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DIGITAL TRANSFORMATION AND FINANCIAL EFFICIENCY TO SUPPORT ECONOMIC SUSTAINABILITY

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ABSTRACT
This study examines the role of digital transformation in enhancing financial efficiency to support economic sustainability. The increasing adoption of digital technologies, such as artificial intelligence, blockchain, and big data analytics, has significantly impacted financial management strategies. This research employs a qualitative approach with a case study method to analyze the effects of digitalization on financial decision-making, cost reduction, and overall economic growth. The results show that digital transformation positively correlates with financial efficiency, reducing operational costs and increasing transparency. Future research should explore how small and medium enterprises (SMEs) can leverage digital tools to maximize financial sustainability.

Keywords: Digital Transformation, Financial Efficiency, Economic Sustainability, Technology Adoption, Cost Reduction

ABSTRAK
Penelitian ini mengkaji peran transformasi digital dalam meningkatkan efisiensi keuangan guna mendukung keberlanjutan ekonomi. Adopsi teknologi digital seperti kecerdasan buatan, blockchain, dan analisis big data telah memberikan dampak signifikan pada strategi manajemen keuangan. Penelitian ini menggunakan pendekatan kualitatif dengan metode studi kasus untuk menganalisis efek digitalisasi terhadap pengambilan keputusan keuangan, pengurangan biaya, dan pertumbuhan ekonomi secara keseluruhan. Hasil penelitian menunjukkan bahwa transformasi digital berkorelasi positif dengan efisiensi keuangan, mengurangi biaya operasional, dan meningkatkan transparansi. Penelitian di masa depan sebaiknya mengeksplorasi bagaimana usaha kecil dan menengah (UKM) dapat memanfaatkan teknologi digital untuk memaksimalkan keberlanjutan keuangan.

Kata kunci: Transformasi Digital, Efisiensi Keuangan, Keberlanjutan Ekonomi, Adopsi Teknologi, Pengurangan Biaya

1. INTRODUCTION

The rapid advancement of digital technology has significantly transformed the global economic landscape. Digital transformation, characterized by the integration of digital technologies into various aspects of business and financial operations, has become a key driver of efficiency and competitiveness in the modern economy. Companies across industries are leveraging artificial intelligence (AI), blockchain, big data analytics, and cloud computing to streamline financial processes, enhance decision-making, and reduce operational costs. This shift towards digitalization has not only reshaped financial management practices but also contributed to broader economic sustainability by

improving transparency, accountability, and resource optimization (Brynjolfsson & McAfee, 2014).

Despite the widespread adoption of digi tal technologies, the extent to which digital transformation enhances financial efficiency remains a subject of academic debate. Some studies suggest that digitalization leads to cost reduction, increased financial accuracy, and better risk management (Gomber et al., 2017). However, other scholars argue that the effectiveness of digital transformation depends on factors such as organizational readiness, investment in technology infrastructure, and regulatory frameworks (Vial, 2019). In this context, understanding the impact of digital transformation on financial efficiency becomes crucial, particularly in the era of economic volatility and rapid technological change.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS

The impact of digital transformation on financial efficiency can be understood through multiple theoretical perspectives that highlight the mechanisms through which technology adoption enhances financial decision-making, cost management, and overall economic sustainability. This study is grounded in three key theoretical frameworks: Technology Acceptance Model (TAM), Resource-Based View (RBV), and Transaction Cost Theory (TCT). These frameworks collectively provide a comprehensive explanation of how digital transformation influences financial efficiency by improving operational effectiveness, reducing costs, and optimizing resource utilization.

The Technology Acceptance Model (TAM), introduced by Davis (1989), explains how individuals and organizations adopt and utilize new technologies based on their perceived usefulness and ease of use. In the context of financial management, digital transformation is expected to enhance efficiency by automating financial transactions, improving data accuracy, and enabling real-time financial analysis. Businesses that perceive digital tools as user-friendly and beneficial are more likely to integrate them into their financial operations, leading to enhanced financial efficiency (Venkatesh & Davis, 2000).

From a strategic management perspective, the Resource-Based View (RBV) suggests that firms gain competitive advantages by effectively utilizing their internal resources, including digital technologies (Barney, 1991). Digital transformation can be considered a strategic asset that enables firms to optimize financial management, enhance cost control, and improve decision-making processes. Companies that invest in advanced digital financial tools, such as artificial intelligence (AI) and blockchain, can achieve higher levels of efficiency and accuracy in financial reporting, thereby strengthening their market position (Teece et al., 1997).

Additionally, Transaction Cost Theory (TCT), developed by Coase (1937) and later expanded by Williamson (1981), posits that organizations seek to minimize transaction costs associated with economic activities. Digital transformation significantly reduces these costs by automating financial transactions, minimizing errors, and enhancing transparency. For instance, the adoption of blockchain technology can reduce intermediaries in financial transactions, thereby lowering costs and increasing the speed of

financial processes (Davidson et al., 2018). The reduction in transaction costs translates into improved financial efficiency, which ultimately contributes to economic sustainability.

Hypothesis Development

Based on the theoretical foundations outlined above, this study proposes the following hypotheses to examine the relationship between digital transformation, financial efficiency, and economic sustainability:

H1: Digital transformation positively influences financial efficiency.

H2: Investment in digital technologies enhances financial efficiency by improving cost management and decision-making.

H3: Financial efficiency mediates the relationship between digital transformation and economic sustainability.

3. RESEARCH METHODS

This study employs a quantitative approach to investigate the impact of digital transformation on financial efficiency and economic sustainability. A correlational research design is used to examine the relationships between key variables, namely digital transformation (X1), investment in technology (X2), and financial efficiency (Y). The study utilizes primary data collected from selected firms that have implemented digital financial strategies, allowing for an empirical assessment of how digitalization influences financial performance.

Data Collection

Data were collected using a structured survey distributed to financial managers and IT executives from various industries that have adopted digital financial technologies. The survey included validated measurement scales for digital transformation, investment in technology, and financial efficiency. Additionally, secondary data from company financial reports and industry publications were analyzed to supplement the findings. The study follows a purposive sampling technique, selecting firms based on their level of digital adoption and financial performance indicators..

Operational Variables

To ensure clarity in measurement, the study defines its key variables as follows:

1) Digital Transformation (X1): The extent to which an organization integrates digital technologies, such as AI, blockchain, and cloud computing, into its financial management processes. Measured using a composite index of digital adoption.

2) Investment in Technology (X2): The proportion of financial resources allocated to digital financial tools, IT infrastructure, and technology-driven financial decision-making systems.

3) Financial Efficiency (Y): The ability of an organization to optimize financial operations, reduce costs, and improve profitability through digital transformation. Measured using key financial ratios and efficiency scores.

Sample Collection Techniques

The study focuses on firms that have undergone significant digital transformation within the past five years. A total of 10 companies were selected as the research sample, based on their investment in financial technology and publicly available financial performance data. The selection process ensured a diverse representation across different industries, including banking, manufacturing, and retail

DataAnalysis Techniques

The collected data were analyzed using statistical methods in SPSS, including correlation and regression analysis, to examine the relationship between digital transformation, technology investment, and financial efficiency.

1) Pearson correlation analysis was conducted to determine the strength and significance of the relationships between the variables.

2) Multiple regression analysis was applied to assess the predictive power of digital transformation and technology investment on financial efficiency. The regression model included:

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \varepsilon$$

where Y represents financial efficiency, X1 is digital transformation, and X2 is investment in technology. The results provide empirical evidence on the financial benefits of digital transformation, offering insights into best practices for organizations aiming to enhance their economic sustainability. The study ensures statistical validity and reliability by employing significance testing at $p < 0.05$ and verifying model assumptions such as multicollinearity and heteroscedasticity. By integrating robust data collection and analytical techniques, this research aims to contribute to the growing body of literature on digital finance and economic sustainability, offering valuable recommendations for business leaders and policymakers.

4. RESULT AND DISCUSSION

Result

Corellation Test

The following table shows the results of the correlation test between the research variables:

Table 1. Matrix Corellation

		Transformasi digital	Investasi Teknologi	Efisiensi Keuangan
Transformasi digital	Pearson Correlation	1	.983**	.984**
	Sig. (2-tailed)		.000	.000
	N	10	10	10
Investasi Teknologi	Pearson Correlation	.983**	1	.996**
	Sig. (2-tailed)	.000		.000
	N	10	10	10
Efisiensi Keuangan	Pearson Correlation	.984**	.996**	1
	Sig. (2-tailed)	.000	.000	
	N	10	10	10

The correlation results show that Digital Transformation (X1) and Technology Investment (X2) have a very strong and significant correlation with Financial Efficiency (Y). Technology Investment has the highest correlation with Financial Efficiency at 0.996, while Digital Transformation correlates 0.984 with Financial Efficiency

Regression Test

Regression Test Regression test was conducted to see the influence of Digital Transformation and Technology Investment simultaneously and partially on Financial Efficiency. Table 2. Model Summary:

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.996[a]	.992	.990	2.659

The R value = 0.996 indicates that the relationship between the independent variables (Digital Transformation and Technology Investment) and the dependent variable (Financial Efficiency) is very strong. The R Square value = 0.992 indicates that 99.2% of the variation in Financial Efficiency can be explained by Digital Transformation and Technology Investment, while the rest is influenced by other variables outside this study.

Table 3. Result F-Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6323.007	2	3161.503	447.140	.000[b]
	Residual	49.493	7	7.070		
	Total	6372.500	9			

The F test shows that the regression model is significant at $p < 0.001$, which means that Digital Transformation and Technology Investment simultaneously have a significant effect on Financial Efficiency.

Table 1. Results of T-Test

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	17.773	28.916		.615	.558
	Transformasi digital	.487	.609	.145	.800	.450
	Investasi Teknologi	.469	.100	.853	4.689	.002

The regression results show that Technology Investment has a significant effect on Financial Efficiency with a value of t = 4.689 and p = 0.002. Meanwhile, Digital Transformation does not have a significant effect on Financial Efficiency (t = 0.800, p = 0.450).

Discussion

Technology Investment has a significant impact on Financial Efficiency. The higher the investment in technology, the more efficient the company's financial management will be. Digital Transformation does not have a significant effect directly on Financial Efficiency. This may be due to other factors such as organizational readiness or the effectiveness of digital technology implementation that is not yet optimal. The regression model explains that 99.2% of the variation in Financial Efficiency can be explained by Digital Transformation and Technology Investment, indicating that digitalization and technology investment are the main factors in improving a company's financial efficiency.

5. CONCLUSION & SUGGESTION

Conclusion

The results of the study show that financial policy has a greater influence on GDP than environmental policy. With a coefficient of 0.658, financial policy has proven to be significant in encouraging economic growth. Meanwhile, environmental policy also contributed positively with a coefficient of 0.432, although the impact was smaller. The regression model used has a high degree of compatibility, with an R-squared of 0.82, which means that 82% of the variation in GDP(-1) can be explained by financial and environmental policies. The F-test also shows that this model is significant, with an F-Statistical value of 37,621 and a probability of 0.000, which proves that financial and environmental policies together affect GDP. Therefore, financial policy has a dominant role in economic growth, but environmental policies are still necessary to ensure long-term sustainability.

Suggestion

This study provides empirical evidence on the significant role of digital transformation in enhancing financial efficiency and supporting economic sustainability.

The findings reveal that investment in digital financial technologies positively influences financial efficiency, as organizations that allocate resources to digital innovations tend to experience cost reductions, improved financial decision-making, and increased operational transparency. Regression analysis confirms that technology investment has a statistically significant effect on financial efficiency, while the direct impact of digital transformation depends on the effectiveness of its implementation within organizational structures. These results align with previous studies that highlight the transformative potential of digital finance in modern economic systems (Gomber et al., 2017; Vial, 2019).

Furthermore, the study underscores the critical interplay between digital adoption and financial strategy, emphasizing that the mere presence of digital tools does not automatically guarantee efficiency gains. Instead, strategic alignment, organizational readiness, and effective change management are essential factors in realizing the financial benefits of digital transformation. The findings suggest that firms must adopt a holistic approach to digital finance, integrating technological advancements with robust financial governance frameworks to maximize economic sustainability.

REFERENCE

Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99-120.

Brynjolfsson, E., & McAfee, A. (2014). The second machine age: Work, progress, and prosperity in a time of brilliant technologies. W. W. Norton & Company.

Coase, R. H. (1937). The nature of the firm. Economica, 4(16), 386-405.

Davidson, S., De Filippi, P., & Potts, J. (2018). Economics of blockchain. Review of Network Economics, 17(1), 1-40.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340.

Gomber, P., Koch, J.-A., & Siering, M. (2017). Digital finance and fintech: Current research and future research directions. Journal of Business Economics, 87(5), 537-580.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. Strategic Management Journal, 18(7), 509-533.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. Management Science, 46(2), 186-204.

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. Journal of Strategic Information Systems, 28(2), 118-144.

Williamson, O. E. (1981). The economics of organization: The transaction cost approach. American Journal of Sociology, 87(3), 548-577