

Digital Transformation and Sustainable Performance in the Green Economy Era: The Mediating Role of Data-Driven Management

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ABSTRACT

This study examines the effect of digital transformation on sustainable performance through the mediating role of data-driven management in the Green Economy era. Digital transformation is conceptualized through business process digitalization, digital system integration, automation, and the utilization of data analytics, while sustainable performance is reflected in its economic, environmental, and social dimensions. This study adopts a quantitative explanatory approach using survey data collected from organizational members involved in digital technology utilization and data-based decision-making processes. The data were analyzed using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) method. The findings reveal that digital transformation positively influences data-driven management and sustainable performance. In addition, data-driven management has a positive effect on sustainable performance and serves as a significant mediator in the relationship between digital transformation and sustainable performance. These results indicate that organizations can strengthen sustainable performance by accelerating digital transformation initiatives while enhancing data-driven decision-making capabilities. This study contributes to the growing literature on digital transformation and sustainability by providing empirical evidence of the mediating role of data-driven management in achieving sustainable performance within the context of the Green Economy.



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Introduction

The development of digital technology in recent decades has brought significant changes to the way organizations conduct business activities, operations, and decision-making (Hasanah et al., 2024). The Industrial Revolution 4.0 encourages companies to integrate digital technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), Big Data Analytics, Cloud Computing, and automation systems into business processes to improve organizational efficiency, productivity, and competitiveness (Annisa, 2021). This transformation is known as digital transformation, which is the process of strategic

organizational change through the use of digital technology to create added value and improve company performance sustainably.

On the other hand, the world currently faces various environmental challenges, such as climate change, increasing carbon emissions, the exploitation of natural resources, and increasing environmental pollution. These conditions have given rise to the concept of a green economy as an economic development paradigm that emphasizes a balance between economic growth, environmental sustainability, and social welfare (Mealy & Teytelboym, 2022). A green economy requires companies to focus not only on financial profit but also on the environmental and social impacts of their business activities. Therefore, companies are required to implement business strategies that support resource efficiency, waste reduction, energy efficiency, and environmentally friendly operational management (Ali et al., 2021).

In this context, digital transformation is a crucial strategy that can support the implementation of a green economy. Utilizing digital technology enables companies to monitor energy usage in real time, optimize supply chains, reduce paper use through document digitization, and increase operational efficiency through system automation (Wijoyo et al., 2023). Furthermore, digital technology can help organizations make faster, more accurate, and data-driven decisions, thus supporting more effective and sustainable organizational performance (Oktaviani et al., 2023).

Sustainable performance is a concept that integrates economic, environmental, and social aspects in measuring organizational success (Oduro, 2024). This concept is known as the Triple Bottom Line approach: profit, people, and planet. Sustainable performance assesses not only a company's ability to generate profits but also its ability to maintain environmental sustainability and make social contributions to society (Indriastuti & Chariri, 2021). Therefore, companies that achieve sustainable performance are considered to have greater resilience and competitiveness in the long term.

One of the key factors supporting the success of digital transformation is the implementation of data-driven management. Data-driven management is a management approach that places data as the primary foundation in an organization's decision-making process (Kustitskaya et al., 2023). Companies that implement data-driven management are able to optimally utilize data to analyze market trends, monitor operational performance, identify risks, and determine more accurate business strategies. In today's digital era, an organization's ability to manage and utilize data is a strategic factor that can increase the effectiveness of digital transformation while supporting the achievement of sustainable performance (Pourramezani et al., 2025).

Although digital transformation offers numerous benefits, its implementation still faces numerous challenges. Many organizations struggle with technology integration, lack digital human resources, lack data analysis capabilities, and lack organizational readiness to adopt a technology-based work culture (Kirana et al., 2023). Furthermore, many companies remain unable to optimally integrate digital transformation with environmental and social sustainability goals. Consequently, digital transformation implementation often focuses solely on increasing economic efficiency without considering sustainability aspects holistically.

Several previous studies have shown that digital transformation has a positive impact on operational efficiency and organizational performance

(Togatorop et al., 2024). However, research examining the relationship between digital transformation, data-driven management, and sustainable performance in the context of a green economy is still relatively limited, particularly in organizations in developing countries. Most previous studies have focused on technological aspects and company profitability, while the integration of digitalization and sustainability has not been comprehensively analyzed. Therefore, research is needed that can explain how digital transformation strategies can improve sustainable performance through the application of data-driven management in the green economy era.

This research is significant because it provides theoretical and practical contributions to the development of the concept of sustainable digital transformation. Theoretically, this research is expected to enrich the literature on the relationship between digital transformation, data-driven management, and sustainable performance. Practically, the results of this study can serve as a reference for companies in designing digital strategies that are not only oriented towards business efficiency but also support environmental and social sustainability.

Based on this description, this study aims to analyze the impact of digital transformation on sustainable performance through data-driven management in the green economy era. This research is expected to provide a deeper understanding of the importance of utilizing digital technology and data management in supporting organizational success in achieving sustainable performance.

Digital Transformation

Digital transformation is the process of organizational change through the integration of digital technology into all business activities to improve a company's effectiveness, efficiency, innovation, and competitiveness. Digital transformation involves more than just the use of technology, but also encompasses changes in organizational culture, business strategy, operational models, and technology- and data-driven decision-making patterns (Rohmatika et al., 2024).

According to the modern concept of digital management, digital transformation involves leveraging technologies such as Artificial Intelligence (AI), Big Data Analytics, the Internet of Things (IoT), Cloud Computing, blockchain, and automation systems to create added value for an organization (Riduan & Firdaus, 2024). Companies that successfully implement digital transformation generally have a higher adaptability to changes in the market and business environment.

Digital transformation is also a crucial strategy in supporting a green economy because digital technology can increase resource efficiency, reduce operational waste, and support more effective environmental management (Firmansyah et al., 2022). Digitizing business processes can reduce paper use, optimize energy consumption, and increase supply chain transparency.

Conceptually, digital transformation can be measured through several indicators, namely: digitalization of business processes, use of information technology, integration of digital systems, operational automation, utilization of data analytics, and the organization's digital innovation capabilities (Melisa et al., 2025).

From the perspective of the Resource-Based View (RBV) theory, digital technology is viewed as a strategic resource capable of creating sustainable competitive advantage. Organizations

with strong digital capabilities will more easily improve business performance and create innovations that support sustainability (Islam et al., 2025).

Data-Driven Management

Data-driven management is a management approach that uses data as the primary basis for organizational decision-making. This approach emphasizes the importance of collecting, processing, analyzing, and interpreting data to produce more objective, accurate, and effective decisions (Winthereik, 2024).

In the era of digital transformation, data has become a strategic organizational asset. Modern companies no longer rely solely on intuition or managerial experience, but also use real-time data to monitor operations, predict market trends, evaluate performance, and identify business opportunities. Therefore, an organization's ability to manage data is a critical factor in supporting the success of digital transformation (Sathian, 2024).

Data-driven management is closely linked to sustainable performance because the use of data enables companies to monitor energy use, waste management, resource efficiency, and evaluate environmental impacts more measurably (Prakash, 2024). Furthermore, data-driven decision-making can improve operational efficiency, thus supporting a company's economic sustainability.

Data-driven management indicators include: use of data in decision-making, real-time data analysis, organizational data integration, performance monitoring dashboards, accuracy of business information, and organizational analytical capabilities (Widjaja & Soetjipto, 2025).

In Dynamic Capability theory, an organization's ability to manage data is viewed as a dynamic capability that helps companies adapt to rapidly changing business environments. Organizations that can effectively utilize data will be more responsive to market changes and sustainability demands (Eisenhardt & Martin, 2000).

Sustainable Performance

Sustainable performance is an organizational performance concept that integrates economic, environmental, and social aspects in measuring a company's success. This concept evolved from the Triple Bottom Line theory, which emphasizes that organizational success is measured not only by profitability but also by contributions to society and the environment (Sulaiman, 2025).

Economic Performance

Economic performance relates to a company's ability to generate profits, increase cost efficiency, productivity, and organizational competitiveness.

Environmental Performance

Environmental performance relates to a company's ability to reduce negative impacts on the environment, such as reducing carbon emissions, energy efficiency, waste management, and the use of environmentally friendly resources.

Social Performance

Social performance relates to the company's contribution to the welfare of employees, society, and the organization's social responsibility.

In the green economy era, sustainable performance is a crucial indicator for companies to maintain long-term business continuity. Organizations that achieve sustainable performance will achieve a better reputation, greater customer loyalty, and a sustainable competitive advantage.

Green Economy

A green economy is an economic development concept that aims to improve human well-being and social equality while reducing environmental risks and natural resource scarcity (Alsmadi & Alzoubi, 2022). A green economy emphasizes efficient, low-carbon, and environmentally friendly resource use.

The implementation of a green economy encourages companies to reduce carbon emissions, increase energy efficiency, use environmentally friendly technology, and implement sustainable business practices (Chaaben et al., 2024).

Digital transformation is a key supporting factor in implementing a green economy because digital technology can increase the efficiency of resource use and support more effective environmental management.

Method

This study uses a quantitative approach with explanatory research methods. The quantitative approach was used because the study aims to objectively examine the relationships between variables through statistical analysis. Meanwhile, explanatory research is used to explain the impact of Digital Transformation on Sustainable Performance through Data-Driven Management in the Green Economy era.

This study uses a causality research design because it focuses on the causal relationship between research variables, namely Digital Transformation as an independent variable (X), Data-Driven Management as a mediating variable (Z), and Sustainable Performance as a dependent variable (Y).

The population in this study is all employees, managers, or company administrators involved in the use of digital technology and data-driven decision-making in the organization. The sampling technique used was purposive sampling, which is a technique for determining samples based on certain criteria. The number of samples in quantitative research is generally adjusted to the analytical method used. If using SEM-PLS, the minimum sample size can refer to the rule: 5-10 times the number of research indicators.

Table 1. Sample Characteristics

Characteristics	Frequency	Percentage
Man	132	60.0%
Woman	88	40.0%
Manager	58	26.4%
Supervisor	71	32.3%
Staff	91	41.3%
Experience > 5 years	127	57.7%

The objects of this research consist of digital-based manufacturing and service companies operating in Indonesia that have implemented digital transformation for at least 3 years.

Theoretical Framework

Basic Concepts of Research

This research examines the relationship between Digital Transformation, Data-Driven Management, and Sustainable Performance in the context of the Green Economy. The research's theoretical framework is based on theories explaining how digital technology and data management can improve organizational performance sustainably.

Digital transformation is seen as an organizational strategy for utilizing digital technology to improve efficiency, innovation, and competitiveness. Implementing digital transformation requires an organization's ability to effectively manage and utilize data through a data-driven management approach. Furthermore, effective data management will help organizations achieve sustainable performance, encompassing economic, environmental, and social aspects.

Resource-Based View (RBV)

The main theory underlying this research is the Resource-Based View (RBV) developed by Barney. RBV explains that a company's competitive advantage is obtained through the utilization of strategic resources that are valuable, rare, difficult to imitate, and not easily substituted (Ozdemir et al., 2023).

In the context of this research, digital technology, organizational digital capabilities, and data management are viewed as strategic corporate resources. Companies with strong digital transformation capabilities are better able to: improve operational efficiency, accelerate decision-making, optimize resource utilization, and enhance sustainable performance. The RBV emphasizes that an organization's ability to integrate technology and data can create sustainable competitive advantage.

Dynamic Capability Theory

This research also utilizes Teece's Dynamic Capability Theory. This theory explains that companies must have the ability to adapt, integrate, and reconfigure resources to cope with changes in a dynamic business environment (Teece, 2014).

In the digital era and green economy, companies face rapid technological change and increasing demands for sustainability. Therefore, organizations need to have strong digital capabilities and data management skills to respond to these changes.

In this study, data-driven management is viewed as a form of dynamic capability because it helps companies identify opportunities, predict risks, and make strategic decisions based on data. Therefore, companies with strong data-driven management capabilities will more easily achieve sustainable performance.

Green Economy Theory

The green economy is an economic development concept that emphasizes sustainable economic growth while maintaining environmental sustainability and social well-being. This concept was developed in response to global environmental issues such as climate change, pollution, and natural resource exploitation (Mikhno et al., 2021).

In a green economy, companies are required to: use resources efficiently, reduce carbon emissions, implement environmentally friendly technologies, and create sustainable

businesses.

Digital transformation plays a crucial role in supporting the green economy because digital technology enables organizations to monitor energy use, reduce operational waste, optimize supply chains, and improve business efficiency. Therefore, the green economy is a crucial context for this research.

Conceptual Framework

Conceptual Framework Concept

The conceptual framework in this study explains the relationship between Digital Transformation, Data-Driven Management, and Sustainable Performance in the Green Economy era. This framework is built on the assumption that digital transformation can improve an organization's ability to manage data effectively, thereby supporting sustainable organizational performance.

In this study, Digital Transformation acts as an independent variable (X), Data-Driven Management as a mediating variable (Z), and Sustainable Performance as a dependent variable (Y).

Digital transformation enables companies to integrate digital technology into business activities, generating more accurate and real-time data. This data is then used in decision-making processes through a data-driven management approach. Effective data management will help companies improve operational efficiency, reduce environmental impact, and enhance the organization's social contribution, resulting in sustainable performance.

Relationship between variables in the theoretical framework

Digital Transformation Towards Data-Driven Management

Digital transformation enables companies to integrate digital technology into their operations, resulting in faster, more accurate, and more real-time data. Implementing digital technologies such as Big Data Analytics, AI, and Cloud Computing helps organizations improve data analysis capabilities and decision-making quality. The higher the level of a company's digital transformation, the better the implementation of data-driven management.

Data-Driven Management towards Sustainable Performance

Data-driven management helps companies improve resource efficiency, reduce operational costs, and monitor environmental impact more effectively. Using data in decision-making also improves an organization's ability to design sustainable business strategies. Thus, data-driven management positively impacts sustainable performance.

Digital Transformation to Sustainable Performance

Digital transformation enables companies to increase productivity, energy efficiency, and business innovation, supporting sustainability. Companies that effectively implement digital technology tend to have a better ability to achieve sustainable performance. However, this impact will be even more optimal when supported by data-driven management capabilities.

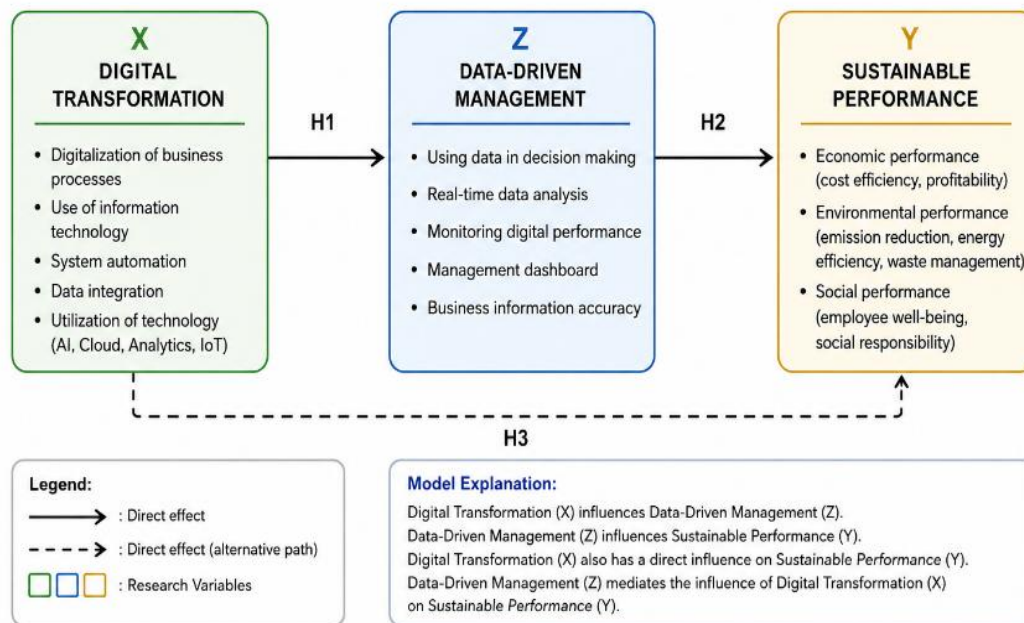


Figure 1. Conceptual Framework

Instrumentation

A research instrument is a tool used to collect data from respondents based on the variables being studied. This study used a questionnaire designed based on indicators for each research variable: Digital Transformation (X), Data-Driven Management (Z), and Sustainable Performance (Y).

The questionnaire was designed using a 5-point Likert scale to measure respondents' level of agreement with each statement.

This study used a Likert scale with the following categories: strongly disagree, disagree, neutral, agree, and strongly agree. The Likert scale was used because it can quantitatively measure respondents' perceptions, attitudes, and opinions regarding the research variables.

Findings

Convergent Validity Test

The convergent validity test was conducted using the Loading Factor and Average Variance Extracted (AVE) values with the criteria of Loading Factor > 0.70 and AVE > 0.50.

Criteria used:

Loading factor > 0.70

Average Variance Extracted (AVE) > 0.50

Table 2. Loading Factor Results

Variables	Indicator	Loading Factor	Information
Digital Transformation	TD1	0.812	Valid
	TD2	0.845	Valid
	TD3	0.801	Valid
	TD4	0.867	Valid
	TD5	0.832	Valid
	TD6	0.789	Valid
Data-Driven Management	DDM1	0.846	Valid
	DDM2	0.871	Valid
	DDM3	0.853	Valid
	DDM4	0.818	Valid
	DDM5	0.844	Valid
Sustainable Performance	SP1	0.824	Valid
	SP2	0.856	Valid
	SP3	0.838	Valid
	SP4	0.805	Valid
	SP5	0.842	Valid

These indicators have a strong relationship with the measured variables. This means that each item in the questionnaire adequately represents the research construct. The higher the loading factor, the better the indicator explains the latent variable. Based on the table, all indicators have loading factor values above 0.70, thus being considered valid.

Table 3. AVE Value

Variables	AVE
Digital Transformation	0.681
Data Driven Management	0.714
Sustainable Performance	0.693

All variables explained more than 50% of the variance in their indicators. This means the research constructs have good convergent validity. The indicators in each variable truly measure the same concept. The AVE values for all variables were greater than 0.50, thus meeting the requirements for convergent validity.

Discriminatory Validity Test

Discriminant validity indicates that a construct is empirically different from other constructs.

Table 4. Fornell-Larcker Criterion

Variables	Digital Transformation	Data Driven Management	Sustainable Performance
Digital Transformation	0.825		
Data Driven Management	0.782	0.845	
Sustainable Performance	0.693	0.804	0.833

The diagonal value is higher than the correlation between constructs, so discriminant validity is fulfilled.

Table 5. Heterotrait-Monotrait Ratio (HTMT) Results

Construct	HTMT Value
Digital Transformation - Data Driven Management	0.847
Digital Transformation - Sustainable Performance	0.754
Data Driven Management - Sustainable Performance	0.882

All HTMT values are below 0.90, indicating good discriminant validity.

Reliability Test

Construct reliability was tested using Cronbach's Alpha and Composite Reliability with a criterion of 0.70.

Table 6. Reliability Test Results

Variables	Cronbach's Alpha	Composite Reliability	Information
Digital Transformation	0.901	0.921	Reliable
Data Driven Management	0.913	0.928	Reliable
Sustainable Performance	0.918	0.934	Reliable

The alpha values for all variables were very high. This indicates that the statement items within each variable exhibited good consistency. Respondents provided consistent answers to indicators within the same construct. All constructs had excellent reliability. The research variables were able to measure the concepts consistently and stably. The research constructs were suitable for use in testing the structural model. These results indicate that all variables had excellent reliability.

Effect Size Test (f^2)

The f^2 test is used to measure the magnitude of the influence of one construct on another construct.

Table 7. Cohen's Criteria

f^2 value	Interpretation
0.02	Small
0.15	Currently
0.35	Big

Table 8. Effect Size Results

Connection	f^2
Digital Transformation - Data Driven Management	1,577
Digital Transformation - Sustainable Performance	0.508
Data Driven Management - Sustainable Performance	0.104

These findings show that Data-Driven Management has a very important contribution in improving Sustainable Performance.

Predictive Relevance Test (Q^2)

Q^2 is used to assess the predictive ability of the model.

Table 9. Q Value²

Endogenous Variables	Q ²
Data Driven Management	0.421
Sustainable Performance	0.487

All Q² values are greater than zero, indicating that the model has good predictive relevance. This means the model is able to adequately predict the observed data.

Bootstrapping Details

Hypothesis testing was conducted using the bootstrapping method in SmartPLS with: Subsamples = 5,000, Significance level = 5%, Two-tailed test, Confidence Interval = 95%

Table 10. Bootstrapping Results

Connection	β	t-value	p-value
TD → DDM	0.782	12,431	0,000
DDM → SP	0.648	9,217	0,000
TD → SP	0.287	3,964	0,000
TD → DDM → SP	0.507	7,854	0,000

All paths have t-statistic values > 1.96 and p-values < 0.05, so that all research hypotheses are accepted.

Inner Model Evaluation Results

Inner model evaluation is carried out to determine the strength of the relationship between research variables.

Table 11. S-Square Values

Endogenous Variables	R2	Category
Data Driven Management	0.612	Moderate
Sustainable Performance	0.731	Strong

Digital transformation explains 61.2% of the Data-Driven Management variable; the remaining 38.8% is influenced by factors outside the study. The better a company's digital transformation, the better its data-driven management implementation.

Digital transformation and data-driven management explain 73.1% of sustainable performance; the remaining 26.9% is influenced by other factors. The research model has high explanatory power for sustainable performance.

Table 12. Hypothesis Testing Results

Hypothesis	Path Coefficient	t-statistic	p-value	Information
X - Y	0.782	12,431	0,000	Accepted
Z - Y	0.648	9,217	0,000	Accepted
X - Y	0.287	3,964	0,000	Accepted

Testing the relationship between variables was conducted using bootstrapping with the criteria of t-statistic > 1.96 and p-value < 0.05. The effect is positive and significant. The higher the digital transformation, the better the data-driven management. Digital technology helps organizations manage data more effectively. Since t = 12.431 > 1.196 and

$p = 0.000 < 0.05$, the hypothesis is accepted.

Positive and significant impact. Data-driven decision-making can improve business efficiency, environmental sustainability, and organizational social performance. The better the data management, the higher the sustainable performance; thus, the hypothesis is accepted.

Digital transformation has a direct impact on sustainable performance. Digitalization helps organizations improve productivity, energy efficiency, and business sustainability. However, the direct impact is smaller than the impact mediated by data-driven management, so the hypothesis is accepted.

Media Effect Testing

Mediation testing was conducted to determine the role of Data-Driven Management in mediating the relationship between Digital Transformation and Sustainable Performance.

Table 13. Mediation Test Results

Connection	Indirect Effect	t-statistic	p-value	Information
X – Z – Y	0.507	7,854	0,000	Significant Mediation

These results indicate that Data-Driven Management significantly mediates the influence of Digital Transformation on Sustainable Performance. Data-Driven Management significantly mediates the relationship between Digital Transformation and Sustainable Performance. This means that digital transformation will be more effective in improving sustainable performance if organizations are able to manage data effectively.

Discussion

This study aims to analyze the influence of digital transformation on sustainable performance through data-driven management in the green economy era. The analysis using the SEM-PLS method indicates that all research hypotheses are accepted and have a positive and significant impact. The findings demonstrate that digital transformation and digital-based data management are strategic factors in improving organizational sustainability across economic, environmental, and social dimensions.

The Impact of Digital Transformation on Data-Driven Management

The results of the study indicate that Digital Transformation has a positive and significant effect on Data-Driven Management. These findings suggest that the successful implementation of digital transformation enhances an organization's ability to manage, integrate, and utilize data effectively in decision-making processes. As organizations adopt advanced digital technologies and modern information systems, they become better equipped to develop data-driven management practices that support more responsive, accurate, and strategic organizational decisions.

These findings demonstrate that the implementation of digital technologies such as Artificial Intelligence (AI), Big Data Analytics, the Internet of Things (IoT), Cloud Computing, and automation systems can improve organizations' ability to collect, integrate, and analyze data in real time. Operational digitization enables companies to obtain faster, more accurate, and more integrated information, thus supporting more effective decision-making.

In the context of modern organizations, digital transformation serves not only as a technological tool but also as an organizational strategy for creating data-driven management systems. Companies that have implemented digital transformation tend to have better operational monitoring capabilities, integrated information systems, and faster data access than organizations still using conventional systems.

The results of this study support the Resource-Based View (RBV) theory, which states that digital technology and data management capabilities are strategic organizational resources that can create sustainable competitive advantage. Organizations with strong digital capabilities will more easily improve the effectiveness of information management and the quality of decision-making.

Furthermore, the results of this study align with Dynamic Capability Theory, which explains that organizations must be able to adapt to changes in the business environment through technology integration and information management. In the green economy era, organizational data management capabilities are crucial, as companies are required to monitor energy use, resource efficiency, and environmental impacts sustainably.

Practically, the results of this study indicate that companies need to increase investment in digital systems, organizational data integration, and human resource analytical capabilities so that data-driven management implementation can run optimally.

The Impact of Data-Driven Management on Sustainable Performance

The results of the study indicate that Data-Driven Management has a positive and significant effect on Sustainable Performance. These findings suggest that organizations that effectively utilize data in their decision-making processes are better positioned to achieve sustainable performance. By leveraging accurate, timely, and relevant information, data-driven management enables organizations to optimize operational processes, allocate resources more efficiently, and make strategic decisions that support long-term economic, environmental, and social objectives.

Data-driven management helps organizations make more objective, accurate, and efficient decisions because it's based on measurable data analysis. Utilizing real-time data allows companies to conduct operational evaluations more quickly, thereby improving cost efficiency, productivity, and resource utilization effectiveness.

In terms of environmental performance, data utilization allows companies to more effectively monitor energy consumption, waste management, and carbon emissions. Digital monitoring systems help companies identify energy waste and improve operational efficiency, which contributes to environmental sustainability.

Meanwhile, in terms of social performance, data-driven management helps organizations improve service quality, information transparency, and the effectiveness of organizational policies for employees and stakeholders. Data-driven decision-making also helps companies improve service quality and customer satisfaction through more accurate analysis of market needs.

The results of this study support the Triple Bottom Line Theory, which states that organizational success is measured not only by economic profitability but also by environmental and social contributions. Good data management enables companies to achieve a more effective balance between these three aspects.

In addition, the results of this study strengthen the Dynamic Capability Theory which explains that an organization's ability to utilize data is an important dynamic capability to increase the organization's competitiveness and sustainability.

Practically, these findings indicate that companies need to build a data-driven organizational culture by enhancing analytical capabilities, developing digital monitoring dashboards, and integrating information systems that can support real-time strategic decision-making.

The Impact of Digital Transformation on Sustainable Performance

The results of the study indicate that Digital Transformation has a positive and significant effect on Sustainable Performance. These findings suggest that the adoption of digital technologies enables organizations to enhance sustainable performance by improving operational efficiency, increasing organizational agility, and supporting more effective resource management. Through the integration of digital systems and innovative technologies, organizations are better equipped to achieve long-term economic, environmental, and social objectives.

Digitalization enables organizations to improve operational efficiency through system automation, technology integration, and business process optimization. The use of digital technology helps companies reduce operational costs, increase productivity, and accelerate work processes, thereby improving the organization's economic performance.

In terms of environmental performance, digital transformation helps companies reduce paper use through document digitization, improve energy efficiency through digital monitoring systems, and optimize supply chains to reduce operational waste. Digital technology also helps companies conduct real-time environmental monitoring, supporting the implementation of a green economy.

In terms of social performance, digital transformation helps improve the quality of organizational communication, work flexibility, and service to stakeholders. The implementation of digital technology also enhances an organization's ability to provide faster and more transparent services to the public and customers.

However, the direct impact of digital transformation on sustainable performance is smaller than the indirect impact through data-driven management. This suggests that the success of digital transformation in improving sustainability depends not only on the use of technology alone, but also on the organization's ability to manage the data generated by that technology.

These findings demonstrate that digital technology will deliver a more optimal impact when supported by an effective data-driven management system. In other words, digitalization without proper data management cannot achieve maximum sustainable performance.

The results of this study support the Green Economy Theory, which states that digital technology has an important role in increasing resource efficiency and business sustainability in the green economy era.

The Role of Data-Driven Management in the Relationship Between Digital Transformation and Sustainable Performance

The results of the mediation analysis indicate that Data-Driven Management plays a significant mediating role in the relationship between Digital Transformation and

Sustainable Performance. These findings suggest that the benefits of digital transformation are more effectively translated into sustainable performance when organizations possess strong data-driven management capabilities. In other words, digital transformation creates greater organizational value when the data generated by digital technologies is effectively managed, analyzed, and utilized to support strategic decision-making.

These findings suggest that digital transformation will be more effective in improving sustainable performance if organizations have strong data management capabilities. Digital technology generates vast amounts of data, but this data only provides strategic value when processed into information that supports organizational decision-making.

Data-driven management acts as a mechanism that connects digital transformation with organizational sustainability. Through effective data management, companies can improve operational efficiency, optimize energy use, reduce waste, increase productivity, and enhance the quality of service to stakeholders.

The results of this study demonstrate that digital transformation is not just a process of technology adoption, but also a process of transforming organizational culture toward data-driven decision-making. Therefore, companies seeking to improve sustainable performance need not simply invest in digital technology but also enhance their data analytics capabilities, information systems integration, and the quality of their digital human resources.

This finding strengthens the Dynamic Capability Theory, which states that an organization's ability to integrate technology and data management is an important factor in creating competitive advantage and organizational sustainability.

In addition, the results of this study indicate that data-driven management is a strategic factor in supporting the implementation of a green economy because the use of data enables organizations to manage resources more efficiently and sustainably. Overall, the research results show that digital transformation is a crucial strategy for improving sustainable performance in the green economy era. However, the success of digital transformation is greatly influenced by an organization's ability to implement data-driven management.

Digital technology generates data that forms the basis for strategic organizational decision-making. When data is managed effectively, companies can improve operational efficiency, reduce environmental impact, and sustainably enhance the organization's social well-being. Therefore, the integration of digital transformation and data-driven management is key for organizations to achieve sustainable performance in the green economy era.

Conclusion

This study demonstrates that digital transformation has a positive and significant impact on sustainable performance through data-driven management in the green economy era. Implementing digital technology can improve the effectiveness of data management, improve informed decision-making, and improve organizational operational efficiency. Data-driven management also serves as a mediating variable, strengthening the relationship between digital transformation and sustainable performance. The results demonstrate that the integration of digital technology and effective data management are crucial strategy for organizations to sustainably improve economic, environmental, and social performance.

References

- Rohmatika, N. A., Fayruziyah, N. S., & Syahrani, Z. (2024). Digital Transformation of Human Resource Management: Concepts, Functions, Challenges and Solutions. *Journal of Financial and Management Innovation*, 5(4).
- Ali, E. B., Anufriev, VP, & Amfo, B. (2021). Green economy implementation in Ghana as a road map for a sustainable development drive: A review. *Scientific African*, 12. <https://doi.org/10.1016/j.sciaf.2021.e00756>
- Alsmadi, AA, & Alzoubi, M. (2022). Green Economy: Bibliometric Analysis Approach. *International Journal of Energy Economics and Policy*, 12(2). <https://doi.org/10.32479/ijeep.12758>
- Annisa, A. (2021). History of the Industrial Revolution from 1.0 to 4.0. *Telecommunication Systems Student Article*, 1 (January).
- Chaaben, N., Elleuch, Z., Hamdi, B., & Kahouli, B. (2024). Green economic performance and sustainable development achievement: empirical evidence from Saudi Arabia. *Environment, Development and Sustainability*, 26(1). <https://doi.org/10.1007/s10668-022-02722-8>
- Sathian, C. T. (2024). Data-driven Management and Taylorist Fantasies: A Case Study of Performance Quantification in the Indian IT Services Industry. *Surveillance and Society*, 22(4). <https://doi.org/10.24908/ss.v22i4.16564>
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10–11). [https://doi.org/10.1002/1097-0266\(200010/11\)21:10/11<1105::AID-SMJ133>3.0.CO;2-E](https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E)
- Firmansyah, D., Saepuloh, D., & Dede. (2022). Competitiveness: Digital Literacy and Digital Transformation. *Journal of Finance and Business Digital*, 1(3). <https://doi.org/10.55927/jfbd.v1i3.1348>
- Hasanah, AU, Andaryani, S., Sari, FH, & Dwikurniawati, IU (2024). Digital Technology-Based Public Service Innovation: Challenges and Opportunities in Local Government. *INNOVATIVE: Journal of Social Science Research*, 4(5).
- Indriastuti, M., & Chariri, A. (2021). The role of green investment and corporate social responsibility investment on sustainable performance. *Cogent Business and Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1960120>
- Islam, F., Fahlevvi, MR, & Karno, K. (2025). Digital Transformation in Public Service Delivery in the 4.0 Era. *Kohesi: Journal of Science and Technology*, 9(2).
- Widjaja, I., & Soetjipto, B. E. (2025). Data-Driven Management : Utilization of Big Data in HR Decision Making in the Digital Age. *Digital Innovation : International Journal of Management*, 2(2). <https://doi.org/10.61132/digitalinnovation.v2i2.320>
- Kirana, AY, Saifudin, M., Mukhlisin, MM, Fatmawati, N., & Ansori, MI (2023). Oikos-Nomos: DIGITAL TRANSFORMATION AND MANAGEMENT STRATEGY. *Oikos-Nomos Journal*, 16.
- Kustitskaya, TA, Esin, RV, Kytmanov, AA, & Zykova, TV (2023). Designing an Education Database in a Higher Education Institution for the Data-Driven Management of the Educational Process. *Education Sciences*, 13(9). <https://doi.org/10.3390/educsci13090947>

- Togatorop, A. M. H., Darmawan, D. W., & Hidayati, R. (2024). Digital Transformation in Achieving Sustainability in the Field of Economics and Finance. *Management Business Innovation Conference-MBIC*, 7(11).
- Mealy, P., & Teytelboym, A. (2022). Economic complexity and the green economy. *Research Policy*, 51(8). <https://doi.org/10.1016/j.respol.2020.103948>
- Melisa, O. :, Faisal, T., & Fasa, MI (2025). Digital Transformation: the Role of E-Commerce in Digital Economic Growth in Indonesia. *Jurnal Media Akademik (JMA)*, 3(4).
- Mikhno, I., Koval, V., Shvets, G., Garmatiuk, O., & Tamošiūnienė, R. (2021). Green Economy In Sustainable Development And Improvement Of Resource Efficiency. *Central European Business Review*, 10(1). <https://doi.org/10.18267/j.cebr.252>
- Oduro, S. (2024). Eco-innovation and SMEs' sustainable performance: a meta-analysis. In *European Journal of Innovation Management* (Vol. 27, Number 9). <https://doi.org/10.1108/EJIM-11-2023-0961>
- Oktaviani, E., Asrinur, Prakoso Imam, AW, & Madiisriyatno, H. (2023). Digital Transformation and Management Strategy. *Oikos-Nomos: Journal of Economic and Business Studies*, 16(1).
- Ozdemir, S., Carlos Fernandez de Arroyabe, J., Sena, V., & Gupta, S. (2023). Stakeholder diversity and collaborative innovation: Integrating the resource-based view with stakeholder theory. *Journal of Business Research*, 164. <https://doi.org/10.1016/j.jbusres.2023.113955>
- Pourramezani, K., Baghaee, H.R., & Gharehpetian, G.B. (2025). Data-driven management for cyber-physical-social distribution networks: A comprehensive review and complex system-of-systems data analytics framework. In *Energy Reports* (Vol. 14). <https://doi.org/10.1016/j.egy.2025.08.049>
- Prakash, D. (2024). Data-Driven Management: The Impact of Big Data Analytics on Organizational Performance. *International Journal for Global Academic and Scientific Research*, 3(2). <https://doi.org/10.55938/ijgasr.v3i2.74>
- Riduan, M., & Firdaus, M. (2024). Digital Transformation and Performance: A Study of the Role of Organizational Culture. *Maneksi Journal*, 13(1).
- Sulaiman, MABA (2025). Green Product Innovation as a Mediator Between Green Market Orientation and Sustainable Performance of SMEs. *Sustainability (Switzerland)*, 17(4). <https://doi.org/10.3390/su17041628>
- Teece, D.J. (2014). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. In *Journal of International Business Studies* (Vol. 45, Number 1). <https://doi.org/10.1057/jibs.2013.54>
- Wijoyo, A., Rizkiyah, L., Raihan, Mukmin, S. Al, & Dumilah, TC (2023). The Role of Management Information Systems in Corporate Digital Transformation. *TEKNOBIS: Journal of Technology, Business and Education*, 1(2).
- Winthereik, B. R. (2024). Data as Relation: Ontological Trouble in the Data-Driven Public Administration. *Computer Supported Cooperative Work: CSCW: An International Journal*, 33(3). <https://doi.org/10.1007/s10606-023-09480-9>