothesis can be accepted. The full results of the direct effect testing, obtained through SmartPLS bootstrapping, are shown in Table 5:

Table 5. Path Coefficients and Significance Levels

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Digital Economy Growth (X1) -> Technology Sector Stock Price (Y)	0,304	0,318	0,150	2,029	**0,043**

Macroeconomic Factors (X2) -> Technology Sector Stock Price (Y)	-0,581	-0,560	0,172	3,376	**0,001**
Technology Sector Stock Liquidity (X3) -> Technology Sector Stock Price (Y)	0,241	0,222	0,147	1,647	**0,100**

The following are the results and interpretations of each hypothesis test:

a. H1: Digital Economy Growth (X1) → Technology Sector Stock Price (Y)
The test shows a t-statistic of 2.029 and a p-value of 0.043. Since the t-value exceeds 1.96 and the p-value is below 0.05, it is concluded that Digital Economy Growth (X1) has a significant effect on Technology Sector Stock Price (Y). Thus, the first hypothesis is accepted.

b. H2: Macroeconomic Factors (X2) → Technology Sector Stock Price (Y)
The test produces a t-statistic of 3.376 and a p-value of 0.001. Both values meet the criteria ($t > 1.96$ and $p < 0.05$), indicating a significant effect of Macroeconomic Factors (X2) on Technology Sector Stock Price (Y). Therefore, the second hypothesis is accepted.

c. H3: Stock Liquidity (X3) → Technology Sector Stock Price (Y)
The results show a t-statistic of 1.647 and a p-value of 0.100. Since the t-value is less than 1.96 and the p-value exceeds 0.05, the effect of Stock Liquidity (X3) on Technology Sector Stock Price (Y) is not significant. Therefore, the third hypothesis is rejected.

Discussion

1. Digital Economy Growth (X1) and Technology Sector Stock Price (Y)

The hypothesis testing results show that Digital Economy Growth (X1) has a positive and significant effect on the Technology Sector Stock Price (Y). This finding is consistent with previous studies by (Singh & Ranjan, 2024) and (Afshan et al., 2021), which highlight the contribution of digital economy development to the rising value of technology stocks.

Logically, this result can be explained by the fact that digital economic growth drives digital transformation across industries, particularly in the technology sector. As technology adoption increases among consumers and businesses—such as through cloud services, e-commerce, fintech, and digital payment systems—demand for products and services from tech companies also rises. This strengthens market expectations of tech firm performance, which is reflected in rising stock prices.

This phenomenon was clearly observed in Indonesia during the COVID-19 pandemic, which accelerated digital transformation and fueled investor interest in technology stocks. In 2021, the IDXTECHNO index experienced a significant surge, driven by major IPOs from digital companies like Bukalapak and GOTO. However, subsequent adjustments occurred as market fundamentals failed to keep pace with earlier investor expectations.

2. Macroeconomic Factors (X2) and Technology Sector Stock Price (Y)

The findings indicate that Macroeconomic Factors (X2) have a negative and significant effect on Technology Sector Stock Price (Y). This is consistent with (Keswani et al., 2024), who found that variables such as inflation, exchange rates, and interest rates exert downward pressure on stock prices, particularly in sectors sensitive to market sentiment and capital flows.

This outcome is logical, as the tech sector heavily relies on long-term growth investors. When macroeconomic pressures emerge—such as rising inflation or interest rates—investors tend to shift capital toward safer assets (flight to safety), causing tech stocks to correct. A depreciating exchange rate can also increase the operational costs of tech companies, especially those dependent on imported hardware or global components.

This was evident in Indonesia, for instance, when Bank Indonesia raised benchmark interest rates in 2022 and 2023 in response to global inflationary pressures and a weakening rupiah. These moves led to corrections in the technology index, as investors began profit-taking and reallocating portfolios to more defensive or lower-risk sectors.

3. Stock Liquidity (X3) and Technology Sector Stock Price (Y)

The test results show that Stock Liquidity (X3) has no significant effect on the Technology Sector Stock Price (Y), leading to the rejection of the third hypothesis due to the absence of direct statistical evidence.

This is consistent with previous findings by (Fanani & Putri, 2023), who also concluded that liquidity indicators such as trading volume and frequency do not play a crucial role in driving stock price changes in the technology sector.

A possible explanation is that during times of uncertainty or high volatility, investors prioritize fundamental or macroeconomic factors over micro indicators like liquidity. Additionally, the Indonesian tech stock market is still largely composed of small- to mid-cap companies with unstable liquidity profiles.

According to data from the IDX and financial news outlets such as *Kontan* and *Bisnis.com*, the tech sector has often experienced "pump and dump" behavior by speculators, resulting in high trading activity that does not reflect underlying value. Thus, metrics like volume and trade frequency may not consistently correlate with stock price movements.

CONCLUSION

This study aimed to analyze the influence of digital economy growth, macroeconomic factors, and stock liquidity on the stock prices of Indonesia's technology sector during the period from January 2021 to December 2024. The analysis using the PLS-SEM approach revealed that digital economy growth has a positive and significant effect on technology sector stock prices, indicating that digitalization plays a vital role in driving the valuation of stocks in this sector. Meanwhile, macroeconomic factors demonstrated a negative and significant impact, suggesting that technology stock prices are highly sensitive to economic pressures such as exchange rate fluctuations and changes in interest rates. In contrast, stock liquidity did not exhibit a significant effect on stock prices, implying that liquidity indicators may not serve as reliable predictors for the price movements of technology sector stocks in Indonesia. Overall, the findings illustrate that despite the continuous expansion of the digital economy, the dynamics of technology stock prices remain influenced by the complex interaction between macroeconomic conditions and market responses. These results directly address the central paradox of the study: the decline in technology stock prices is not due to a lack of digital progress—which in fact has advanced rapidly and contributed positively to stock valuations—but rather due to the more dominant impact of macroeconomic pressures during the observed period. The practical implications of these findings may serve as valuable input for investors and policymakers in developing asset allocation strategies and digital sector policies. Investors are advised to monitor digital economy indicators as early signals of growth, while also paying close attention to macroeconomic variables such as interest rates and exchange rates, which can significantly affect the valuation of technology stocks. On the other hand, market liquidity does not necessarily reflect a stock's fundamental value, suggesting that investment decisions should not rely solely on volume and trading frequency. For issuers, maintaining performance transparency and building investor trust through sustainable business development may be a more effective strategy than merely increasing short-term trading activity.

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