

The Effect Of Accounting Digitization On Environmental Accounting Disclosure Through Human Resource Capacity In Msmes In Ambon City

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Abstract

This study aims to analyze the influence of accounting digitization on environmental accounting disclosure in MSMEs in Ambon City with human resource capacity as a mediation variable. The study uses a quantitative approach with an explanatory survey of 113 respondents. Data was analyzed using statistical tests and Macro Hayes mediation analysis. The results of the study show that accounting digitization has a significant effect on human resource capacity, and human resource capacity has a significant effect on environmental accounting disclosure. However, accounting digitization does not have a direct effect on environmental accounting disclosure. Accounting digitization has an effect on environmental accounting disclosure through human resource capacity. This finding shows that human resource capacity is an important link between accounting digitization and environmental accounting disclosure in MSMEs in Ambon City.

Keywords: digitization of accounting, human resource capacity, disclosure of environmental accounting, MSMEs.

Keywords

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INTRODUCTION

The development of digital technology has changed the way organizations carry out business activities and manage information. In the context of MSMEs, accounting digitization can help the process of recording, storing, processing, and reporting financial information more efficiently. The research report states that MSMEs are an important part of the Indonesian economy, but still face limitations in accounting management, including in the disclosure of environmental information.

Environmental accounting disclosure is related to the submission of information regarding the impact of business activities on the environment and environmental management efforts. Information that can be disclosed includes

environmental costs, environmental investments, environmental performance, and obligations related to the environment. This disclosure is important because it can increase transparency, accountability, and organizational attention to environmental impacts.

Accounting digitization has the potential to support the management of such information through the use of accounting software, cloud accounting, automation, data analytics, and other digital technologies. However, the existence of technology does not necessarily mean that environmental information will be automatically generated and disclosed. The use of technology requires human resources who have the knowledge, skills, and ability to operate systems, process data, and understand environmental information.

Research by Mayndarto et al. (2026) shows that the application of digital accounting has a positive influence on the quality of MSME financial statements, especially in improving the efficiency, accuracy, relevance, and transparency of financial information. Meanwhile, the limitations of human resources and infrastructure are still obstacles. On the other hand, human resource capacity is related to the organization's ability to produce information and sustainability reporting. The research gap lies in the limited studies that examine the relationship between accounting digitization, human resource capacity, and environmental accounting disclosure, specifically in MSMEs in Ambon City.

Based on these conditions, this study aims to analyze the influence of accounting digitization on human resource capacity, the influence of human resource capacity on environmental accounting disclosure, the direct influence of accounting digitization on environmental accounting disclosure; and the effect of accounting digitization on environmental accounting disclosure through human resource capacity.

This research is based on the Resource-Based View (RBV), which views the organization's internal resources, including human resources, as strategic resources, and supported by an environmental accounting perspective and legitimacy in explaining the importance of environmental information for stakeholders.

METHODS

This study uses a quantitative approach with an explanatory survey design. The object of the research is Micro, Small, and Medium Enterprises (MSMEs) in Ambon City. The research data was obtained through the distribution of questionnaires that measured three variables, namely accounting digitization as an independent variable,

human resource (HR) capacity as a mediation variable, and environmental accounting disclosure as a dependent variable.

Accounting digitalization is measured based on the use of digital technology in accounting processes, including data access and management, automation, and integration of accounting processes. Human resource capacity reflects individual knowledge, skills, adaptability, and ability to carry out accounting functions. Meanwhile, environmental accounting disclosure includes information on environmental costs, environmental investments, environmental performance, and environmental obligations.

A total of 113 respondent data were used in this study. Data analysis included descriptive statistics, validity tests, reliability tests, and classical assumption tests consisting of normality, heteroscedasticity, and multicollinearity tests. Furthermore, hypothesis testing was carried out using regression analysis and Macro Hayes mediation analysis. The validity of the instrument was determined based on the comparison of *the calculated r* value with *the r* table, while the reliability of the instrument was tested using Cronbach's Alpha.

The mediation analysis was conducted to examine the relationship between accounting digitization → human resource capacity → environmental accounting disclosure, in order to determine the role of human resource capacity in mediating the relationship between accounting digitization and environmental accounting disclosure.

FINDINGS AND DISCUSSION

1. Descriptive Statistics

The results of the descriptive statistical analysis carried out showed that all the data disseminated amounted to 113, with the minimum number for the accounting digitization variable as an independent variable (X) being 25.00, then the maximum number was at 125.00, then the mean was at 82.5487. For the variable of human resource capacity as a moderation variable (Z), the minimum value was 7.00 while the maximum value was 35.00 and the mean number was 20.9646. Then the last one for the variable of environmental accounting disclosure as a dependent variable (Y), the minimum number is 7.00, the maximum is 35.00, and the mean number is 23.2832. As seen in the descriptive statistical analysis table below:

Table 1. Descriptive Statistics

Variable	N	Minimum	Maximum	Red
Digitization of Accounting	113	25,00	125,00	82,5487

HR Capacity	113	7,00	35,00	20,9646
Environmental Accounting Disclosure	113	7,00	35,00	23,2832

Source : Data processing results, 2026

2. Validity and Reliability Tests

Based on the results of the validity and reliability test, the data of the instruments used are proven to be valid and reliable as in the table below:

Table 2 . Validity and Reliability Test

Variable	Question Items	r count	Conditions	r Table	Remarks
Environmental Accounting Disclosure (Y)	Y1.1	0,729	>	0,184	Valid
	Y1.2	0,776	>	0,184	Valid
	Y1.3	0,798	>	0,184	Valid
	Y1.4	0,848	>	0,184	Valid
	Y1.5	0,876	>	0,184	Valid
	Y1.6	0,863	>	0,184	Valid
	Y1.7	0,751	>	0,184	Valid
	Y1.8	0,904	>	0,184	Valid
	Y1.9	0,911	>	0,184	Valid
	Y1.10	0,947	>	0,184	Valid
	Y1.11	0,873	>	0,184	Valid
	Y1.12	0,836	>	0,184	Valid
	Y1.13	0,843	>	0,184	Valid
	Y1.14	0,921	>	0,184	Valid
	Y1.15	0,876	>	0,184	Valid
	Y1.16	0,883	>	0,184	Valid
	Y1.17	0,891	>	0,184	Valid
	Y1.18	0,888	>	0,184	Valid
	Y1.19	0,883	>	0,184	Valid
	Y1.20	0,871	>	0,184	Valid
	Y1.21	0,921	>	0,184	Valid
	Y1.22	0,931	>	0,184	Valid
	Y1.23	0,920	>	0,184	Valid
	Y1.24	0,879	>	0,184	Valid
	Y1.25	0,826	>	0,184	Valid
HR Capacity (Z)	Z1.1	0,733	>	0,184	Valid
	Z1.2	0,910	>	0,184	Valid
	Z1.3	0,884	>	0,184	Valid
	Z1.4	0,875	>	0,184	Valid
	Z1.5	0,872	>	0,184	Valid
	Z1.6	0,882	>	0,184	Valid
	Z1.7	0,827	>	0,184	Valid
Digitizing Accounting (X)	X1	0,868	>	0,184	Valid
	X2	0,905	>	0,184	Valid
	X3	0,891	>	0,184	Valid
	X4	0,908	>	0,184	Valid
	X5	0,926	>	0,184	Valid
	X6	0,835	>	0,184	Valid

	X7	0,826	>	0,184	Valid
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Source : Data processing results, 2026

Table 3. Reliability test

Variable	Cronbach's Alpha	N of Items	Remarks
Digitizing Accounting (X)	0,986	7	Reliable
HR Capacity (Z)	0,937	7	Reliable
Environmental Accounting Disclosure (Y)	0,951	25	Reliable

Source : Data processing results, 2026

3. Classic Assumption Test

Based on the results of the classical assumption test, which includes the normality test, the heterogeneity test, and the multicollinearity test, the results are obtained as shown in the table below and it is proven that all the data used are normally distributed and the statistical model is feasible and accurate for further hypothesis testing.

Table 4. Classical Assumption Test

Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		113
Normal Parameters, b	Red	0,0000000
	Std. Deviation	6,59602554
Most Extreme Differences	Absolute	0,073
	Positive	0,072
	Negative	-0,073
Test Statistic		0,073
Asymp. Sig. (2-tailed)		.191c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Source : Data processing results, 2026

Table 4. Heteroscedasticity Test

Coefficient

Models	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	8,148	1,248		6,531	0,000
Digitization of Accounting	-0,006	0,018	-0,043	-0,353	0,724
Capacity HR	-0,099	0,063	-0,189	-1,564	0,121

a. Dependent Variable: ABS_RES

Table 5. Multicollinearity Test

Coefficient							
Models	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIVID
1 (Constant)	8,767	2,057		4,262	0,000		
Digitization of Accounting	0,057	0,029	0,195	1,961	0,052	0,594	1,685
Capacity HR	0,468	0,104	0,448	4,496	0,000	0,594	1,685

a. Dependent Variable: Environmental Accounting Disclosure

3. Hypothesis Testing Results

Table 6. Hypothesis T Test 1 and 3

Models	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	8,767	2,057		4,262	0,000
Digitization of Accounting	0,057	0,029	0,195	1,961	0,052
Capacity HR	0,468	0,104	0,448	4,496	0,000

a. Dependent Variable: Environmental Accounting Disclosure

Table 7. Hypothesis T Test 2

Models	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	6,294	1,777		3,542	0,001

Digitization of Accounting	0,178	0,020	0,638	8,718	0,000
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a. Dependent Variable: HR Capacity

Table 8. Hayes Macro Test

Influence Path	Coefficients	Sig.	Remarks
X1 → Z	0,1777	0,000	Significant
Z → Y	0,4683	0,000	Significant
X1 → Y (direct)	0,0569	0,0525	Insignificant
X1 → Z → Y (indirect)	0,0832	—	Significant

H1: Digitization of Accounting Affects Human Resource Capacity

The results of the study show that accounting digitization has an effect on the capacity of human resources. These findings show that the better the application of digitalization in the accounting process, the greater the ability of human resources to carry out accounting functions effectively, quickly, accurately, and integrated. Accounting digitization is not only related to the use of accounting software, but also changes the way human resources obtain, process, analyze, and use accounting information.

The implementation of digital systems requires employees to have the ability to operate accounting applications, understand data integration, analyze information, and adjust to changes in work processes. Thus, digitalization can be a means of learning and developing HR competencies. These results are in line with the research of Aulia and Rizki (2025) who examined the integration of accounting digitization and HR competencies in 126 MSMEs on the island of Lombok. The study found that accounting digitization and HR competencies are factors related to the sustainability of MSMEs. These findings show that accounting digitization cannot be separated from the ability of human resources to utilize this technology.

Thus, H1 can be explained that accounting digitization provides a stimulus for increasing human resource capacity. Technology provides new systems and tools, while human resources must develop knowledge and skills so that they can be used optimally.

H2: Human Resource Capacity Affects Environmental Accounting Disclosure

The results of further research show that Human Resource Capacity Affects Environmental Accounting Disclosure. These results indicate that the disclosure of environmental information depends not only on the availability of systems and technologies, but also on the ability of the individual responsible for identifying, measuring, processing, and presenting environmental information. Human resources with better capacity will be better able to understand the importance of environmental information, identify environmental costs and activities, process environmental data into accounting information, and organize the information in the form of disclosures that can be understood by stakeholders. Conceptually, these relationships can be explained through Resource-based view (RBV) perspective. Human resources are one of the organization's internal resources that have strategic value. The available digital technology does not automatically produce quality environmental disclosure if the organization does not have human resources who are able to use it.

The findings are supported by research that puts *Human Capital* as one of the factors related to environmental disclosure. Research by Choiriah and Ria (2020), for example, examined the influence of human capital on environmental disclosure in manufacturing companies listed on the Indonesia Stock Exchange. More recent literature also increasingly emphasizes the importance of human capacity in *sustainability reporting*. 2026 study on *Green Human Resource Management* explains that the development *Environmental Human Capital*, the formation of an organizational climate that supports the environment, incentives, and innovation can be an internal mechanism that supports the quality of sustainability reporting. The research of Moreira, Rodrigues, and Ferreira (2025) also shows that the role of human resource management in sustainability reporting is an important area, as HR practices can be related to the ESG agenda and sustainability reporting. Therefore, the results of this study can be interpreted as the higher the human resource capacity, the greater the organization's ability to produce more complete, relevant, and quality environmental accounting disclosures.

H3: Accounting Digitization Has No Direct Effect on Environmental Accounting Disclosure

H3 test results show that Digitization of accounting has no direct effect on environmental accounting disclosure. These findings are interesting because they show that the existence of digital technology in the accounting system does not necessarily automatically result in increased disclosure of environmental information. Theoretically, digitalization can indeed improve an organization's ability to collect and

process data. However, technology is essentially an Tools, while decisions about what data is collected, how it is interpreted, and what information needs to be disclosed still require human capacity. In other words, an organization may already have a digital system, an accounting application, *Cloud Computing*, ERP, or data processing systems, but if human resources do not have adequate knowledge and skills about environmental accounting, then these technologies do not necessarily result in better environmental disclosure.

These findings can actually provide a more in-depth explanation of the relationship between digitalization and environmental disclosure. Yao, Bo, and Zhang (2025) research found that digital transformation can improve the quality of environmental accounting information disclosure. However, the study also shows that the influence of digitalization works through certain organizational mechanisms, such as increased management incentives and analyst attention. Meanwhile, a systematic review of digitalization *Sustainability Accounting* shows that the benefits of digitalization in sustainability reporting are influenced by organizational factors, including the need for Training programs and technical capabilities. This means that digitalization does not stand alone in producing sustainability information.

This provides a possible explanation for the H3 results. Digitizing accounting, which is only in the form of the application of technology, is not enough to increase environmental accounting disclosure if it is not followed by increasing human resource capacity. These findings are also consistent with recent studies on accounting digitization that emphasize that data integration and HR competencies are an important part of the quality of non-financial disclosures. The Hammoud study (2026), for example, found a positive relationship between accounting digitization and social-environmental disclosures, but also identified staff competencies and data integration as important aspects in the utilization of digital systems for sustainability reporting.

H4: Accounting Digitalization Affects Environmental Accounting Disclosure through Human Resources Capacity

The results of the H4 test using the Hayes Macro test show that Accounting Digitalization Affects Environmental Accounting Disclosure Through Human Resource Capacity. This means that accounting digitization first increases the capacity of human resources, and increasing the capacity of human resources then increases the organization's ability to disclose environmental accounting. The relationship can be described as follows: Digitization of Accounting → HR Capacity → Environmental Accounting Disclosure.

These findings provide an explanation that digital technologies do not automatically result in environmental disclosures. Technology must be translated into organizational capabilities through the enhancement of human resources' competencies, knowledge, skills, and analytical capabilities. Thus, HR capacity is a mechanism that bridges the relationship between accounting digitization and environmental accounting disclosure. The findings can also be attributed to the research of Yao et al. (2025). The study found that digital transformation improves quality *Environmental Accounting Information Disclosure* and identify the existence of internal and external mechanisms that explain these relationships. Furthermore, Appiah-Kubi et al.'s (2025) research on digitalization and *sustainability reporting* specifically placing *Sustainability competence* and *Green Knowledge Integration* as an important part of the digitalization relationship with *sustainability reporting*. This provides conceptual support that the benefits of digitalization in sustainability reporting can depend on the ability of organizations and HR to integrate relevant knowledge.

Thus, the results of this study make an important contribution: Accounting digitalization should not be seen solely as a technology investment, but as an organizational transformation process that requires increasing human capacity.

CONCLUSION

Based on the results of the research, it can be concluded that Accounting Digitalization Affects Human Resource Capacity, because the application of accounting technology encourages the improvement of human resource knowledge and skills in managing accounting information. Furthermore, Human Resource Capacity Affects Environmental Accounting Disclosure, which shows that human resources who have adequate abilities and competencies are better able to process and disclose environmental information appropriately. Meanwhile, Digitization of accounting has no direct effect on environmental accounting disclosure. This shows that technology alone is not enough to increase environmental disclosure without the support of human resources in utilizing it. However, Accounting Digitalization Affects Environmental Accounting Disclosure Through Human Resource Capacity. Thus, human resource capacity plays a role as Mediation variables which bridges the influence of accounting digitalization on environmental accounting disclosure. Overall, the results of the study show that the success of digitalization in increasing environmental disclosure is highly dependent on the ability of human resources to utilize this technology.

REFERENCES

- Abdullah, M. W. (2020). Ragam Isu dan Konsep: Akuntansi Lingkungan Perspektif Keislaman.
- Aman, M., & Lucianetti, L. (2025). Corporate Environmental Performance and Environmental Management Accounting Systems.
- Antonini, C. (2024). *Accounting digitalization in the quest for environmental sustainability*. Current Opinion in Environmental Sustainability, 66, 101399. DOI: 10.1016/j.cosust.2023.101399.
- Appiah-Kubi et al. (2025). *The effect of digitalization on sustainability reporting: The role of sustainability competence, green knowledge integration, and stakeholder pressure*. Business Strategy and the Environment.
- Aulia, Y. R., & Rizki, N. (2025). Menuju UMKM Berkelanjutan: Integrasi Digitalisasi Akuntansi, Kompetensi SDM, dan Pengelolaan Keuangan. CURRENT: Jurnal Kajian Akuntansi dan Bisnis Terkini, 6(2), 417–431. DOI: 10.31258/current.6.2.417-431.
- Budiarto, E. T., et al. (2023). Implementasi Digitalisasi Akuntansi pada UMKM. Jurnal Akuntansi Nusantara.
- Choiriah, S., & Ria. (2020). *The Effect of Stakeholder Power, Board Gender Diversity and Human Capital on Environmental Disclosure with Board Independent as Moderation Variable*. Research Journal of Finance and Accounting, 11(12). DOI: 10.7176/RJFA/11-12-04.
- Factors influencing the digitalization of sustainability accounting, reporting and disclosure: A systematic literature review (2024). Meditari Accountancy Research, 33(2), 633–680. DOI: 10.1108/MEDAR-02-2024-2385.
- Fitriani, & Nugraha. (2024). Pengaruh Digitalisasi Akuntansi terhadap Efisiensi dan Kualitas Laporan Keuangan UMKM. Jurnal Ilmu Akuntansi.
- Hammoud, R. A. A.-K. (2026). *Accounting Digitalization and Environmental-Social Disclosure in Sustainable Organizations: Evidence from Al-Furat Al-Awsat University*. Indonesian Journal of Law and Economics Review, 21(3). DOI: 10.21070/ijler.v21i3.1612.
- Husnatarina, F. (2024). Pengantar Akuntansi Lingkungan.
- Mariana, et al. (2023). Dampak Adopsi Akuntansi Digital terhadap Pelaporan di Lembaga Publik. Jurnal Institusi Publik.
- Moreira, A., Rodrigues, A. C., & Ferreira, M. R. (2025). *Where Is Human Resource Management in Sustainability Reporting? ESG and GRI Perspectives*. Sustainability, 17(7), 3033.
- Nurhalimah, & Sulisty. (2023). Pengaruh Digitalisasi Keuangan terhadap

Transparansi dan Akuntabilitas Laporan. Jurnal Akuntansi Desa.

Sari, & Ramadhan. (2023). Tren Pengembangan Akuntansi Berbasis AI dan Digitalisasi.

Jurnal Innovative.

Widhiastuti, R., & Aeni, I. N. (2024). Akuntansi Lingkungan: Konsep dan Contoh Pengungkapannya.

Widianti, F., et al. (2025). Akuntansi Lingkungan dan Keberlanjutan: Teori, Praktik, dan Kebijakan.

Yao, J., Bo, Q., & Zhang, Y. (2025). *Corporate Digital Transformation and Environmental Accounting Information Disclosure: A Dual Examination of Internal Empowerment and External Monitoring*. Sustainability, 17(7), 2898.