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PREFACE OF EDITOR IN CHIEF

The editorial team would like to praise God Almighty for the blessings and grace so that AKUMULASI Journal of Volume 1 Issue 1, June 2022 is published. We extend our gratitude to the authors for submitting manuscripts. We also extend our gratitude to the reviewers who have contributed to the peer review process of the manuscripts in this issue. Their professional support has made this journal qualified to be published.

We are very thankful for the support from the Deans of UNS Vocational School, Commission B (Journal) of UNS Vocational School, the Big Team of Social and Humanities Journal of UNS Vocational School, UPT Jurnal UNS, and the Big Family of UNS Vocational School.

This publication is expected to contribute to the development of science and trigger more in-depth research in Accounting and Finance. The editorial team welcomes any feedback to improve the quality of the journal publication and performance.

Surakarta, 30 June 2022

Editor in Chief of AKUMULASI

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AUDIT COMMITTEE CHARACTERISTICS AND VOLUNTARY DISCLOSURE (STUDY ON MANUFACTURING COMPANIES IN 2017-2019)

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ABSTRACT

This study centers on how the audit committee's characteristics impact voluntary disclosure. The composition of the audit committee is shown by its size, percentage of independent commissioners, and gender diversity. This study used 255 observations over 3 years, from 2017 to 2019, and samples from industrial firms recorded on the Indonesia Stock Exchange. In this study, a multiple linear analysis is conducted. The results show that the audit committee size has a negative effect on voluntary disclosure. The ratio of independent commissioners and the gender diversity of the audit committee have a positive impact on voluntary disclosure.

Keywords: audit committee; gender diversity; independent commissioner; voluntary disclosure

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INTRODUCTION

Companies include both required and voluntary disclosures in annual reports on the condition of their businesses. "Mandatory disclosure" refers to information that firms must disclose in compliance with Law Number 40 of 2007 and Financial Services Authority Regulation (*Peraturan Otoritas Jasa Keuangan*/POJK) Number 29/POJK.4/2016. Mandatory disclosure attempts to fulfill regulatory requirements and protect stakeholders. On the contrary, voluntary disclosure is the voluntary publication of financial and non-financial data not required by relevant accounting rules and legislation (Scaltrio, 2016). By connecting the information gap between management and shareholders and lowering shareholder uncertainty, voluntary disclosure can lower the cost of capital.

Based on agency theory, a disagreement of interests between management and the company results in information asymmetry between the two parties where shareholders bear the company's risk but do not have access to comprehensive management information. (Fama & Jensen, 1983). Managers are self-serving agents with more critical information than shareholders about the company's current success and future performance likelihood (Ho & Taylor, 2013). In addition, they can use their authority by choosing the information that is disclosed to facilitate their involvement in resourceful behavior for particular gain (Watts & Zimmerman, 1990). As a result, there are firm costs, which Jensen & Meckling (1976) refer to as agency costs. According to the agency theory, companies enhance voluntary disclosure to lower agency costs and conflict between parties.

Based on a survey conducted by FTI Consulting in 2019 on 330 companies in Asia, Indonesia was rated as one of the lowest countries in terms of voluntary disclosure standards. The survey results show that no single company from Indonesia has a perfect score in voluntary disclosure. Indonesia is in the lowest group in the value of voluntary disclosure in ASEAN, along with the Philippines and Vietnam. It is because Indonesia does not yet have adequate voluntary disclosure standards that can be used as benchmarks in general. It could be interpreted that companies in countries with lower voluntary disclosure will be more challenging to compete for foreign investors than companies in countries with higher voluntary disclosure (FTI Consulting, 2019). Low amounts of voluntary disclosure are also often related to a low corporate governance system (Md Zaini et al., 2018). One of the corporate governance principles is transparency. Companies will disclose financial information through annual reports to minimize the information gap owned by shareholders and management to fulfill this principle. In other words, Companies with strong corporate governance practices release more voluntary information than those with weak corporate governance practices.

Former research concerning the predictors of voluntary disclosure began in the 1990s. In this era, most of the studies focused on the company's financial factors such as size, leverage, and profitability (Hossain et al., 1994; Hossain et al., 1995; Owusu-Ansah, 1998). Currently, most research focuses on non-financial factors such as corporate governance systems. This is because financial aspects will only give economic benefit to the company in the short term and are not sustainable. Therefore, it is necessary to have structures, systems, and valuable processes which provide additional value to the firm that is sustainable in the long term, such as corporate governance. For example, the board of executives composition, the formation and independence of the advisory board, a dual role of the CEO and the board of executives, and the formation and characteristics of the audit committee, are all factors affecting the characteristics of corporate governance (Ho & Wong, 2001; Madi et al., 2014; Othman et al., 2014; Alfraih & Almutawa, 2017; Agyei-Mensah, 2018; Talpur et al., 2018).

The Indonesian Institute for Corporate Governance (IICG) identifies corporate governance as a system of procedures that regulate a company by stakeholder expectations. The National Committee on Corporate Governance Policy was founded in 1999 and brought corporate governance to Indonesia under the direction of the Coordinating Minister for Economic Affairs, Finance, and Industry. In 1999, the organization published its first set of National Guidelines for Good Corporate Governance, modified in 2001 and 2006 (OJK, 2014). Corporate governance regulations are currently governed by POJK Number 21/POJK. 04/2015.

The corporate governance mechanisms regulated in the Indonesian corporate governance guidelines include the General Meeting of Shareholders (GMS), directors and commissioners, nomination and remuneration committee, corporate secretary, audit committee, as well as internal audit and external audit (KNKG, 2006). One of these mechanisms is the audit committee, which supervises the management and offering professional opinions to the board of commissioners. In POJK Number 55/POJK.04/2015, it is stated that the functions and responsibilities of the audit committee are to examine financial reporting and confirm that the company obeys the applicable laws and regulations. In other words, audit committee is in charge of ensuring that the reports are following real conditions and applicable standards and regulations. Audit committee can also offer suggestions to the board of commissioners relating to possible conflicts of interest between management and other shareholders. This means that the audit committee can decrease agency costs that occur between management and shareholders by providing information on the condition of the company through company reports to decrease information asymmetry and improve disclosure quality. This is also supported by the research by Madi et al. (2014) and Talpur et al. (2018), claiming that the role of the audit committee in supervising the financial reporting process can increase the effectiveness of the transparency of corporate reporting so as to improve the company's voluntary disclosure.

Several studies measure the effectiveness of audit committee performance seen from audit committee features such as financial expertise, independence, frequency of meetings, number of audit committees, multiple directorships, previous experience, as well as tenure, and gender diversity (Madi et al., 2014; Othman et al., 2014; Agyei-mensah, 2018; Talpur et al., 2018; Bravo & Reguera-Alvarado, 2018). This study focuses on three characteristics of the audit committee, namely, independence, size, and gender diversity.

Resource dependence theory suggests that companies are open systems that depend on their external environment to ensure the flow of resources essential to their survival. According to this theory, the audit committee functions as an advisor and consultant to the board of commissioners to provide worthwhile properties for a company (Zhou et al., 2018). Therefore, a larger number of audit committees will have diverse resources such as knowledge, experience, and expertise to increase their effectiveness in carrying out their responsibilities which also increases voluntary disclosure (Madi et al., 2014; Othman et al., 2014; Talpur et al., 2018). Talpur et al. (2018); Agyei-mensah (2018); Fatmawati et al. (2018) revealed that audit committee size gives a positive effect on voluntary disclosure. Meanwhile, the research by Othman et al. (2014) and Dharma & Nugroho (2013) suggests that the size of the audit committee does not give a positive impact on voluntary disclosure. A more extensive audit committee might be less efficient in carrying out its duties due to pointless discussion, worse communication, and delays in decision-making.

Independent audit committee, according to FCGI (2002) and POJK Number 55/POJK.04/2015, refers to independent commissioners, including the chairman and member of the audit committee not related to company management and affiliated parties. Independent commissioners as representatives of minority shareholders are expected to be independent of the interests of majority shareholders. Independent commissioners seem to have a private interest and advantage in the use of shareholder value; hence, they work without burden from company management (Bédard & Gendron, 2010; Talpur et al., 2018). Therefore, independent commissioners have more chances to regulate and lessen management's opportunities to deny information for their advantage (Allegrini & Greco, 2013; Madi et al., 2014). Independent commissioners guarantee the value and clearness of the financial reporting process to minimize information asymmetry and affect voluntary disclosure increases (Allegrini & Greco, 2013; Madi et al., 2014; Talpur et al., 2018). Previous studies evidencing that the proportion of independent commissioners in the audit committee had a positive effect on voluntary disclosure include Talpur et al. (2018); Agyei-mensah (2018); and Saraswati et al. (2020). Meanwhile, Othman et al. (2014) and Cahaya & Yoga (2020) have concluded that the proportion of independent commissioners in the audit committee does not affect voluntary disclosure.

Gender diversity is also a vital characteristic of audit committees in advancing the corporate governance system (Appuhami & Tashakor, 2017). The literature agrees that female directors are more stakeholder-oriented and more subtle about CSR issues, which can increase involvement and encourage voluntary disclosure (Giannarakis, 2014; Helfaya & Moussa, 2017). Women are more participatory and democratic than men, which will encourage greater debate about corporate stakeholders and attention to environmental, social, and governance issues (Galbreath, 2018). Increased sensitivity and participatory decision-making style generally explain that female directors are more proactive in social and environmental disclosures to meet stakeholder requests (Rao & Tilt, 2016). Several prior studies exposed that gender diversity of audit committees had a positive contribution to voluntary disclosure, including Bravo & Reguera-Alvarado (2018); Appuhami & Tashakor (2017); Fauziah (2018). Meanwhile, the results of these studies contradict the studies conducted by Ammer & Ahmad-Zaluki (2017) and Kartikarini & Mutmainah (2013) which advocated that the gender diversity of audit committees does not have a positive effect on voluntary disclosure because the proportion of women on the audit committee is relatively small, making it difficult for them to influence the majority group.

This study aims to empirically examine the impact of audit committee characteristics, including audit committee size, the proportion of independent commissioners, and gender diversity in the audit committee on voluntary disclosures in manufacturing companies in Indonesia. The article includes an introduction, theoretical framework, research method, results and discussion, conclusions, and suggestions.

Hypothesis Development

Agency theory

Jensen & Meckling (1976) outline an agency relationship as one in which shareholders hire management (agents) to perform duties on their behalf and delegate some decision-making authority to the agents. In other words, the shareholders authorize the management to complete specific activities or jobs following the mutually agreed-upon employment contract. Agency theory estimates businesses with high agency costs will attempt to lower them by utilizing control mechanisms like corporate governance systems (Jensen & Meckeling, 1976). This technique aids in management control and guarantees that they act in the way shareholders desire. The audit committee, one of the corporate governance framework's components, is in charge of monitoring the financial reporting procedure. The audit committee's supervision of financial reporting and the audit process of the company can strengthen its corporate governance structure. As an impartial, knowledgeable, and active audit committee, it must protect the interests of shareholders (Zhou et al., 2018).

Resource dependence theory

According to Biermann & Harsch (2017), resource dependence theory is based on the idea that organizations are rooted in their environment and subject to external resources to run and survive. The organizational environment comprises the structures, actors, and events affecting the organization's dependence on external resources. These resources can be tangible such as raw materials, employees, capital, facilities, and equipment. This theory conceptualizes organizations as open systems. This system emphasizes the connection between the organization and the resources it receives from or sends to its environment. Pfeffer & Salancik (1978) suggested that firms should manage this uncertainty by creating relationships with important elements in their external environment. Under this perspective, the board of directors and the board of commissioners are the main linkage mechanisms to link the external environment with the company by optimizing the resources needed to survive and thrive. The audit committee can bring several valuable economic resources such as information, skills, knowledge, and expertise. These resources can increase their effectiveness in carrying out their responsibilities and roles (Madi et al., 2014; Othman et al., 2014; Talpur et al., 2018).

Audit committee

The audit committee is a company's organ in corporate governance. The committee is formed and is responsible to the board of commissioners whose role is to assist in completing the duties and functions of the board of commissioners (POJK Number 55/POJK.04/2015). This organ is a dynamic oversight mechanism that companies must have to help commissioners in their internal responsibilities and increase their effectiveness (Alraih & Almutawa, 2017). The responsibilities of the audit committee can be grouped into three: (1) supervision of external communications, (2) monitoring of internal control systems, and (3) oversight of external auditors (Bédard & Gendron, 2010). While legal and regulatory requirements have traditionally emphasized oversight of financial reporting and external audits, recent regulatory reforms have extended the audit committee's responsibilities to the internal control system and extended its oversight errands regarding external communications and audits.

In POJK Number 55/POJK.04/2015, it is explicated that audit committee consists of at least three members including an independent commissioner as chairman of audit committee and two other members who are outside parties from the company. This minimum threshold guarantees proper monitoring through the diversity of expertise (Bédard & Gendron, 2010). The intention is to have a committee that is not so large as to be difficult, but large enough to ensure effective monitoring. Furthermore, the regulation confirms that the independent commissioner is one of audit committee members serving as the chairman.

Voluntary disclosure

Meek et al. (1995) define voluntary disclosure as an unrestricted choice on the portion of company management to provide accounting and other information relevant to the decision needs of users of annual reports. Voluntary disclosure has been used as a means of communication aimed at promoting market management ideas that present the company's potential to stakeholders (Zaini et al., 2017).

Graham et al. (2005) focus on six main reasons or drivers for management to disclose voluntary information: information irregularity, amplified analyst coverage, contests for corporate control, stock compensation, management talent, and mandatory disclosure restrictions. In addition, they reveal five obstacles to voluntary disclosure, including proprietary costs, litigation costs, disclosure precedence, agency costs, and political costs.

Audit committee size and voluntary disclosure

Madi et al. (2014); Talpur et al. (2018); Agyei-mensah (2018); Fatmawati et al. (2018) reported that audit committee size influences voluntary disclosure. From the perspective of resource dependence theory, the more members of the audit committee, the more valuable the information, experience, and competence contributed. The audit committee is in charge of overseeing the financial reporting process. Thus, an audit committee improves the internal control system, which advances disclosure quality as well as the reliability of annual report. This will make their performance more

effective and result in the disclosure of voluntary information that is more pertinent for investors for decision making given the high level of uncertainty (Fatmawati et al, 2018). Moreover, Talpur et al. (2018) claimed that a large audit committee size will improve their performance in monitoring and controlling the company thereby increasing voluntary disclosure.
H1: The audit committee size has a positive effect on voluntary disclosure

The proportion of independent commissioners in the audit committee and voluntary disclosure

Madi et al. (2014); Talpur et al. (2018); Agyei-mensah (2018); and Saraswati et al. (2020) found the positive influence of independent commissioner proportion in the audit committee on voluntary disclosure. Independent commissioners on the audit committee do not have an economic or personal relationship with management. Therefore, they prefer working independently and objectively without management's influence (Madi et al., 2014). In addition, independent commissioners are seen as a check and balance mechanism to confirm that management actions serve the greatest interests of shareholders and other stakeholders (Saraswati et al. 2020). This can provide more opportunities for independent commissioners to manage and decrease the chance for management to withhold information for particular benefit (Madi et al., 2014). Talpur et al. (2018) also contended that independent commissioners can guarantee the quality and transparency of financial reporting so that it can reduce information asymmetry and affect the increase in a voluntary disclosure.
H2: The independent commissioner proportion in the audit committee has a positive effect on voluntary disclosure.

Gender diversity in the audit committee and voluntary disclosure

Studies by Bravo & Reguera-Alvarado (2018); Appuhami & Tashakor (2017); Fauziah (2018) evidenced that gender diversity in the audit committee has a positive contribution to voluntary disclosure. From the agency theory perspective, women will try to avoid conflict because they are considered more ethical, diligent, and better at supervision (Kartikarini & Mutmainah, 2013; Nadeem, 2019). In particular, female members can improve the monitoring ability of the audit committee, and thus, female external members are linked with fewer occurrences of financial fraud, increased transparency, and decreased agency costs (Nadeem, 2019). Therefore, it is believed that female members of audit committee can increase voluntary disclosure because the information can reduce information asymmetry and decrease internal friction.

Based on the perspective of resource-dependent theory, women have different values, perspectives, personalities, experiences, leadership styles, and communication patterns from men (Orazalin, 2019). For instance, women are more elusive to social and environmental matters, as well as more participatory and democratic than men, thus encouraging greater debate on environmental, social, and governance issues and consequently increasing voluntary disclosure (Galbreath, 2018). Moreover, women have better networking skills and socialization skills so that they can support the company's relationships with customers, suppliers, and other stakeholders (Nadeem, 2019). This also indicates that women will be more stakeholder-oriented to reinforce the relationship between the company and outsiders so that they will strive to meet stakeholders' necessities of information.
H3: Gender diversity in the audit committee has a positive effect on voluntary disclosure.

RESEARCH METHOD

The research population comprises manufacturing companies listed on the Indonesia Stock Exchange between 2017 and 2019. The classification of manufacturing companies applies the latest classification from the IDX-IC (IDX Industrial Classification). Manufacturing companies in this latest classification are in the raw material, primary consumer, and non-primary consumer sectors. The samples were chosen with a purposive sampling technique and examined with multiple analysis technique using Eviews 11. The data were gained from the company's annual reports available through the official website of the Indonesia Stock Exchange and the company's official website.

Voluntary disclosure was evaluated using the voluntary disclosure index (VDIND) where the number of items disclosed by each company was divided by the maximum number of items expected to be disclosed by each company (35 items). The voluntary disclosure component in this study was a list of items from Alfraih& Almutawa (2017) then adjusted to the POJK Number 29/POJK.4/2016. The items were then classified into four main types of information: corporate environment, corporate future prospects, non-financial information, corporate governance information, and corporate social and environmental information.

The audit committee size was measured by the total audit committee members in a company. The independent commissioner proportion was determined by comparing the proportion of the number of independent commissioners divided by the total number of audit committee members. Gender diversity in the audit committee was measured by the proportion of female audit committee members divided by the total number of audit committee members. Firm size and leverage were the control variables. Firm size was evaluated by the natural logarithm (Ln) of the company's total assets and leverage was calculated by dividing total liabilities by total assets owned by the company. The regression model used in this study was:

$$VDI_{it} = \alpha + \beta_1 ACSIZE_{it} + \beta_2 ACIND_{it} + \beta_3 ACGEND_{it} + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \varepsilon_{it}$$

VDI = voluntary disclosure index
i = company order
t = company year
α = constant
β = coefficient
ACSIZE = audit committee size
ACIND = ratio of independent commissioners in the audit committee
ACGEND = gender diversity in the audit committee
SIZE = firm size
LEV = leverage
ε = error term

RESULTS AND DISCUSSION

A total of 840 manufacturing companies were registered on the Indonesia Stock Exchange during 2017-2019. After elimination by purposive sampling technique, the final samples obtained were 255 observations for three years.

Table 1. Descriptive statistics

	N	Mean	Median	Maximum	Minimum	Std. Dev.
VDI	255	0.737	0.743	0.971	0.4	0.117
ACSIZE	255	3.082	3	5	2	0.34
ACIND	255	0.357	0.333	0.667	0.25	0.96
ACGEND	255	0.447	0.333	1	0.2	0.188
SIZE	255	28.052	27.903	32.011	22.36	1.789
LEV	255	0.485	0.489	1.947	0.006	0.238
SIZE*	255	6.23T	1.31T	79.8T	5.14M	12.3T

The lowest voluntary disclosure index was recorded by PT Siwani Makmur Tbk in 2017 and 2018 (0.4 or 40%) and the highest value was achieved by PT MNC Sky Vision Tbk in 2018 and PT Waskita Beton Precast Tbk in 2019 (0.971 or 97.1%). Meanwhile, the average value of the voluntary disclosure index was 0.737 (73.7%), which indicates that on average, manufacturing companies in Indonesia disclose 73.7% of the 35 items of voluntary disclosure.

Independent variable of audit committee size with a minimum value of 2 was recorded by PT Kertas Basuki Rachmat Indonesia Tbk and the company with the highest number of audit committee members (5) was PT Malindo Feedmill Tbk with five audit committee members. The average value was 3.082, which means that the average manufacturing companies in Indonesia have an audit committee of three people in their companies. This is following POJK Number 55/POJK.04/2015 which necessitates a minimum of three members of the audit committee.

The results of descriptive statistical analysis for independent commissioner proportion in the audit committee show a minimum value of 0.25, a maximum value of 0.667, a mean value of 0.357, and a standard deviation of 0.96. The companies with highest percentage of independent commissioners at 66.7% were PT Dharma Samudra Fishing Industries Tbk, PT Hero Supermarket Group Tbk, PT Jakarta International Hotels & Development Tbk, PT Jakarta Setiabudi Internasional Tbk, PT MNC Studios International Tbk, PT Panorama Sentrawisata Tbk, and PT Waskita Karya Beton Tbk. The average value was 35.7%, indicating that manufacturing companies in Indonesia have at least one member of an independent commissioner, following POJK Number 55/POJK.04/2015 explaining that one member of the audit committee is an independent commissioner who also serves as chairman.

The independent variable of gender diversity has a minimum value of 0.2, a maximum value of 1, a mean value of 0.447, and a standard deviation was 0.188. PT Hotel Fitra International Tbk, PT Jaya Agra Wattie Tbk, PT Lionmesh Prima Tbk, and PT Ayana Land International Tbk had the highest greatest ratio of female members, in which all members of the audit committee in the company are women.

Selection of Regression Model

Chow test

Table 2. Chow test

Effect Test	Statistic	Df	Probability
F-statistic	11.753202	(98.151)	0.0000
Chi-Squared	549.525468	98	0.0000

The results of the Chow test demonstrate a probability value of F < 0.05, indicating that H0 was not supported and the appropriate choice was the fixed effect model. Thus, the Hausman test was applied to find out the right model to apply between the fixed effect model and the random effect model.

Hausman test

Table 3. Hausman test

Effect Test	Statistic	Df	Probability
F-statistics	11.753202	(98.151)	0.0000
Chi-Squared	549.525468	98	0.0000

Based on the Hausman test, the probability value of 0.0483 was smaller than the 0.05 significance level so H0 was rejected and the most suitable model to adopt was the fixed effect model. Because the fixed effect model was chosen, the Lagrange-multiplier test was not required.

Hypothesis Test

Table 4. Significance test

Variable	Coefficient	Std. Error	t-statistic	Prob	Description
Constant	-1.5155	0.0389	-3.8908	0.0001	
ACSIZE	-0.0364	0.0144	-2.5256	0.0126	Unsupported
ACIND	0.2206	0.0954	2.3132	0.0221	Supported
ACGEND	0.0656	0.0032	20.636	0.0000	Supported
SIZE	0.0795	0.0124	6.4205	0.0000	Supported
LEV	0.0515	0.0221	2.3292	0.0212	Supported
Adj. R^2		0.8418			
Prob (F-Statistic)		0.0000			

Before testing the hypothesis, the classical assumption test had been performed. The model had passed the classical assumption test. Based on the significance test, the t-statistic value of the audit committee size (ACSIZE) was -2.5256 with a significance of -0.0126 (sig < 0.05). These indicate that the audit committee size has a negative effect on voluntary disclosure, confirming studies by Dharma & Nugroho (2013) and Othman et al. (2014). The unsupported hypothesis of this research can be caused by several reasons.

First, based on the statistical description, the number of audit committees was relatively low. Companies have audit committees following the minimum number required (three), which can further increase company voluntary disclosure. This shows the efficiency of the audit committee in performing its roles, particularly in supervision and external communication. This voluntary disclosure can bridge the information asymmetry between management and stakeholders. The effectiveness of the duties is also inseparable from the features of the audit committee such as expertise, education, and experience.

Table 4 shows the t-statistical value for the variable proportion of independent commissioners in the audit committee (ACIND) of 2.3132 with a significance of 0.0221 (sig < 0.05). This figure indicates the significant effect of the independent commissioner proportion in the audit committee on voluntary disclosure. These outcomes are constant with the studies of Madi et al. (2014); Talpur et al. (2018); Agyei-mensah (2018); and Saraswati et al. (2020) which proposed that the independent commissioner proportion in the audit committee can improve voluntary disclosure. Independent commissioners are external parties working independently and objectively from the influence of management and their presence can increase their effectiveness in monitoring management behavior. Therefore, independent commissioners may contribute to the decrease in management opportunities to suppress information for their benefit, by encouraging management to make more voluntary disclosures of information (Madi et al., 2014). Talpur et al. (2018) also argued that independent commissioners can guarantee the quality and clarity of the financial reporting process to reduce information asymmetry and affect the increase in a voluntary disclosure.

The t-statistic value for gender diversity (ACGEND) was 20.6363 with a significance level of 0.0000 (sig <0.05), representing that gender diversity in the audit committee has a positive impact on voluntary disclosure. These results harmonized with outcomes of studies by Bravo & Reguera-Alvarado (2018); Appuhami & Tashakor (2017); and Fauziah (2017) showing gender diversity can increase voluntary disclosure.

Female members have high sensitivity to environmental, social, and governance problems and they are more participating and independent than men, which explains the proactive attitude of women towards social and environmental disclosures, which can stimulate higher voluntary disclosure (Galbreath, 2018). In addition, women are more ethical, diligent, and better at supervision so their presence can increase the monitoring ability of audit committees and simultaneously female members can be associated with increased transparency and reduced agency costs (Bravo & Reguera-Alvarado, 2018; Nadeem, 2019). Thus, it can be said that female members of the audit committee can increase voluntary disclosure because information can increase transparency and reduce difficulties in the agency.

CONCLUSION

This study concludes that audit committee size gives a negative effect on voluntary disclosure. A larger number of audit committee members will only reduce their effectiveness in supervising the financial reporting since they have diverse opinions leading to unnecessary debate and poor communication which slows down decision making.

Further results reveal that the proportion of independent commissioners in the audit committee has a significant positive effect on voluntary disclosure. Independent commissioner on the audit committee can lower the chance for management to suppress information for their benefit and encourages them to disclose additional information to shareholders and stakeholders.

Gender diversity in the audit committee has a significant positive impact on voluntary disclosure. The more female members on the audit committee, the higher the level of company voluntary disclosure. Women are more orientated to stakeholders and more considerate of social and environmental matters so they will try to meet the needs of stakeholders for information about social and environmental.

The measure of gender diversity in this study was limited to the proportion of female members on the audit committee, while there are many other parameters to measure gender diversity. Future research is anticipated to use other measures of gender diversity such as the Blaux index (Blau, 1977) and the Shannon index (Shannon, 1948). The samples were also focused on manufacturing companies, and thus, further research can expand research samples such as companies in the non-financial and financial sectors.

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THE EFFECT OF ACCOUNT RECEIVABLE TURNOVER AND CASH TURNOVER ON LIQUIDITY AT PT PLN PERSERO

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ABSTRACT

This study aimed to partially examine the effect of account receivable turnover and cash turnover on liquidity at PT PLN Persero, simultaneously evaluate the effect of account receivable turnover and cash turnover on liquidity at PT PLN Persero, and identify the financial ratios (the influence of account receivable turnover and cash turnover), which are more dominant in influencing account receivable turnover and cash turnover on liquidity (current ratio) at PT PLN Persero. Samples were taken from the financial statements of PT PLN Persero from 2010 to 2019 using the purposive sampling technique. The classical assumption tests (normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test) were applied in this study. Multiple linear regression was utilized for analysis. To examine hypotheses, t-test, F-test, and coefficient of determination test were used. The results of statistical data tests show that partially account receivable turnover has no significant effect on liquidity (current ratio) and cash turnover has no significant effect on liquidity (current ratio). Thus, users of financial statements can consider these ratios as reference considerations in making decisions.

Keywords: account receivable turnover; cash turnover; liquidity

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INTRODUCTION

In this age of globalization, many companies carry out business activities, one of which is earning profit as much as possible. The ability of the company to meet its needs by carrying out activities effectively and efficiently is one of the factors that contribute to the company's growth. Furthermore, with the rapid development of companies in Indonesia, companies must be prepared to compete globally with working capital to survive. A good company's role is represented in management that can provide opportunities in the future, both short and long term, to meet the company goals. Working capital is one of the most important supports in carrying out company operations; therefore, the company must be able to effectively manage current assets and liabilities; the availability of working capital where current assets must be greater than current liabilities and can demonstrate a level of security, particularly for short-term creditors and ensure the continuity of future operations; and the company must also be able to obtain additional short term with current assets as collateral.

The impact of the company's failure to meet its short-term obligations demonstrates the importance of liquidity in providing the company's ability to meet its short-term obligations. One of the obstacles that frequently occurs in companies and is relatively difficult to solve in the corporate world comes from the creditors. Liquid companies are those that can pay their short-term debt with a relatively large number of current assets as collateral. However, from a management standpoint, companies with high liquidity exhibit poor management performance because high liquidity implies idle cash balances and relatively excessive inventories.

According to Riyanto (2012), inventory is an important component of working capital, which is an asset in a state that is constantly rotating and changing. Meanwhile, Kasmir (2013) defines inventory turnover as a ratio that measures the number of times funds invested in rotating inventory are used in one period.

Inventory is a type of current asset that is an active component of a company's operations constantly acquired, modified, and then sold to customers. With proper inventory management, a company can immediately turn stored inventory into profit.

Similarly, PT PLN (Persero) has a large volume of electricity to distribute to customers to benefit users in carrying out their activities. Meanwhile, the liquidity ratio can assess PT PLN (Persero)'s financial statement to meet its obligations by using its assets. Financial statement data relating to current assets and current liabilities at PT PLN (Persero) fluctuated from 2010 to 2019. Table 1 shows data from the company on account receivable turnover, cash turnover, and liquidity from 2010 to 2019.

Table 1. Data on account receivable turnover, cash turnover, and liquidity

Year	Account Receivable Turnover	Cash Turnover	Liquidity (CR)
2010	9.98	9.90	81%
2011	14.25	9.95	105%
2012	9.26	10.40	91%
2013	6.76	10.68	96%
2014	4.71	7.34	97%
2015	5.58	8.57	66%
2016	5.98	6.80	81%
2017	7.47	6.06	67%
2018	8.39	7.22	71%
2019	5.24	7.15	95%

Source: Processed financial statement of PT PLN (Persero)

In 2011, the highest account receivable turnover was 14.25 times. The quicker account receivable is turned over, the better the company's financial situation will be. Meanwhile, the highest cash turnover was 10.68 times in 2013, and the highest liquidity was 105% in 2011. Based on the data in 2011, PT PLN Persero had a high account receivable turnover, cash turnover, and liquidity. As a result, the company's financial situation was very good in 2011.

The smallest account receivable turnover was 4.71 times (2014), the smallest cash turnover was 6.06 times (2017), and the smallest liquidity was 66% (2015). For a 10-year period (2010-2019), the current assets and current liabilities of PT PLN increased every year. The highest current assets occurred in 2019, which was IDR151,366,673 (in millions), while the highest current liabilities were in 2019, reaching IDR159,298,153.

The current ratio and the quick ratio are two liquidity measures commonly used. The current ratio is one of the rules used to determine a company's liquidity condition. It is used to show the extent to which current assets cover the company's current liabilities, whereas the quick ratio examines liquidity conditions by comparing current assets minus current assets with current liabilities. Cash is a form of current asset.

Indut et al. (2021) examined cash flow and account receivable turnover of food and beverage companies listed on the IDX for the 2016-2020 period and concluded that both cash flow and account receivable turnover affect the company's liquidity. Rauna et al. (2018) claimed that cash turnover has a positive and significant effect on liquidity, whereas Rahmat Hidayat (2018) reported that cash turnover has no effect on liquidity, and account receivable turnover has a significant effect on liquidity. The purpose of the present study was to investigate the relationship between the independent variables of account receivable turnover and cash turnover and their influence on the liquidity of PT PLN (Persero).

RESEARCH METHOD

In this study, data were collected using the sampling technique. A non-probability sampling method with a purposive sampling approach was used. Purposive sampling, according to Sugiyono (2011), is a sampling technique with specific considerations. The data used are secondary data obtained from PT PLN (persero)'s financial statements from 2010 to 2019. This study applied a quantitative data analysis employing statistical analysis methods such as multiple regression analysis and correlation analysis to determine the effect and relationship between dependent and independent variables. Multiple linear regression was one of the analytical methods used to test the effect of two or more independent variables on one dependent variable (Janie, 2012). Following the analysis, the results were presented, and a conclusion was obtained (Creswell, 2017). The regression model in this study was:

$$\hat{y} = a + b_1 x_1 + b_2 x_2$$

Notes:

$\hat{y}$: Estimated value of liquidity variable

b_1 : Effect of receivable turnover variable

b_2 : Effect of cash turnover variable

x_1 : Account receivable turnover variable

x_2 : Cash turnover variable

There were two stages of hypothesis testing in multiple regression analysis in this study, namely (1) testing whether the variables X1 and X2 had a simultaneous or joint effect on Y, with hypothesis tested using the F-test or ANOVA; and (2) testing whether the variables X1 and X2 partially affected Y, with the hypothesis examined using t-test.

Multiple regression analysis requires several assumptions to be met, including normality, multicollinearity, homoscedasticity, and non-autocorrelation. These assumptions must be met in to ensure that the multiple regression analysis results are valid. Correlation analysis is an analytical technique used to determine the close relationship between two variables (Suparto, 2014). Furthermore, the coefficient of determination was calculated in this study to determine how much variation in the Y variable is described by X1 and X2 in the model. The IBM SPSS 21 software was used to analyze the research data.

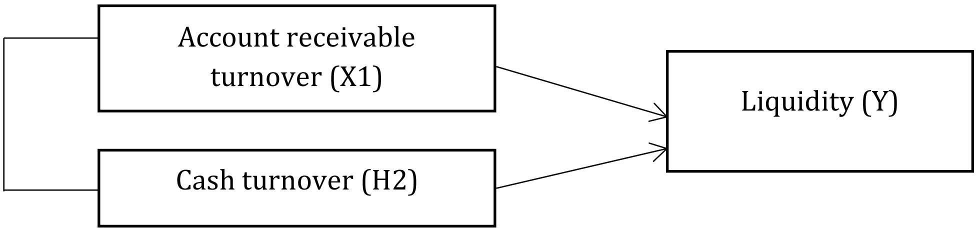

Diagram 1. Conceptual framework
Source: Processed data

RESULTS AND DISCUSSION

Development of Account Receivable Turnover at PT PLN

According to Kasmir (2014), account receivable turnover is a ratio that measures how long it takes to collect the account receivable over a period or how many times funds invested in account receivable rotate in one period. Further, Koesomowidjojo (2017) suggests that it is a ratio that evaluates the average account receivable collected by a company in one year. The faster account receivable turnover is, the more effective an organization's account receivable management will be. Account receivable turnover is the ratio value of net sales value compared to the average account receivable (Jumingan, 2017). The following are data on net sales and average account receivable from 2010-2019.

Table 2. Description of the data on PT PLN (Persero) account receivable turnover

Year	Net Sales (Million Rupiahs)	Average Account Receivable (Million Rupiahs)	Account Receivable Turnover (Times)
2010	162,375,294	12,268,620	13.24
2011	208,017,823	14,597,573	14.25
2012	232,656,456	25,119,182	9.26
2013	257,404,581	38,060,955	6.76
2014	193,417,941	41,040,755	4.71
2015	217,346,990	38,907,028	5.59
2016	222,821,956	37,231,480	5.98
2017	255,295,243	34,153,861	7.47
2018	272,897,742	32,507,092	8.40
2019	285,640,589	54,433,587	5.25

Source: Processed financial statements of PT PLN (Persero)

Figure 1 depicts the development of account receivable turnover at PT PLN (Persero).

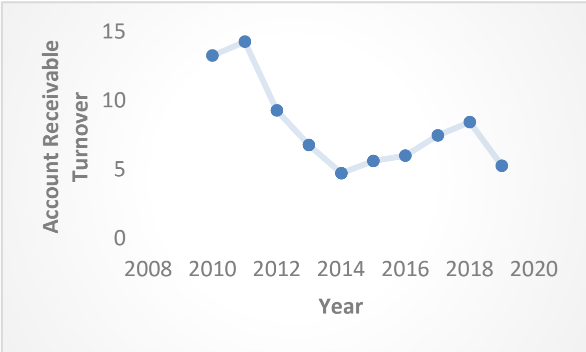

Figure 1. Data on the account receivable turnover of PT PLN from 2010 to 2019
Source: Processed data

Based on the data in Table 2 and Figure 1, the account receivable turnover of PT PLN (Persero) in the period 2010-2019 fluctuated from year to year. The highest account receivable turnover was 14.25 times in 2011, and the lowest was 5.25 times in 2019.

Development of Cash Turnover at PT PLN

Cash is the most recent company asset in a series of funds used to maintain the company's profitability and to finance operational needs or make new investments. It is the most liquid form of working capital in a business (Sulindawati et al., 2017). Moreover, it is a medium of exchange and is benefitted as an accounting measure in a balance sheet (Sutrisno, 2013).

According to (Manullang, 2019), cash turnover is a ratio that can evaluate a company's ability to pay off debts that will be due with the availability of cash and the company's bank. (Yuniati & Suharti, 2018) stated that in terms of sales, cash turnover can assess the level of the company's sales volume within a specific time directly and evaluate the company's ability to pay a short-term debt that is due soon. Cash turnover is the ratio value of net sales value compared to the average cash (Harmono, 2015). Data on net sales and average cash from 2010 – 2019 are presented in Table 3.

Table 3. Overview of data on the cash turnover of PT PLN (Persero)

Year	Net Sales (Million Rupiahs)	Average Account Receivable (Million Rupiahs)	Cash Turnover (Times)
2010	162,375,294	16,397,997	9.90
2011	208,017,823	20,902,446	9.95
2012	232,656,456	22,363,973	10.40
2013	257,404,581	24,084,911	10.68
2014	193,417,941	26,320,749	7.34
2015	217,346,990	25,353,934	8.57
2016	222,821,956	32,752,781	6.80
2017	255,295,243	42,100,591	6.06
2018	272,897,742	37,793,260	7.22
2019	285,640,589	39,946,672	7.15

Source: Processed financial statements of PT PLN (Persero)

The development of cash turnover at PT PLN is presented in Figure 2.

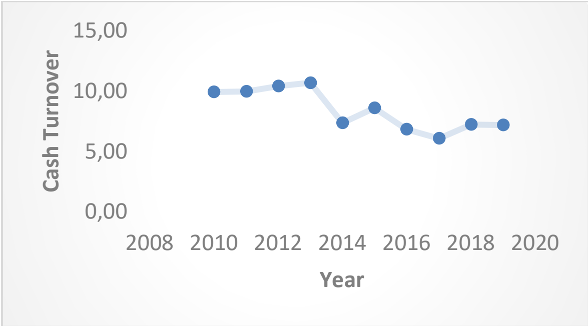

Figure 2. Cash turnover of PT PLN for 2010-2019
Source: Processed data

Data in Table 3 and Figure 2 show that the cash turnover of PT PLN (Persero) for the period of 2010-2019 fluctuated from year to year, with the highest account receivable turnover in 2013 at 10.68 times and the lowest in 2017 at 6.06 times a year.

Development of Liquidity at PT PLN

According to Riyanto (2011), one of the factors determining a company's success or failure is liquidity. The current ratio is used by the company to measure the effectiveness of the use of current assets used to pay the company's obligations in measuring the ability to pay short-term obligations. The liquidity ratio, according to Harahap (2015), describes the company's ability to meet its short-term obligations. The ratio is calculated by dividing current assets by current liabilities. The significance of the liquidity ratio for the company can show the extent to which a company is capable of overcoming trade debts and paying short-term debt on time so that there are no obstacles for the company to gain profits (Juliana & Tipa, 2020). Table 3 presents the results of processing the collected secondary data obtained from the description of the current ratio at PT PLN.

Table 4. Overview of data on the PT PLN (Persero) liquidity

Year	Current Assets (Million Rupiahs)	Current Debt (Million Rupiahs)	Liquidity (Current Ratio)
2010	44,773,286	54,949,838	81%
2011	66,922,542	63,550,433	105%
2012	77,310,156	84,837,180	91%
2013	84,837,180	88,315,046	96%
2014	85,423,738	87,558,279	97%
2015	79,344,793	120,138,893	66%
2016	98,569,077	121,623,355	81%
2017	93,797,251	139,074,243	67%
2018	113,415,251	157,895,742	71%
2019	151,366,673	159,298,153	95%

Source: Processed financial statements of PT PLN (Persero)

From the values of current assets and current liabilities, the liquidity value for 2010 – 2019 was obtained, as presented in Figure 3.

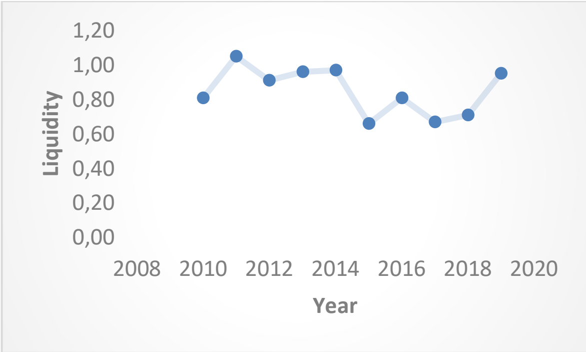

Figure 3. Data on the liquidity of PT PLN (Persero) for 2010-2019
Source: Processed data

Based on data presented in Table 4 and Figure 3, liquidity during the period 2015 to 2019 fluctuated every year. In 2011, the increase in liquidity with the highest value reached 105%, while in 2015, the lowest value was 66%.

Effect of Account Receivable Turnover and Cash Turnover on the Liquidity of PT PLN

Because there are two independent variables in this study, the multiple regression analysis was used. Table 5 presents the results of the multiple regression analysis.

Table 5. Multiple regression analysis outputs

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	52.874	23.238		2.275	0.057
Accounts Receivable_Turnover	-0.241	1.667	-0.058	-0.145	0.889
Cash_Turnover	4.053	3.241	0.499	1.25	0.251

Source: Processed financial statements of PT PLN

Based on the data presented in Table 5, the regression model was obtained:

$$\hat{y} = 52.874 - 0.241\ X_1 + 4.053X_2$$

The interpretations of the model are as follows.

1. When account receivable turnover and cash turnover are 0 times, the average liquidity level of PT PLN is 5,287.4%.
2. If the cash turnover variable is considered constant, the average liquidity level of PT PLN will decrease by 24.1% for every 1-time increase increase in acoount receivable turnover.
3. If the account receivable turnover variable is considered constant, the average liquidity level of PT PLN will decrease by 24.1% for every 1 additional cash turnover.

The F-test or ANOVA was performed to determine whether or not there was a relationship between account receivable turnover and cash turnover on the level of liquidity. The test results are presented in Table 6.

Table 6. Output or F-Test or ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	378.535	2	189.267	.992	.418
Residual	1335.465	7	190.781		
Total	1714.000	9			

Source: Processed financial statements of PT PLN

As detailed in Table 6, the F-value was 0.992 and the significance value was 0.418, both of which were greater than 0.05, implying no significant effect of account receivable turnover (X1) and cash turnover (X2) together (simultaneously) on the level of liquidity (Y).

The t-test determined whether there was a partial effect of accounts receivable turnover and cash turnover on the level of liquidity. The results of the test are presented in Table 5. The significance value of account receivable turnover was 0.889, which was greater than α (0.05), suggesting no significant relationship between account receivable turnover and liquidity. Meanwhile, the significance value of cash turnover was 0.251, which was greater than α (0.05), exemplifying no significant relationship between cash turnover and liquidity.

To ensure that no assumptions were violated, assumption testing was performed. The Kolmogorov-Smirnov test was used to determine normality. The significance value in the normality test was 0.896 (> 0.05), indicating that the assumption of normality was met. The Durbin-Watson test was used to examine the non-autocorrelation assumption. The value of D-W was 2.634, and the values of d1 and du based on the Durbin-Watson table for n = 10 were 0.6972 and 1.6413, respectively. Table 7 presents the test criteria that were used.

Table 7. Durbin-Watson criteria

Statistical Value d	Result
0 < D-W < 0.6972	Positive autocorrelation
0.6972 ≤ D-W ≤ 1.6413	Inconclusive
1.6413≤ D-W ≤ 2.3587	No positive/negative correlation
2.3587≤ D-W ≤ 3.3028	Inconclusive
3.3028≤ D-W ≤ 4	Negative correlation

Based on these criteria, the autocorrelation test fell into the fourth range, namely 22,3587≤ D-W ≤ 3,3028, putting it in the inconclusive category. The autocorrelation test was used to determine whether or not there was autocorrelation in the data. If the points on the graph are randomly distributed and do not form a certain pattern, there is no autocorrelation.

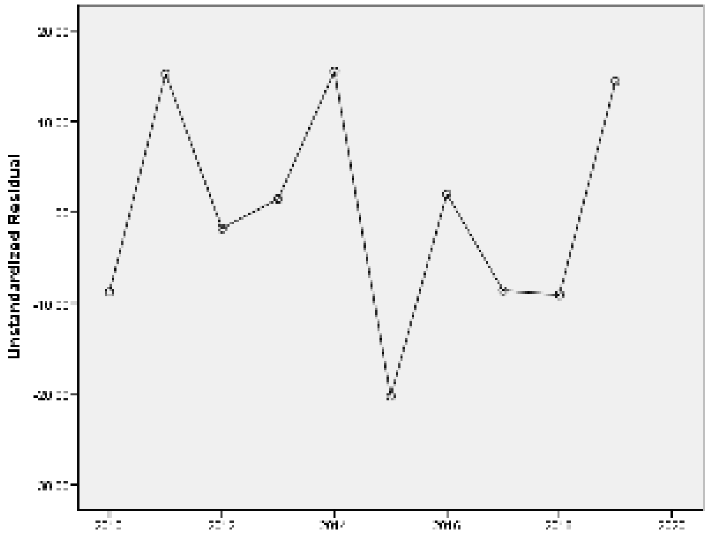

Figure 4. Autocorrelation test graph

Figure 4 shows that the dots in the graph did not form a specific pattern, indicating the absence of autocorrelation. Multicollinearity was the next assumption test. The goal of multicollinearity testing was to investigate if the regression model discovered a correlation between the independent variables. The value of the variance inflation factor was used to determine the presence or absence of multicollinearity in the regression model (VIF). If the VIF value is greater than 10, it is assumed that there is multicollinearity. The VIF value of the regression model in this study was 1.431 for the account receivable turnover and cash turnover variables, indicating that multicollinearity did not exist. The final assumption was non-heteroscedasticity. This assumption was tested by making a scatter-plot between Studentized Residual (ZRESID) and Standardized Predicted Value (Y cap). If the plot tends to form a pattern, it indicates the presence of heteroscedasticity; if the plot tends to be random (does not form any specific pattern), there is no heteroscedasticity.

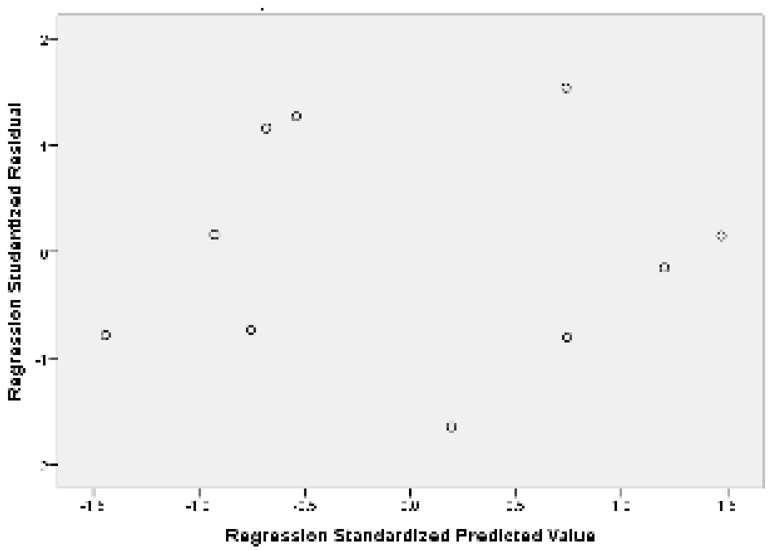

Figure 5. Non-heteroscedasticity test plot

Figure 5 shows that the plot was random and did not follow a pattern, indicating that the non-heteroscedasticity assumption was met. Correlation analysis was used to discover and validate the hypothesis of a relationship between two variables when the data of the two variables was in the form of intervals or ratios and the data sources of the two or more variables were the same. The correlation between receivables turnover and liquidity was 0.216, signifying that the two had a very weak relationship, whereas the correlation between cash turnover and liquidity was 0.467, indicating that the two had a weak relationship.

The coefficient of determination was performed as a measure to determine how much variation exists in the Y variable described by X1 and X2 in the model to determine the suitability or accuracy of the estimated value or regression line with the sample data. The coefficient of determination was calculated using SPSS 21, and it is detailed in Table 8.

Table 8. Coefficient of determination testing

Model	R	R Squared	Adjusted R Square	Std. Error of the Estimate
1	.470[a]	.221	-.002	13.81234

Source: Processed financial statements of PT PLN

This indicates that account receivable turnover and cash turnover explained 22.1% of the liquidity, while the rest was explained by other variables.

CONCLUSION

Based on the findings and discussions, the following conclusions are drawn from research on the effect of account receivable turnover and cash turnover on liquidity at PT PLN Persero from 2010 to 2019: (a) account receivable turnover has no significant effect on liquidity; (b) cash turnover has no significant effect on liquidity; and (c) account receivable turnover and cash turnover have no simultaneously significant effect.

This study has a limitation, which is the inability of researchers to access financial statements for 2020 and 2021, limiting them to samples from 2010 to 2019. It is expected that future research includes the two financial reporting periods to obtain more accurate results. In addition, it is suggested that independent variables, such as inventory turnover and working capital turnover, are included.

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THE RELATIONSHIP BETWEEN TERMINAL MONITORING DEVICE INSTALLATION IN RESTAURANTS AND AN INCREASE IN TAX REVENUE IN SURAKARTA FROM 2014 TO 2021

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ABSTRACT

The purpose of this research is to analyze the effect of installing Terminal Monitoring Device (TMD) in restaurants on the increase in tax revenue in Surakarta City for 2014—2021, its contribution to regional taxes and Regional Original Income (*Pendapatan Asli Daerah*/PAD), as well as the obstacles. The method applied in this research is a descriptive quantitative approach. This research used primary and secondary data. Primary data include interviews with the Regional Revenue, Financial and Asset Management Agency (*Badan Pendapatan Pengelolaan Keuangan dan Aset Daerah*/BPPKAD) of Surakarta, while secondary data include reports on the realization of restaurant tax revenues, reports on the realization of regional taxes, reports on the realization of PAD, and data on the number of restaurants taxpayers in Surakarta. The results of this research show that the installation of TMD did not have a significant impact on increasing restaurant tax revenues in Surakarta City and increasing the restaurant tax contribution to regional taxes and PAD during 2018—2021. Several technical and non-technical factors cause the non-optimal installation of TMD to increase restaurant tax revenues in Surakarta.

Keywords: contribution; regional original income; regional taxes; restaurant tax; TMD

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INTRODUCTION

According to Article 1 Number 7 of Law Number 32 of 2004, Indonesia adheres to the principle of decentralization, which means that the central government handovers government power to autonomous regions based on the principle of autonomy. In regulating the region, each local government requires funds to carry out the government's and the public's interests. Regional tax is one source of revenue for the Regional Budget Revenues and Expenditures (*Anggaran Pendapatan dan Belanja Daerah*/APBD). As detailed in Law Number 28 of 2009, regional governments have the authority to collect regional taxes for the needs and prosperity of their citizens.

Regional taxes, according to Law Number 28 of 2009 Article 1 Number 10, are mandatory contributions to regions owed by individuals or entities that are coercive under the law, without receiving direct compensation, and are used for regional needs for the greatest prosperity of people. Regional tax collection by local governments to the community is intended to fund the implementation of government tasks, development, and community development efficiently and effectively to improve people's living standards (Anggoro, 2017). Based on the description, it is clear that tax collection is used for the benefit of the government and the public interest for the prosperity of the people. This regional tax will later be used for improving regional infrastructure, counseling on human resources (HR), and developing clean water resources.

Surakarta, as an autonomous region, must certainly work to increase its regional tax revenue, as it is the largest contributor to PAD. This is based on the report on the implementation of PAD in Surakarta from 2014 to 2021, which shows that regional taxes generate the most revenue. The restaurant tax is one of nine types of regional taxes in the city. The city known for its slogan "the Spirit of Java" (Suharsih, 2022) has culinary appeal for most people due to its culinary variety at relatively low prices. It is not difficult for first-time visitors to Surakarta to find a restaurant that suits their tastes and budgets. Based on data from the BPPKAD of Surakarta in 2021, Surakarta City has 1,390 units of restaurants or restaurants that have been registered as taxpayers.

A large number of restaurants has a positive impact on the Surakarta City Government by creating job opportunities. Furthermore, these restaurants can become potential for they attract tourists. The main point is that restaurants can increase the PAD through taxes, as regulated in Regional Regulation Number 11 of 2018 on the imposition of restaurant tax.

Based on the Surakarta City Regional Regulation Number 11 of 2018, a restaurant tax is a tax on services provided by a restaurant. A restaurant is a facility providing food and/or beverages for a fee, which includes restaurants, cafeterias, canteens, stalls, bars, and similar establishments, as well as catering services. Written law is the main basis for individuals or entities in managing administration. Several legal bases serve as references for the implementation of restaurant taxes: 1) Law Number 28 of 2009 is the basis that restaurant tax is categorized as a regency/city tax; 2) Regional Regulation Number 11 of 2018 serves as the basis for the name, subject, object, basis of imposition, rate, and method of calculating restaurant tax; and 3) Surakarta Mayor Regulation Number 34 of 2013 serves as the basis for the guidelines for restaurant tax implementation. Restaurant tax subjects and payers: the subject of the restaurant tax is an individual or entity that buys food and/or drinks from a restaurant, and the restaurant taxpayer is an individual who operates a restaurant or the so-called restaurant owner.

The advancement of science and technology also plays a role in the tax collection system, which is constantly updated to meet the quantity and quality of tax received. According to the Head of BPPKAD of Surakarta in 2017 (Pemerintah Kota Surakarta, 2017), one of the efforts made by BPPKAD of Surakarta to achieve optimal tax revenue is to install TMD in several restaurants to narrow the gaps. This device will record transactions that occur in real-time and then accumulate them for one month, which will serve as the bases for taxation.

Installing TMD, for example, has a positive impact on tax revenues. It has been reported that the installation of a TMD in Bandar Lampung City and Metro City can significantly increase regional tax revenues. On the other hand, studies show that the installation of TMD had no significant impact on Surakarta City's tax revenue (Firdaus, 2021; Raihan et al., 2021; Wati, 2020; and Luhur, 2018).

TMD is a type of tapping box to record transactions that occur in restaurants, hotels, parking lots, and entertainment venues. This device is a recommendation by the Corruption Eradication Commission (*Komisi Pemberantasan Korupsi*/KPK) to minimize transaction leakage to make Surakarta a corruption-free environment. TMD should be financed by regional banks rather than the government (BPPKAD Kota Surakarta, 2019). This device is installed in the taxpayer system network to obtain transaction data. Every transaction that occurs is automatically recorded in real-time, allowing TMD to be used as a tool to monitor the taxes paid by taxpayers relating to the number of existing transactions.

One of the innovations of BPPKAD of Surakarta to monitor and evaluate taxpayer compliance in terms of depositing payable tax is the installation of a TMD. However, several obstacles were encountered during implementation, causing the installation of the device to be less than optimal to increase restaurant tax revenues. The TMD, on the other hand, is not set up in all restaurants in the city registered as taxpayers. Based on the background, the researcher wishes to investigate the issue in a final project entitled: The Relationship between the Installation of Terminal Monitoring Devices in Restaurants and Increase in Tax Revenue in Surakarta from 2014 to 2021.

The installation of a Terminal Monitoring Device (TMD) is one of the innovations provided by the Surakarta City Government in terms of online-based taxation. This innovation is expected to increase restaurant tax revenue in Surakarta. The problems raised in this study are as follows.

1. How is the TMD working mechanism?
2. What are the factors influencing the non-optimal installation of the TMD in increasing restaurant tax revenues in Surakarta?
3. How is the comparison of restaurant tax revenues in Surakarta before and after the TMD installation?
4. How is the contribution of the restaurant tax to the regional tax and PAD of Surakarta before and after the TMD installation?

The benefits of this research are as follows:

1. providing information and knowledge contributions to anyone who reads this research,
2. providing a reference for input and evaluation for the BPPKAD of Surakarta regarding the installation of TMD in several restaurants in Surakarta, and
3. providing a reference for any parties that will carry out further research in the same field.

RESEARCH METHOD

This study was carried out at the BPPKAD of Surakarta using a descriptive quantitative approach. Primary and secondary data were used. Primary data include interviews, while secondary data include reports on restaurant tax receipt realization 2014-2021, reports on regional tax realization, reports on PAD realization, and data on the number of restaurant taxpayers in Surakarta from 2014 to 2021.

The point of the study was to examine the impact of TMD on the increase in restaurant tax revenues in Surakarta from 2014 to 2021. Structured interviews with the BPPKAD of Surakarta, as well as literature studies related to applicable regulations and previous research on the topic of discussion in this study, were used to collect data.

RESULTS AND DISCUSSION

Working Mechanism of TMD

Figure 1. Terminal monitoring device
Source: BPPKAD of Surakarta

Figure 1 demonstrates a transaction monitoring device of the TMD. This device is installed as an embodiment of Surakarta Mayor's Regulation Number 21 of 2017 on the online supervision of regional tax payments on taxpayer business transaction data. The TMD used in Surakarta is Almoon, which stands for Alat Monitoring Online.

1. Technical specifications of TMD
    a. Printer output type: Serial, USB, Bluetooth, Ethernet, and WiFi
    b. Database Type: MySql, MSSQL, PostregSQL, Firebird, Oracle, Sqlite, Mdb, Cdb, DBF
    c. File type: TXT, CSV, PDF, Xls, xlsx
    d. Number of ports: 1 MicroUSB: OTG and power input, 1 USB Host, 1 Ethernet, 1 Serial RS232 DB9-M, 1 Serial RS232 DB-9F
    e. Connectivity: GSM 3G/4G, WiFi: 802.11b/g/n, Bluetooth V4.0
    f. CPU: Cortex A7 Quad Core, Frequency up to 1.2GHz
    g. Memory: 512 MB DDR3 RAM
    h. Storage: MicroSD x1 for external storage up to 128GB
    i. Operating Temperature: -20°C to 70°C
    j. Power Supply: DC 5V/2A
    k. Size: Length: 76.5 mm, Width: 76 mm, Height: 46 mm
2. Working mechanism of the TMD

TMD works by recording every transaction that takes place at the restaurant. TMD retrieves transaction data that will later be recorded in two ways: TMD with connection configuration to the Point of Sales printer/Cash Register and TMD with Connection configuration to Database/Transaction File. The following is an illustration of how it works.

Figure 2. TMD with connection configuration to the printer of point of sales/cash register
Source: BPPKAD of Surakarta

Figure 3 shows monitoring through the output of the Cash Register printer or the output of the Point of Sales printer for taxpayers. In this case, TMD is prepared to have monitoring capabilities on printer output with Serial Interface, USB, Bluetooth, Ethernet, and WiFi.

Figure 3. TMD with connection configuration to database/transaction file
Source: BPPKAD of Surakarta

Figure 3 portrays a TMD monitoring method via a Query Database/File on a taxpayer server. TMD uses this method to gain access to the taxpayer's database/file. This method is used in restaurants that already have servers. TMD is capable of recording transaction data on the taxpayer server.

Although there are two methods for collecting transaction data on taxpayers, the device operation remains the same, as follows:

1. TMD automatically records transactions that occur in restaurants.

2. Data are kept in a transaction database.
3. The taxpayer sends data from the transaction database to the Regional Tax Information System online via the GSM 3G/4G network.
4. Data are represented in the form of a Dashboard Interface. The status of TMD monitoring is indicated by three different colors:
    a. green (normal) = TMD data were sent per day until two days ago,
    b. orange (warning) = The taxpayer sent data from 3-7 days ago,
    c. red (critical) = The taxpayer sent data up to more than 7 days ago.

Factors Affecting the Installation of the TMD Not Optimally

An employee of the BPPKAD Sub-Division of Data Collection mentioned several factors causing the unoptimized installation of TMD for increasing regional tax revenues.

1. Non-Technical Factors
    a. Taxpayer/group refusal. Business actors refused to install TMD in their locations because they felt annoyed if watched. On the other hand, some satay sellers, meatball sellers, and other informal groups refused the installation of TMD in their business locations. In this case, if members of the group were directed to install TMD, there would be arguments because they felt that other group members did not install TMD, even though the installation was not necessarily carried out in all culinary places but based on certain indications.
    b. Funding limitation. Transaction recording device requires substantial maintenance and connection costs. The BPPKAD, on the recommendation of the KPK, is not allowed to budget the necessary costs. The funding must be provided by a regional bank. Two possibilities cause limited funding by the regional bank, namely the absence of additional funds for financing tools and the available funds cannot be used for certain reasons.
    c. Poor monitoring. TMD is monitored using Simpasa Dashboard. If the number in the red (critical) category is high, the TMD is improperly installed, based on the result of monitoring by tax officers. Monitoring is carried out by a particular team by conducting a direct survey at the taxpayer's business location. This is performed to ensure that the installed TMD is normal and can work properly.
    d. Taxpayer compliance level. Taxpayers purposefully disabled TMD so that any transactions were not recorded by the device. As a consequence, the number of transactions reported to the BPPKAD was smaller than the real number of transactions. However, the BPPKAD lacked data on nominal estimates recorded in TMD.
    e. Improper installation target. As previously explained, due to limited funds, TMD could not be installed in every restaurant Surakarta. TMD should have been installed in a dining area where indications of fraud were found, where it was reported by the E-Potensi application that the turnover was far from the potential estimated by the BPPKAD. It was reported that TMD, on the other hand, was installed in many restaurants considered compliant and honest in carrying out their tax obligations, such as KFC and Solaria (BPPKAD Kota Surakarta, 2017). In essence, there were numerous other restaurants that, despite their small size, had a high turnover potential but had not installed TMD in their business locations.
2. Technical Factors
    a. Inadequate taxpayer system and cashier machine. TMD is installed in a business location where the taxpayer already has a particular operating system if it uses the Query Database/File method on the taxpayer's server. Some systems were not binary-compatible with the TMD because the cashier machines were outdated, but some taxpayers were unwilling to update the system and the cashier machines. The solution provided by the BPPKAD of Surakarta was to provide TMD with the Cash Register printer output or point of

Sales printer output, but taxpayers refused to use it because they had a particular operating system. This became a barrier to the installation of TMD in the business location.

b. Unstable GSM connection. A stable GSM connection is required to send data from TMD to Simpasa Dashboard on time. In some areas, network issues delayed data distribution and hampered TMD monitoring.
c. Inappropriate data retrieval method in reading transactions. Some restaurants sell items such as souvenirs, cigarettes, and other items that are not subject to restaurant taxes. Any purchases made in the restaurant were included in the payment on the same invoice. Although transactions subject to restaurant tax were assigned a separate code at the time of installation, several identification errors resulted in less precise data recorded on the TMD.
d. Incorrect delivery of problem status from the tool. The TMD status appearing on the Simpasa Dashboard was less accurate. The BPPKAD could not confirm that the TMD installed was turned on, but there was a network problem, damage, or the taxpayer turning it off on purpose. As a result, there was insufficient evidence to conduct direct inspections in the field. This became an evaluation for the BPPKAD, regional banks, and Finnet to help improve TMD.
e. Improper device installation. TMD is an electronic device that must meet specific temperature requirements to function properly. Some taxpayers placed TMD in places where it was prone to damage and could not be used properly.

Restaurant Tax Revenue in Surakarta before and after TMD Installation

Restaurant tax revenue in Surakarta before TMD installation

Restaurant tax is a type of tax that is collected by employing a self-assessment system, in which the taxpayer actively participates in calculating, depositing, and reporting the tax payable. The TMD is used to test the level of taxpayer compliance. With this device, the BPPKAD of Surakarta can compare the amount of tax deposited with the tax that should be paid based on the turnover recorded by the TMD (Wijayanti & Aris, 2020).

According to the BPPKAD of Surakarta, TMD installation and operation began in September 2017. However, restaurant tax revenues for that year could not be used to compare restaurant tax revenues after the TMD. This is because the number of months before the TMD was installed was greater than the number of months after the TMD was installed. Furthermore, TMD installation became effective in 2018. As a result, this study used the data from 2014 to 2017 (before TMD installation) and 2018 to 2021 (after TMD installation). The following is a table of restaurant tax revenue of Surakarta before the TMD installation.

Table 1. Restaurant tax revenue between 2014 and 2017 (before TMD Installation)

Year	Target	Realization	Percentage
2014	18,260,155,000	21,972,680,909	120.33%
2015	21,856,031,000	24,696,017,859	112.99%
2016	26,500,000,000	31,625,753,614	119.34%
2017	32,014,407,280	36,406,367,255	113.72%

Source: The BPPKAD of Surakarta

Table 1 shows that tax revenues continued to increase for three consecutive years, by IDR2,723,336,950 in 2015, IDR6,929,735,755 in 2016, and IDR4,780,613,641 in 2017. To support the analysis, data on the number of restaurants registered as taxpayers from 2014-2017 are presented in Table 3.2.

Table 2. Number of restaurant taxpayers between 2014 and 2017

Year	Number of Taxpayers	Increase	Year
2014	708		2014
2015	788	80	2015
2016	859	71	2016
2017	1,040	181	2017

Source: BPPKAD of Surakarta, processed data

Table 2 shows that the increase in the number of taxpayers is not an indicator of increasing restaurant tax revenues. It is known that the highest increase in income occurred in 2016, while the increase in the number of registered restaurant taxpayers was smaller than in 2015 and 2017. On the other hand, a significant increase in the number of restaurant taxpayers occurred in 2017, but the increase in restaurant tax revenues was far behind from 2016 when viewed from the addition of restaurant taxpayers.

Regional Regulation Number 4 of 2011 was used as the basis for calculating restaurant taxes from 2014 to 2017. This demonstrates that there have been no changes in rates or other provisions that could increase restaurant tax revenues. Based on the data presentation and explanation above, the increase in tax revenue over the last three years was due to economic growth, which also contributed to an increase in restaurant turnover and taxpayer compliance. The realization of restaurant tax revenues always exceeded the target of the BPPKAD of Surakarta.

Restaurant tax revenue in Surakarta after TMD installation

TMD began to be effectively implemented in 2018 for restaurants with a large number of buyers and customers who had indications that their tax reporting did not match turnover. Due to the limited number, not all restaurants had transaction recording devices or TMD. The BPPKAD first surveyed restaurants in Surakarta via the Regional Coordinator to determine the restaurants in which TMD would be installed and given socialization relating to the purpose of TMD installation. Concerning the explanation in point a, the following table shows the restaurant tax revenue of Surakarta after the TMD installation.

Table 3. Restaurant tax revenue between 2018 and 2021 (after TMD Installation)

Year	Target	Realization	Percentage
2018	40,000,000,000	45,335,613,668	113.34%
2019	48,500,000,000	58,625,733,166	120.88%
2020	28,000,000,000	35,726,188,926	127.59%
2021	43,000,000,000	39,900,481,500	92.79%

Source: BPPKAD of Surakarta

Table 3 shows how restaurant tax revenues fluctuated between 2018 and 2021. Tax revenue increased by IDR8,929,246,413 in 2018, the first increase since the implementation of TMD, which was higher than that in previous years. Furthermore, in 2019, there was a significant increase of IDR13,290,119,498, which was the largest increase between the years before and after the installation of TMD. However, the realization of tax revenue decreased significantly in 2020, totaling IDR22,899,544,240. This was the first decline between 2014 to 2021, caused by the Covid-19 pandemic. Tax revenue increased by IDR4,174,292,574 in 2021.

TMD, according to the BPPKAD of Surakarta, was one of the factors contributing to an increase in restaurant tax revenues. This is because the BPPKAD monitors the reported turnover to reduce leakage. However, not all taxpayers fulfill their tax obligations. Several restaurants intentionally turn off TMD to manipulate the recorded turnover. Furthermore, the equipment was damaged multiple times, rendering it inoperable, but the restaurant taxpayer chose not to report the damage but profited from the incident. If the taxpayer is found to have purposefully turned off the TMD, the BPPKAD will issue a warning letter. Taxpayers who disregard the warning letter and continue to turn off the TMD will be dealt with by the Civil Servant Investigator (*Penyelidik Pegawai Negeri Sipil*/PPNS) from the BPPKAD.

Table 3 presents that restaurant tax revenues in Surakarta increased significantly two years after TMD installation. Based on the findings of this study, several factors influence the increase in restaurant tax revenues, including the implementation of Regional Regulation Number 11 of 2018, which specifies a 10% restaurant tax rate. Before the passage of the regulation, restaurant tax rates were classified into three categories: 1) 10% discount for restaurants with monthly revenue of IDR10,000,000 or more, 2) 5% rate for restaurants with monthly revenue of IDR5,000,000 to IDR 10,000,000, and 3) a 3% rate applies to restaurants with monthly revenue of IDR1,000,000 to IDR 5,000,000.

Furthermore, the Covid-19 pandemic has significantly reduced restaurant tax revenues in Surakarta. As reported by Ricky (2020), the Head of BPPKAD of Surakarta said that many restaurants experiencing a decrease in turnover in 2020 requested tax breaks, and some restaurant outlets were forced to close due to the pandemic. Nonetheless, the tax revenue received exceeded the target set by BPPKAD of Surakarta. In 2021, BPPKAD raised the target for restaurant tax revenues, but the realization was only 92.79 percent, marking the first time that Surakarta city restaurant tax revenue did not meet the target between 2014 and 2017.

Data from the BPPKAD of Surakarta reported that 1,390 restaurants have been registered as restaurant taxpayers in Surakarta as of 2021. Meanwhile, only 157 (11.29%) of the total taxpayers install TMD at their restaurants, all of which can operate well. If the device is damaged, it will be repaired or replaced immediately by the BPPKAD of Surakarta. However, in this case, TMD merely supports the increase in restaurant tax revenue, instead of calculating the restaurant tax. Turnover and taxpayer compliance are two factors influencing restaurant tax revenues in Surakarta. The installation of TMD has little effect on the increase in tax revenue of the city.

Contribution of Restaurant Tax to Regional Tax and PAD of Surakarta before and after Installation of Terminal Monitoring Device

The restaurant tax is one of the regional taxes that contribute to PAD (DJPK Kementerian Keuangan, n.d.). The installation of TMD could be one of the efforts made by BPPKAD of Surakarta to maximize regional taxes and PAD for regional development. The higher the restaurant tax revenue, the greater the contribution to regional taxes and PAD. In this discussion, a table of restaurant tax contributions to regional taxes and PAD is presented, calculated using the formula:

$$\text{Contribution} = \frac{\text{Restaurant tax revenue realization}}{\text{Regional tax/ PAD realization}} \times 100\%$$

Source: Halim (2004)

According to Fuad Bawazier (1999) in Wulandari et al. (2015), to interpret the contribution level of restaurant tax revenue realization to regional taxes and PAD, the indicators in the following table are used.

Table 4. Contribution criteria indicators

Number	Percentage	Criteria
1.	0—0.9%	Relatively non-contributing
2.	1—1.9%	Less contributing
3.	2—2.9%	Fairly contributing
4.	3—3.9%	Contributing
5.	>4%	Highly contributing

Source: Fuad Bawazier (1999)

Figure 4 depicts the trend of the contribution of restaurant tax revenue to regional taxes and PAD in Surakarta, which is explained in the following point and is divided into two parts, namely the contribution before and after the installation of the TMD.

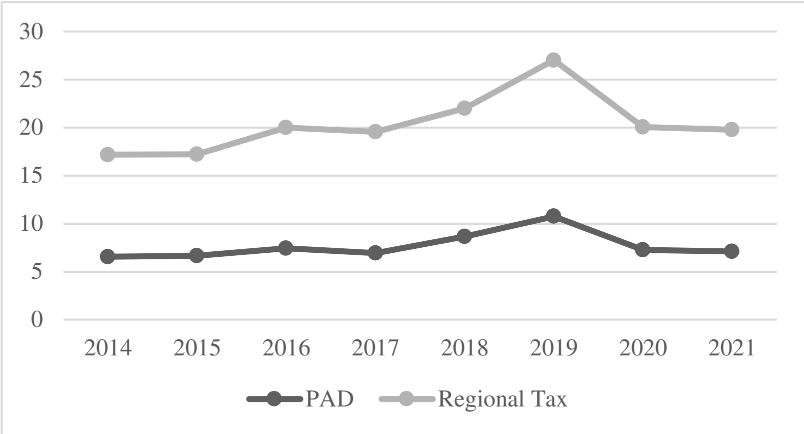

Figure 4. Trends in the contribution of restaurant tax revenue to regional taxes and PAD

Contribution of restaurant tax before TMD installation

Table 5. Contribution of restaurant tax revenue to regional taxes between 2014 and 2017 (before TMD installation)

Year	Regional Tax Realization	Restaurant Tax Revenue Realization	Contribution	Contribution Criteria
2014	206,750,725,212	21,972,680,909	10.63%	Highly contributing
2015	233,085,404,386	24,696,017,859	10.60%	Highly contributing
2016	252,052,998,369	31,625,753,614	12.55%	Highly contributing
2017	288,421,242,637	36,406,367,255	12.62%	Highly contributing
Average Contribution			11.60%	Highly contributing

Source: BPPKAD of Surakarta, processed data

Table 6. Contribution of restaurant tax revenue to pad between 2014 and 2017 (before TMD installation)

Year	PAD Realization	Restaurant Tax Revenue Realization	Contribution	Contribution Criteria
2014	335,660,206,640	21,972,680,909	6.55%	Highly contributing
2015	372,798,426,790	24,696,017,859	6.62%	Highly contributing
2016	425,502,779,064	31,625,753,614	7.43%	Highly contributing
2017	527,544,224,970	36,406,367,255	6.90%	Highly contributing
Average Contribution			6.88%	Highly contributing

Source: BPPKAD of Surakarta, processed data

Tables 5 and 6 show that restaurant tax revenue contributed 0.03% less to regional taxes in 2015, while it contributed 0.07% more to PAD. In 2016, restaurant tax revenues increased their contribution to regional taxes and PAD by 1.95% and 0.81%, respectively. This increase is directly proportional to the increase in restaurant tax revenue realization in 2016, which was quite large and represented the highest increase between 2014 and 2017. Furthermore, in 2017, it increased its contribution to regional taxes by 0.08% to 12.62%, while decreasing its contribution to PAD by 0.53%. Restaurant tax revenues contributed 11.60% to regional taxes on average, while its average contribution to PAD was much lower, at 6.88%.

The preceding description demonstrates that the increase in the realization of regional taxes and PAD is directly proportional to the increase in the realization of restaurant tax revenues, which continues to rise year after year. Although restaurant tax revenue realization always exceeded the target over four years, its contribution to regional taxes and PAD did not always increase but fluctuated between 2014 and 2017. Because of the small difference, the increase and decrease are considered reasonable.

Contribution of restaurant tax after TMD installation

Table 7. Contribution of restaurant tax revenue to regional taxes between 2018 and 2021 (after TMD installation)

Year	Regional Tax Realization	Restaurant Tax Revenue Realization	Contribution	Contribution Criteria
2018	339,929,155,611	45,335,613,668	13.34%	Highly contributing
2019	360,053,930,720	58,625,733,166	16.28%	Highly contributing
2020	279,273,759,740	35,726,188,926	12.79%	Highly contributing
2021	315,917,760,826	39,900,481,500	12.63%	Highly contributing
Average contribution			13.76%	Highly contributing

Source: BPPKAD of Surakarta, processed data

Table 8. Contribution of restaurant tax revenue to pad between 2018 and 2021 (after TMD installation)

Year	PAD Realization	Restaurant Tax Revenue Realization	Contribution	Contribution Criteria
2018	525,125,554,686	45,335,613,668	8.63%	Highly contributing
2019	546,020,008,117	58,625,733,166	10.74%	Highly contributing
2020	492,776,208,640	35,726,188,926	7.25%	Highly contributing
2021	560,526,551,684	39,900,481,500	7.12%	Highly contributing
Average contribution			8.43%	Highly contributing

Source: BPPKAD of Surakarta, processed data

Concerning increased restaurant tax revenues in 2018 and 2019, the percentage of restaurant tax revenues contributing to regional taxes and PAD in Surakarta increased as well. In 2018, the regional taxes increased by 0.71%, while PAD increased by 1.73% over the previous year. Furthermore, in 2019, the contribution of restaurant tax revenues to regional taxes increased by 2.95%, and its contribution to PAD increased by 2.11%, the highest increase between 2014 and 2021. Due to the decline in the realization of restaurant tax revenues during the Covid-19 pandemic, the percentage of restaurant tax revenue contribution to both regional taxes and PAD decreased by 3.49% in 2020. Then, in 2021, its contribution to regional taxes experienced a 0.16% decrease and its contribution to PAD experienced a 0.13% decrease.

The average contribution of restaurant tax revenue to regional taxes was 13.76% while its contribution to PAD was 8.43%. This figure was greater than the contribution before TMD installation. This positive difference was attributed to the increase in restaurant tax revenues after the TMD. However, the installation of TMD did not have a significant effect on the contribution of restaurant tax revenues to PAD in Surakarta.

Findings

The research conducted at the BPPKAD of Surakarta on the relationship between the installation of TMD and the increase in restaurant tax revenues in Surakarta for the 2014-2021 period has several strengths and weaknesses, which are summarized as follows:

1. Strengths
    a. Simpasa Dashboard contains data required by BPPKAD to monitor taxpayers' use of TMD.
    b. Because taxpayers cannot determine the number of transactions recorded by TMD, this device is used to test taxpayer compliance in depositing their tax payable.
    c. Restaurant tax revenues in Surakarta always increased between 2014 and 2021, except for 2020 due to the pandemic. However, the impact of TMD could not be identified because of the absence of data showing the exact amount of realized tax revenue for restaurants in which TMD was installed between 2018 and 2021.
2. Weaknesses
    a. There is no separation of tax revenues obtained from restaurants with TMD and those without TMD installed to identify the effect of TMD in increasing restaurant tax revenues in Surakarta.
    b. The BPPKAD lacks data showing the target of installing TMD each year to calculate the percentage of TMD installation and the predetermined target.
    c. Damage to the TMD and loopholes used to deceive the TMD system cause discrepancies between the amount recorded in the TMD and the taxpayer's turnover.
    d. The non-optimal installation of TMD was fully identified based on interviews with BPPKAD of Surakarta as the party making the regulations and there were no interviews with taxpayers.

CONCLUSION

Based on the results of analysis and discussion, this study draws several points of conclusion. TMD, as a transaction monitoring device, did not produce significant results in increasing restaurant tax revenues in Surakarta between 2018 and 2021. TMD installation, on the other hand, covered 11.29% of all restaurants registered as taxpayers. The increase in tax revenue from 2014 to 2017 was attributed to economic growth, which also contributed to an increase in turnover, which had an impact on increasing tax revenue. Meanwhile, the increase in tax revenues in 2018-2019 was caused not only by the installation of TMD but also by the implementation of Regional Regulation Number 11 of 2018. The decline in 2020 was due to the pandemic, while tax revenues increased in 2021. During the 2018-2021 period, the average contribution of restaurant tax revenue to regional taxes and PAD increased. Some obstacles caused the TMD installation was not optimal in increasing the restaurant tax revenues, including taxpayer/group refusal, limited funding, inadequate monitoring, low taxpayer compliance, improper installation target, inadequate taxpayer system, unstable GSM connection, inappropriate data retrieval method when reading transactions, improper device delivery of the problem status, improper device installation.

The researchers propose suggestions to the BPPKAD of Surakarta for optimizing the installation of TMD to increase restaurant tax revenues of Surakarta, as well as for future research, as follows: 1) it is recommended that BPPKAD Surakarta conduct a further evaluation of the installation of TMD in restaurants where indications of fraud in depositing taxes owed are identified, to optimize the number of TMD available for use to increase restaurant tax revenues in Surakarta; 2) the system for sending transaction data from taxpayers should be improved to enable real-time transactions connected with Simpasa Dashboard so that translation data manipulation can be minimized; 3) funding must be provided following the regulations that govern optimal and comprehensive TMD installation; 4) it is suggested that the BPPKAD of Surakarta collaborate with the Tax Service Office (KPP) to synchronize restaurant turnover data; 5) as the economy recovers from the Covid-19, the BPPKAD of Surakarta should re-monitor restaurants that have TMD installed, ensuring that every device is properly used and imposing sanctions on restaurants that intentionally turn off the equipment; 6) it is preferable to conduct interviews with taxpayers regarding the installation of TMD in the future research so that the results presented are more accurate and not only seen from one side, namely the BPPKAD of Surakarta.

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THE EFFECT OF GOVERNMENT ACCOUNTING STANDARD APPLICATION ON THE QUALITY OF FINANCIAL STATEMENTS (STUDY ON REGIONAL APPARATUS ORGANIZATIONS OF KARANGANYAR REGENCY)

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ABSTRACT

This research aims to analyze the effect of the implementation of the government accounting standard (*Standar Akuntansi Pemerintahan*/SAP) on the quality of the financial statements through the study of perceptions of the financial management staff and to analyze the extent to which the government's internal control system (*Sistem Pengendalian Intern Pemerintah*/SPIP) strengthens the relationship between government accounting standard implementation and the quality of the financial statements. The samples were taken using the saturated sampling technique. A total of 171 respondents from 57 regional apparatus organizations (*Organisasi Perangkat Daerah*/OPD) in Karanganyar Regency were invited to participate in this study, with 117 data used for analysis. The data were analyzed using a simple regression test and interaction test. The results of the study show that the implementation of government accounting standards gives a positive effect on the quality of financial statements.

Keywords: government accounting standard; government internal control system; quality of financial statements

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INTRODUCTION

Regional financial management has advanced rapidly during the reform era, with positive implications for the transformation of the national development paradigm. This development is realized through the transfer of authority from the central government to the local governments, which is known as decentralization of regional autonomy, as stipulated in Law Number 32 of 2004 on local governments. The main goal of implementing regional autonomy in all local governments in Indonesia is to improve people's welfare. However, this goal has not been met, resulting in the demand for accountability from local and central governments. According to Mardiasmo (2009), accountability is demonstrated to trusted officials by fulfilling responsibilities, as well as presenting and disclosing all responsibilities to parties with rights and authorities.

According to Article 23 of Law Number 17 of 2003, accountability in the implementation of the revenue and expenditure budget for central government (*Anggaran Pendapatan dan Belanja Negara*/APBN)/ the revenue and expenditure budget for local government (*Anggaran Pendapatan dan Belanja Daerah*/APBD) regarding the form and financial statements must be prepared following SAP. The standard was developed by the government accounting standard committee (*Komite SAP*/KSAP), which developed an accrual-based government accounting standard (Government Regulation Number 71 of 2010), which replaced Government Regulation Number 24 of 2005. According to Mardiasmo (2009), accountability is the most important factor in producing financial statements in the public sector. A financial statement is said to have advantages if it has a qualitative character.

A government financial statement is considered to be of high quality based on the principle of annual assessment by the supreme audit agency (*Badan Pemeriksa Keuangan*/BPK), which is a government agency mandated to audit management and finance by providing an opinion for consideration. The opinions are divided into four: unqualified (*wajar tanpa pengecualian*/WTP), unqualified with explanatory paragraph (*wajar tanpa pengecualian dengan paragraf penjelas*/WTP-DPP), qualified (*wajar dengan pengecualian*/WDP), and adverse (*tidak wajar*/TW). The benchmarks for the unqualified (WTP) opinion are alignment with SAP, financial statement disclosure density, compliance with statutory constitutions; and Internal Control System (*Sistem Pengendalian Intern*/SPI) effectiveness.

The Karanganyar Regency government's financial management has been well-executed and of high quality. This suggests that the local government, as the principal, has met its function to disclose financial statements as part of its accountability for financial management. The financial statements presented by the Karanganyar Regency government are of high quality, as evidenced by the qualified (WDP) opinion in 2013, followed by the unqualified (WTP) opinion for four years in a row (2014-2017).

The qualified (WDP) opinion in 2013 was attributed to the inadequate control and management of fixed assets on the former village treasury land, as well as the availability of fixed assets, equipment, and machinery, which could not be proven for their fairness due to inadequate control over these assets. The unqualified opinion was obtained because of the achievements of the provincial government (46% increase from 49% in 2013 to 97% in 2017), regency governments (46% increase from 26% in 2014 to 72% in 2017), and city governments (48% increase from 38% in 2013 to 86% in 2017). The improvement was followed by a decline experienced by 1 out of 34 provinces, 117 out of 415 regencies, and 13 out of 90 cities.

Worse opinion in the financial statements is attributed to non-compliance with the SAP. The non-compliance stems from the presentation of each financial statement account that is not following the SAP. BPK details the aspects of non-compliance occurring in regional governments, which include current assets (70), fixed assets (109), other assets (30), long-term investments (12), short-term liabilities (14), income (19), operating expenditures (47), capital expenditures (48), and operating expenditures-OR (40). Based on the above description, the use of government accounting standards affects the quality of financial statements.

The financial statement quality is measured with the qualitative characteristics significantly related to economic decision-making. The qualitative characteristics are operational qualitative characteristics, such as relevance, reliability, readability, comparability, and timeliness (Beest et al., 2009). According to Barth et al. (2008), companies that apply international accounting standards (IAS) are proven to have higher accounting quality than companies that do not apply IAS.

The government's internal control system (*SPI Pemerintah*/SPIP) may have an impact on the relationship between government accounting standard application and the financial statement quality of local governments. This internal control system refers to the mechanism and action of superiors and all employees in long-term activities to ensure that the responsibility for financial management is following the five elements, namely the control environment, risk assessment, control activities, information and communication, and internal control monitoring.

Control is required when putting government accounting standards into practice. The government's internal control system should be able to create a conducive government organizational environment for producing quality financial statements. According to Udiyanti et al. (2014), the competence of accounting staff, the use of SAP, and the SPIP have an impact on the quality of financial statements. Regional autonomy and government affairs should be fulfilled in an absolute, concurrent, and general manner by adhering to and implementing policies in the administration of regional finances.

Financial management is carried out by central and regional governments through the management staff. The activities of financial management staff are challenging, ranging from financial management to the preparation of financial statements.

Significant issues arise as a result of differences in perceptions among financial management employees regarding the application of SAP for each component of the financial statements. A poor internal control system causes different perceptions of the financial statement preparation guidelines that follow the SAP.

The state civil apparatus (*Aparatur Sipil Negara*/ASN) is required to prepare the SAP-based financial statements. Unqualified (WTP) opinion increases while qualified (WDP) opinion decreases. This happens due to the presentation and description of accounts that are not following the SAP. External auditors discover issues in the accounting and reporting control systems, flaws in the control system for implementing the revenue and expenditure budgets, and irregularities in the internal control structure (CPC, 2018).

According to Skaife et al. (2007), there are differences in the effectiveness of internal control that have a significant impact on accrual quality. Companies that initially struggle to recover from control issues can see a significant increase in accrual quality with the presence of SOX internal control.

The present study belongs to quantitative research. This research builds on previous studies that investigated the quality of financial statements. HR competence, IT utilization (Nugraheni & Subaweh, 2008); legal framework (Nkundabanyaga et al., 2013); regional financial accounting system (Wati et al., 2014); regulatory factors and administrative systems (Haliah & Nirwana, 2019); legal system, law enforcement environment, and company size (Beest et al., 2009); understanding of the accrual basis (Kiranayanti & Erawati, 2016), internal control systems (Chodijah & Hidayah, 2018); internal control system (Dewi et al., 2019); audit opinion (Nor et al., 2019); SOX internal control (Skaife et al.,2007); politics (Nagendrakumar et al., 2015), conceptual framework (Jones, 1992); and application of SAP (Nugraheni & Subaweh, 2008), (Beest et al., 2009) (Adhi & Suhardjo, 2013)

(Nkundabanyaga et al., 2013) (Inapty & Martiningsih, 2016) are the aspects that influence the quality of financial statements.

The SAP application is the aspect analyzed in this research. The studies by Nugraheni & Subaweh (2008), Beest et al. (2009), Adhi & Suhardjo (2013), Nkundabanyaga et al. (2013), and Wati et al. (2014) reported that the application of the government accounting standards (SAP) gives a positive effect on the quality of financial statements. However, Inapty & Martiningsih (2016) reported the opposite result. The different results of previous studies triggered the researchers to perform reevaluation and add a new variable, the SPIP, as moderating variable.

Evaluation of financial statement quality is based on the opinion provided by the BPK. The opinion (unqualified (WTP), unqualified with explanatory paragraph (WTP-DPP), qualified (WDP), or adverse (TW)) is a form of appreciation for the government's performance in preparing an accountable financial statement and free from corruption. The opinion is given based the compliance with the SAP, compliance with laws and regulations, and the effectiveness of the internal control system in the Financial and Development Supervisory Agency (*Badan Pengawasan Keuangan dan Pembangunan*/BPKP) of Central Java (Gutomo, n.d.).

Therefore, reevaluation is required because the government accounting standards SAP application is one of the indicators used by the BPK in providing opinions. The SAP can indirectly affect the quality of financial statements, and BPK's opinion reflects the quality of the financial statements produced. The SPIP variable is added as a moderating variable because it is thought to strengthen the relationship between the application of SAP and the quality of financial statements. The contribution of SAP application to the quality of financial statements will be strengthened if the SPIP is implemented following Government Regulation Number 60 of 2008, with the achievement of the five elements (control environment, risk assessment, control activities, information and communication, and monitoring).

Hypothesis Development

Transparency and accountability are two practices that promote good governance. The government accounting standards (SAP) are the accounting foundations for preparing and presenting government financial statements. The committee started preparing the SAP with the exposure draft and then set it in Government Regulation Number 24 of 2005. After five years, the regulation was replaced with Government Regulation Number 71 of 2010. Within the year, cash-based SAP shifted to accrual-based SAP. The transition took place for four years until the later standard was completely put into practice by the government.

The elements of SAP/government accounting standards statements (*Pernyataan SAP*/PSAP) start from the presentation of financial statements, budget realization reports, cash flow statements, notes to financial statements; inventory accounting, investment accounting, fixed asset accounting, construction in progress accounting, liability accounting, error correction, and consolidated financial statements. The preparation of financial statements not following the elements of SAP/PSAP will result in a worse opinion. Previous studies by Nugraheni & Subaweh (2008), Beest et al. (2009), Adhi & Suhardjo (2013), Nkundabanyaga et al. (2013), and Wati et al. (2014) concluded that the results of SAP contribute positively to the quality of the financial statements.

H1: The implementation of government accounting standards (SAP) has a positive effect on the quality of financial statements.

The scope of internal control includes supervisory environment, risk measurement, control measures, information and communication, and internal control observation. Internal control that has not been fulfilled affects the financial statement presentation. The SPIP confirms the completion of the SAP application for the government. According to the Regulation of the Minister of State Apparatus

Empowerment and Bureaucratic Reform of the Republic of Indonesia (PERMENPANRB) Number PER/03.1/M.PAN/3/2007, supervision over central and regional government administration is carried out through inherent supervision (internal control), internal government functional supervision, and community control based on public complaints.

The results of studies by Wahyudin & Fitriana (2017) and Suliyantini & Kusmuriyanto (2017) suggest that the SPIP can moderate HR skills and the implementation of accrual SAP to the quality of the financial statements.

H2: Government's internal control system (SPIP) moderates the effect of government accounting standard (SAP) implementation on the quality of financial statements.

RESEARCH METHOD

This research belongs to a quantitative study by interpreting the respondents' responses into numbers or scores. This study aims to verify and examine the effects of SAP application on the quality of financial statements, as well as measure and analyze the SPIP, whether it strengthens or weakens the impact of SAP on the quality of the financial statements. The research population includes 57 personnel of the OPDs of Karanganyar Regency sampled using the saturated sampling technique, which is taking all populations as samples (Sugiyono, 2012: 85). This research uses primary data gathered by distributing questionnaires to financial management staff in each OPD. A total of 171 respondents (3 financial management staff from each OPD were invited to participate in this study. The independent variable of SAP application (X1), moderating variable of SPIP (X2), and the dependent variable of financial statement quality (Y).

The independent variable of SAP application is the extent to which the government applies the SAP. Instrument variables were measured using a four-point Likert-type ordinal scale, with 1 = Disagree, 2 = Somewhat Disagree, 3 = Neutral, and 4 = Agree. The PSAP includes the parameters that indicate the implementation of SAP, using 11 instruments with developmental statements proposed by Sudiarianti, et al. (2015). The dimensions include instrument 1 (financial report presentation); instrument 2 (budget realization report); instrument 3 (cash flow statement); instrument 4 (notes to financial statement); instrument 5 (inventory accounting), instrument 6 (investment accounting), instrument 7 (accounting for fixed assets), instrument 8 (construction in work accounting), instrument 9 (liability accounting), instrument 10 (correction of errors), and instrument 11 (consolidated financial statement).

The moderating variable of the SPIP is the supervision to control the implementation of government affairs. The instrument variable was measured using a four-point Likert-type ordinal scale, namely 1 = Disagree, 2 = Somewhat Disagree, 3 = Neutral, and 4 = Agree. The supervision was applied using several parameters: control environment, risk assessment, control activities, information and communication, and monitoring. Parameters were reviewed with 14 developmental instruments from Soimah (2014). The dimensions include instruments 1, 2, 3, and 4 (control environment); instruments 5 and 6 (risk assessment); instruments 7, 8, 9, 10, and 11 (control activity); instruments 12 and 13 (information and communication); and instrument 14 (monitoring).

The dependent variable of the financial statement quality symbolizes the success of transparency and accountability in regional financial management. Measurement of instrument variables was performed with a four-point Likert-type ordinal scale, including 1 = Disagree, 2 = Less Disagree, 3 = Neutral, and 4 = Agree. The parameters of quality assessment include relevant, reliable, comparable, and understandable, measured using instruments of developmental statements from Sudiarianti, et al. (2015). The dimensions are instruments 1 and 2 (relevant); instruments 3 and 4 (reliable); instruments 5 and 6 (comparable); and instruments 7 and 8 (understandable).

Statistical tests were carried out through data quality tests (validity and reliability). The data statistical tests include a descriptive analysis of respondents (gender, age, learning history, and work period) and a descriptive statistical analysis of classical assumptions for the fulfillment of regression analysis (normality, multicollinearity, and heteroscedasticity). The hypothesis test uses two alternatives, simple regression and interaction, by paying attention to the R^2 test, F test, and t-test. The test was facilitated with SPSS 25.

RESULTS AND DISCUSSION

Descriptive Analysis

The descriptive objects of the research were 57 regional apparatus organizations (OPDs) with 3 financial management staff for each OPD as respondents. The total number was 171, but only 117 questionnaires were processed statistically. Descriptive data include the specific distribution of respondents' gender, age, learning history, and working period, each of which is explained below.

Table 1. Gender of respondents

Gender	Total	Percentage
Women	72	61.54%
Men	45	38.46%
Total	117	100%

Table 1 presents that most of the financial management staff respondents were women (72 out of 117), reaching 61.54%, compared to men (38.46%).

Table 2. Age of respondents

Age	Total	Percentage
25 - 35 years old	40	34.2%
36 - 45 years old	36	30.8%
46 – 55 years old	33	28.2%
>55 years old	8	6.8%
Total	117	100%

Table 2 shows that the majority of respondents (40 out of 117) were 25-35 years old (34.2%). On the other hand, the least respondents were >55 years old (6.8%).

Table 3. Learning history of respondents

Education	Total	Percentage
Diploma	32	27.35%
Undergraduate degree (S-1)	60	51.28%
Master's degree (S-2)	25	21.37%
Total	117	100%

Table 3 details that most financial management staff were graduates with an undergraduate degree (51.28%), while the least were master's degree graduates (21.37%).

Table 4. Working period of respondents

Working Period	Total	Percentage
5 – 15 years	59	50.4%
16 – 25 years	35	30%
26 – 35 years	23	19.6%
Total	117	100%

As presented in Table 4, the majority of the respondents, 59 (50.4%), had a working period of 5-15 years. On the contrary, the least respondents, 23 (19.6%), worked for 26-35 years.

The descriptive statistics of the three variables were completed by considering the maximum, minimum, and mean values as well as the standard deviation.

Table 5. Results of descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
KLKPD	117	28	32	30.68	1.272
PSAP	117	37	44	40.92	2.206
SPIP	117	42	56	50.19	4.208
Valid N (listwise)	117				

Notes: KLKPD (the Quality of Regional Government's Financial Statement)

Table 5 presents that the total sample (N) was 117 and the mean value was close to the highest score, 44. This signifies that the majority of staff are willing to manage the finance following the SAP. The basic principle of the SPIP is important to ensure the implementation of activities of each OPD to create a good working environment and achieve its vision and mission. This is supported by the results that the majority of employees are following this, as evidenced by the mean score of 56, which approaches the maximum score.

The summary of the quality of financial statements shows that the majority of employees agreed to perform their duties by presenting quality financial statements as a form of their responsibilities, as supported by the mean score of 32.

Validity Test

The aspects to be considered were comparing the value of the r_{table} and r_{count} and identifying the significance level of the probability value of 0.05. Ghozali (2009) explained that the test ensures that the questionnaire can be met.

Table 6. Validity test

Variable	Item	R-count	R-table	Sig. level	Description
	PSAP 01	0.572	0.1816	0.000	Valid
	PSAP 02	0.657	0.1816	0.000	Valid
	PSAP 03	0.567	0.1816	0.000	Valid
	PSAP 04	0.268	0.1816	0.003	Valid
Application	PSAP 05	0.503	0.1816	0.000	Valid
SAP (X1)	PSAP 06	0.313	0.1816	0.001	Valid
	PSAP 07	0.438	0.1816	0.000	Valid
	PSAP 08	0.446	0.1816	0.000	Valid

Variable	Item	R-count	R-table	Sig. level	Description
	PSAP 09	0.252	0.1816	0.006	Valid
	PSAP 10	0.627	0.1816	0.000	Valid
	PSAP 11	0.415	0.1816	0.000	Valid
	SPIP 01	0.544	0.1816	0.000	Valid
	SPIP 02	0.592	0.1816	0.000	Valid
	SPIP 03	0.507	0.1816	0.000	Valid
	SPIP 04	0.667	0.1816	0.000	Valid
	SPIP 05	0.644	0.1816	0.000	Valid
	SPIP 06	0.597	0.1816	0.000	Valid
SPIP (X2)					
	SPIP 07	0.673	0.1816	0.000	Valid
	SPIP 08	0.548	0.1816	0.000	Valid
	SPIP 09	0.537	0.1816	0.000	Valid
	SPIP 10	0.678	0.1816	0.000	Valid
	SPIP 11	0.611	0.1816	0.000	Valid
	SPIP 12	0.639	0.1816	0.000	Valid
	SPIP 13	0.540	0.1816	0.000	Valid
	SPIP 14	0.701	0.1816	0.000	Valid
	KLKPD 01	0.575	0.1816	0.000	Valid
	KLKPD 02	0.822	0.1816	0.000	Valid
	KLKPD 03	0.807	0.1816	0.000	Valid
KLKPD	KLKPD 04	0.257	0.1816	0.005	Valid
	KLKPD 05	0.277	0.1816	0.003	Valid
	KLKPD 06	0.257	0.1816	0.005	Valid
	KLKPD 07	0.277	0.1816	0.003	Valid
	KLKPD 08	0.279	0.1816	0.002	Valid

The distribution of the three variables, as demonstrated in Table 6, shows that the value of $r_{count} > r_{table}$ of 0.1816 and a significance <0.05 were said to be valid. Thus, the questionnaire with these three variables could be used and further testing could be carried out.

Reliability Test

Ghozali (2009) explained that a reliability test is a test that provides a means of assessing the index of a questionnaire variable. The assessment basis is Cronbach's Alpha value, in which a variable is said to be reliable if it has a value of more than 0.60.

Table 7. Reliability test

Variable	Cronbach's Alpha	Description
PSAP (X1)	.602	Reliable
SPIP (X2)	.865	Reliable
KLKPD (Y)	.623	Reliable

Normality Test

The normality test was performed to ensure that the questionnaires used are evenly distributed. The normality test used was a non-parametric Kolmogorov-Smirnov (K-S) statistical test with a standard significance of more than 0.05.

Table 8. Normality test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		117
Normal Parameters a, b	Mean	.0000000
	Std. Deviation	.84286634
Most Extreme Differences	Absolute	.080
	Positive	.080
	Negative	-.072
Test Statistic		.080
Asymp. Sig. (2-tailed)		.063c

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

The questionnaire instrument used was evenly or normally distributed based on a significant value of 0.063 (Table 8). The test results were said to be normal so the test could be continued on other tests.

Heteroscedasticity Test

The Glejser test was applied to this test. Heteroscedasticity is tested to identify the regression variance for the uniformity of the variance observation of the residual (Ghozali, 2016). The size parameter that is declared not heteroscedastic is seen from a significant value > 0.05.

Table 9. Heteroscedasticity test

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	3.399	.877		3.878	.000
	PSAP	-.040	.026	-.166	-1.506	.135
	SPIP	-.022	.014	-.177	-1.609	.110

a. Dependent Variable: ABSRESISS

Multicollinearity Test

Multicollinearity is detected by taking into account the tolerance value of <0.10 and variance inflation factor (VIF) of > 10 to determine the correlation of the regression variance between variables (Ghozali, 2009).

Table 10. Multicollinearity test

Coefficients

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	13.714	1.544		8.881	.000		
	PSAP	.377	.047	.653	8.096	.000	.654	1.530
	SPIP	.031	.024	.102	1.269	.207	.654	1.530

a. Dependent Variable: KLKPD

Table 10 shows the variables used in the study and explains that the tolerance and VIF values are in line with the criteria. In this study, no multicollinearity effect was found.

Simple Regression Test Analysis

The coefficient of determination (R^2), the F-test, and the t-test are all important factors to consider. A simple regression test was used to assess the first hypothesis, resulting in the equation of Y=a+bx.

Coefficient of determination (R^2) before interaction

This assessment was used to determine the level of contribution of an independent variable to the dependent variable.

Table 11. Coefficient of determination (R^2) before interaction

Model Summary

Model	R	R-Squared	Adjusted R-Squared	Std. Error of the Estimate
1	.713a	.509	.504	.895

a. Predictors: (Constant), PSAP

The results presented in Table 11 indicate that the application of SAP contributed 50.9% to the quality of financial statements.

F-test before interaction

The F-test was conducted to identify the simultaneous effect of independent variables. The result of this test measurement was less than 5%, which indicates a simultaneous effect.

Table 12. F-test before interaction

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.444	1	95.444	119.028	.000b
	Residual	92.214	115	.802		
	Total	187.658	116			

a. Dependent Variable: KLKPD

b. Predictors: (Constant), PSAP

Sourced from the data presented in Table 12, the significance was less than 0.005 and the F_{count} (119.028) is > F_{table} (3.80). The variables of the SAP application had a simultaneous effect on the quality of financial statements.

T-test before interaction

This test was carried out to fulfill the structure of the equation Y=a+bx.

Table 13. T-test before interaction

Coefficient a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	13.845	1.545		8.962	.000
	PSAP	.411	.038	.713	10.910	.000

a. Dependent variable: KLKPD

Table 13 shows the equation of KLKPD = 13.845+0.411PSAP. The increase in the value of 0 in the application of SAP was equalized by an increase in the value of 13.845 in the quality of financial statements.

Interaction Test

In the test, there was a correlation between variables and a multivariate model of many variables. Twice testing was needed to confirm the role of moderating variables (strengthening/weakening). Sugiono (2004) explained that the ability of variables is statistically seen from the significance of the correlation coefficient, individual test, and the value of b3 that is not equal to 0. The decision is perceived from the aspect of the coefficient of determination (R^2), F-test, and t-test (Liana, 2009). The equation was Y=a+b1x1+b2x2+b3x1.x2+e.

Coefficient of determination (R^2) test after interaction

This test indicates the overall effect of one or more variables on the dependent variable.

Table 14. Coefficient of determination after interaction

Model Summary

Model	R	R-Squared	Adjusted R-Squared	Std. Error of the Estimate
1	.749a	.561	.549	.854

a. Predictors: (Constant), MODERATING, PSAP, SPIP

Table 14 shows the change in the value of R-squared before interaction (50.9) interaction and after an interaction, which increased by 56.1. This result has proven an interaction, in which SPIP can strengthen the relationship between the application of SAP and the quality of financial reports because the value of R-Squared has increased.

F-test after interaction

This test was to follow up on the effect of unity between variables. A significance of less than 5% indicated a unity effect between variables.

Table 15. F-test after interaction

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	105.249	3	35.083	48.106	.000b
	Residual	82.409	113	.729		
	Total	187.658	116			

a. Dependent variable: KLKPD

b. Predictors: (Constant), MODERATING, PSAP, SPIP

The results presented in Table 15 indicated a simultaneous effect between variables, as indicated by a significance level of <5%. This signifies that SPIP as a moderating variable can strengthen the relationship between the SAP application and the quality of financial statements because, after the interaction test, the significance level remained below the standard (5%).

T-test after interaction

The test was performed to follow up on the effect of interaction between PSAP and SPIP. The significance was less than 5% indicating that after the interaction, the effect was less significant.

Table 16. T-test after interaction

Coefficient a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	77.930	18.846		4.135	.000
	PSAP	-1.188	.460	-2.060	-2.583	.011
	SPIP	-1.270	.381	-4.202	-3.330	.001
	MODERATING	.032	.009	6.299	3.418	.001

a. Dependent variable: KLKPD

Table 16 demonstrates that the interaction test was carried out twice to identify differences of significance between before and after the SPIP variable was included. The first equation (Table 13) was KLKPD= 13.845+0.411PSAP and the second equation (Table 16) was KLKPD= 77.930 – 1.188PSAP – 1.270SPIP+ 0.032 PSAPxSPIP.

Discussion

Based on the results of a simple regression test using SPSS 25, it appears that the implementation of SAP has a positive impact on the quality of financial statements. The positive results presented in Table 13 on the t-test before interaction show t_{count} (10.190) > r_{table} (1.98009) and a significance level of <0.05. The results support the acceptance of H1.

One aspect of the financial statement quality is the application of SAP. If the preparation of financial elements has followed the application of SAP, the financial statement may receive an unqualified (WTP) opinion from BPK, which suggests that the quality can be guaranteed. Overall, the majority of financial management employees agree that the application of SAP is a fundamental requirement for quality financial statements. This is supported by previous research by Pujanira (2017), Susanti (2017), and Rahmawati, et al. (2018) that the application of government accounting standards has a positive influence on the quality of financial statements.

The results of the interaction regression test using SPSS 25 show the quality increase, with an Adjusted R-Squared value of 50.4 (Table 11) to 54.9 (Table 14). The t-test demonstrates a significance level below 0.05. The comparison of the equations before and after the interaction is as follows:

1. KLKPD= 13.845+0.411PSAP
2. KLKPD= 77.930 – 1.188PSAP – 1.270SPIP+ 0.032PSAP.SPIP

PSAP.SPIP coefficient shows a positive result of 0.032. The addition of one SPIP unit has an impact on the addition of the SAP application unit. This confirms the contribution of SPIP as a moderating variable that can strengthen the effect of SAP application on the quality of financial statements, suggesting that it supports H2.

Karanganyar Regency government has fulfilled the SPIP elements in each OPD by distributing tasks that are in line with the skills of each staff and intensively supervising the management and preparation of financial statements. The division of tasks facilitates the responsibilities of each employee related to the mastery of basic finance and supporting standards. This is supported by the results of the BPK evaluation in semester 1 of 2018, where regional heads are advised to assign staff in charge of making financial statements following the regulations.

CONCLUSION

This study concludes that the management staff's awareness of the importance of implementing SAP in financial statement preparation and presentation has a positive impact on the quality of financial statements, namely obtaining an unqualified opinion from BPK. Second, SPIP strengthens the impact of SAP implementation on the quality of government financial statements. The main key to internal control success is regularity in creating a good working climate so that SAP can be properly implemented.

The first limitation of this study is its population scope, which is limited to the OPD of Karanganyar Regency Government (which cannot be generalized). Second, only one independent variable is used. Third, this study is quantitative in nature. It is suggested that further research be carried out by broadening the samples so that the research results can be generalized, adding independent variables, and conducting qualitative research with data collection techniques such as interviews.

The results of this study are expected to provide an overview of the application of SAP affecting the quality of financial statements. In addition, the government's internal control system can strengthen the application of SAP to the quality of financial statements. Each OPD is expected to maintain or improve its control in all aspects so that the financial statement presentation can meet the standards.

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THE EFFECTS OF RETURN ON ASSETS, CAPITAL ADEQUACY RATIO, AND FINANCING ON LIQUIDITY RISK IN SHARIA BPRS IN INDONESIA

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ABSTRACT

This study aimed to analyze the effects of return on assets (ROA), capital adequacy ratio (CAR), and financing on liquidity risk in Sharia Rural Banks/*Bank Perkreditan Rakyat Syariah* (Sharia BPRs) in Indonesia. The samples of the study were 40 banks registered in the Financial Services Authority (*Otoritas Jasa Keuangan*/OJK) selected using the purposive sampling technique. A panel regression model was used for data analysis. Data were examined using Eviews software (version 9). The research results showed that CAR had a positive and noteworthy effect on liquidity risk, while ROA and financing had a significant and negative influence on liquidity risk.

Keywords: CAR; financing; liquidity risk; ROA

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INTRODUCTION

Banks, as intermediary institutions, play a strategic role in keeping the wheels of the economy and national development turning. According to Article 1 of Regulation of Law Number 7 of 1992, banking is any aspect of banks, including institutions, business activities, as well as techniques, and procedures for executing business activities (Sobana, 2016).

Banks are financial organizations that collect funds from the public in the form of deposits, providing a place for the public to save money or invest to secure, invest, and facilitate payment transactions (Andini et al., 2019).

Banks in Indonesia are divided into two types based on how they carry out their business activities: conventional banks and sharia banks. Conventional banks carry out their business activities using a system of interest that already exists in advance, and it has been a practice of banks in the past to take advantage of their business activities. Meanwhile, sharia banks are those that adhere to the Islamic economic system (Marimin et al., 2015).

Sharia bank is a type of national banking that is based on Islamic law for its operations. Meanwhile, according to (Nurbiaty et al. (2017), sharia banks are financial institutions whose primary activities are providing credit and other services in the flow of payments and money circulation based on sharia principles. Article 1 of the Islamic Banking Regulation Law No. 21 of 2008 states that "Sharia banking is everything that involves sharia banks and sharia businesses, business activities, including institutions, as well as processes and methods of carrying out their business activities." Sharia banks are non-interest-bearing financial institutions (Nurbiaty et al. (2017). A sharia bank is a financial institution governed by sharia principles. Like a conventional bank, this type of bank serves as an intermediary institution, managing funds and channeling them to people in need of financing or credit.

Every time a bank does business, it faces a risk. Risk is something that a bank may face to meet its liquidity needs to meet credit requests and withdraw funds for customers at the same time (Jaiz et al., 2020). The risk of not being able to settle in a timely and reasonable manner is known as liquidity risk. Banks encounter liquidity risk if they do not sell their assets at a reasonable price. Assets are being offered at low prices, despite the pressing requirement to liquidate them. This can lead to a loss of income (Anam, 2013).

Liquidity risk rises from an incongruity between the demand for and supply of funds. The funds are supplied by customer deposits, credit facility payments, financial market loans, interest and non-interest income, and asset sales. The difference between supply and demand for funds is referred to as the net liquidity position, which banks have to thoroughly manage to decrease liquidity (Ariyani & Budiartha 2014).

Bank liquidation is one of the liquidity risks that banks face when running a business. According to Harahap & Hairunnisah (2017), liquidation is a process that begins with the revocation of a company or bank's business license, followed by the statement of dissolution (outbidding) and the settlement or release (vereffening) of all matters and obligations in accordance with applicable legal regulations. It appears that liquidation entails the establishment of dissolution and release. These actions include the sale of company assets, debt settlement, and collection, as well as the settlement of remaining assets or debts between company owners or banks.

Theoretically, when banks have less funding liquidity risk due to large deposit inflows, bank managers have an encouragement to take on more threats by aggressively lowering lending rates to increase loan volumes for advancing compensation. Banks with more deposits may lessen lending standards since the manager's compensation is partly grounded on the loan used as a benchmark for managerial performance, or the long-term risk alternative may not be taken into account for manager compensation. Banks merely conduct high-cost audits to investigate credit-standard decisions made by managers when their funding liquidity deficit is large enough. As a result of extra deposits, bank managers are over-optimistic that there will be no funding liquidity calamity in the near future, and their lending practices will not be called into question. Losses associated with aggressive lending can cause bank failure (Bani & Yaya, 2016).

According to Kasmir (2014), based on the classical principal-agent theory, risk-averse managers necessitate higher levels of compensation to act in risky financial companies due to increased distrust in treasure. Therefore, for managers to receive greater compensation for working in riskier banks, they can be given more flexibility to engage in aggressive lending strategies when liquidity is abundant.

ROA is a profitability ratio to evaluate a company's or bank's capacity to generate profits from resources or assets. This is because the higher the ROA, the more effective asset management will be, resulting in higher profits in the following year (Muliawati & Maryati, 2015).

Based on the research by Bani & Yaya (2016), ROA has a negative and significant effect on liquidity risk because the greater the ROA, the greater the profits obtained by the bank, so the possibility to face trouble is decreasing. This observation has generated the following hypothesis.
H1: ROA is estimated to have a negative and significant impact on liquidity risk.

The CAR is a ratio of capital completeness that plays a role in accepting the risk of loss that the bank may face. The greater the CAR, the greater the bank's ability to bear the risk of any risky credit/productive assets. If the CAR is high, the bank can finance operational activities and significantly promote profitability. The amount of bank capital is sufficient to influence public trust in bank performance (Ramadanti & Meiranto, 2015).

Meanwhile, Fitriani (2020) defines CAR as "a capital ratio that shows how many bank assets that contain risk elements (credit, investment, securities, and claims on other banks) are financed from own capital in addition to receiving funds from sources outside the bank." According to Susantun et al. (2019), CAR has a negative and substantial consequence on liquidity risk, signifying that the higher a bank's CAR, the greater its liquidity. This observation generates the following hypothesis.
H2: CAR is estimated to have a negative and significant effect on liquidity risk.

According to Ilyas (2015), financing is money provided by another party to help with planned investments made by individuals or institutions. In other words, financing is money set aside to help with planned investments. Sharia principles define financing as the provision of debt or claims that are compared based on an understanding or agreement between the bank and another party that determines the party being financed to submit the debt or claim after a certain period, as well as compensation or profit sharing.

Relating to financing in Islamic banking, the technical term is referred to as productive assets. Productive assets are Islamic bank funds, either in rupiah or foreign currency, in the form of financing, receivables, placements, Islamic securities, equity participation, temporary equity participation, commitments, and contingencies on administrative accounts, as well as wadiah (deposit of funds) certificates (Rusdan, 2016).

The study by Susantun et al. (2019) reported that financing demonstrates a negative and vital effect on liquidity risk. Islamic banks are careful in allocating funds for financing so that they do not have a significant impact on liquidity. The Islamic bank financing of buying and selling has a higher return certainty than the financing of profit sharing. Buying and selling financing dominated Islamic bank financing during the research period when compared to profit sharing and rental financing. The large percentage of financing in the form of buying and selling is part of an effort to protect bank liquidity from elements of uncertainty and loss.
H3: Financing is estimated to have a negative and significant effect on liquidity risk.

RESEARCH METHOD

Data and Samples

This study was conducted on companies that are registered with the OJK. The objects of study were selected to obtain data with specific goals and benefits about something objective, valid, and reliable about a specific object or variable. This study used secondary data as quantitative data, including ROA, CAR, and financing. Data were gathered with documentation.

The populations are 163 companies registered with the OJK for the observation period of 2018-2020. Samples were taken in the observation using a purposive sampling technique, with an assessment based on the category according to the object or subject to be observed. The criteria for sampling are: 163 Sharia BPRs registered in the OJK, 15 Sharia BPRs not registered in the OJK in a row, 10 Sharia BPRs registered in the OJK that did not issue complete financial reports, 183 Sharia BPRs suffering losses during, 15 Sharia BPRs with extreme or outlier data, and the total samples of 120 Sharia BPRs (40 Sharia BPRs with three years of observation) during the observation period of 2018-2020.

Definition of Operational Variables

The variables of this study consist of 3 independent variables (X) and 1 dependent variable (Y). The independent variables (X) include ROA (X1), CAR (X2), and Financing (X3) while the dependent variable is Liquidity Risk (Y).

Table 1. Variables, definitions, and research indicators

No	Variable	Definition	Measurement	Source
1	ROA (X_1)	Comparison between net income and total assets	ROA=$\frac{Net\ income}{Total\ assets} x100\%$	(Rahmani, 2017)
2	CAR (X_2)	Comparison between bank capital and weighted assets according to the ratio	CAR= $\frac{Bank\ capital}{Assets\ according\ to\ ratio} x100\%$	(Rahmani, 2017)
3	Financing (X_3)	Amount of sharia bank financing	Determined from the total financing of the financial statements	(Susantun et al., 2019)
4	Deposit (Y)	Comparison between total deposit and total assets	Deposit=$\frac{Total\ deposits}{Total\ assets}$	(Khan et al., 2017)

Data Analysis Technique

In this research, the panel data, a combination of time series and cross-section data were utilized. The sample data of 40 Sharia BPRs were taken from cross-section and time series data. This study used descriptive statistical analysis to examine the data and the E-Views program for regression analysis using a random effect model. The random effect model was utilized to manage the weakness of the fixed effect model using dummy variables. The panel data equation incorporated in this study is presented as the following.

$$Y = \alpha + \beta 1ROAit + \beta 2CARit + \beta 3Financingit + \mathcal{E}$$

Where Y is Liquidity Risk, α is a constant (intercept), and β1, β2, and β3 are the coefficients of the independent variables, where there is ROA at time t, CAR at time t, and financing at time t. The approach taken in regression analysis with the variable of random effect model was the Normality Test. Normality test was performed to decide the normality of the data.

RESULTS AND DISCUSSION

Descriptive Statistical Test of Variables

Table 2. Results of descriptive statistical test

	Deposit	ROA	CAR	Financing
Mean	0.368167	3.530667	0.743333	1.415552610
Median	0.360000	2.940000	0.555000	9.174655009
Maximum	0.710000	21.20000	5.110000	10.886002120
Minimum	0.000000	0.000000	0.040000	7.0000000
Std. Dev	0.126756	3.031614	0.693755	1.627878810
Observations	120	120	120	120

The descriptive analysis results presented in Table 2 show that 120 research observations of companies registered with the OJK were made over three years. The deposit variable, which is the dependent variable, of Sharia BPRs had a minimum value of 0.00, a maximum value of 0.71, a median value of 0.36, an overall mean value of 0.36, and a standard deviation of 0.12. ROA of Sharia BPRs received a minimum value of 0.00, a maximum value of 21.20, a median value of 2.94, an overall mean value of 3.53, and a standard deviation level of 0.03. CAR of Sharia BPRs had a minimum value of 0.04, a maximum value of 5.11, a median value of 0.55, a mean value of 0.74, and a standard deviation level of 0.69. Meanwhile, the financing had a minimum value of 7.00, a maximum value of 10.88, a median value of 9.1, a mean value of 1.41, and a standard deviation of 1.62.

Classical Assumption Test

Normality test

The normality test was done by performing the Jarque-Berra test (JB test). The residual was normally distributed if having a probability above or equal to 0.05. The results of the normality test are summarized in Figure 1.

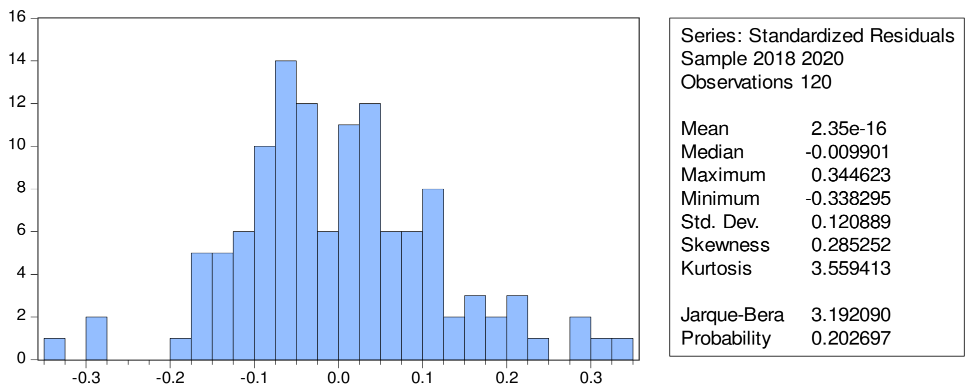

Figure 1. Results of normality test

Figure 1 depicts the results of the JB test on REM value of 3.192090 and a probability of 0.202697, indicating that the probability value is more than alpha (0.20 > 0.05), implying that the residuals in this research model were normally distributed.

Panel data regression analysis (REM)

The panel data regression analysis technique was used to process and discuss the samples obtained and to assess hypotheses. Variable C is a constant, variable X1 is ROA, variable X2 is CAR, and variable X3 is financing. The outcomes of this test are presented in Table 3.

Table 3. Estimation results of panel data regression

Variable	Coefficient	Std. Error	Prob.
Constant (C)	0.400043	0.026970	0.0000
ROA	-0.008136	0.004495	0.0729*
CAR	0.024837	0.014540	0.0903*
F	-1.535212	6.343413	0.0171**

Notes: *10% significance, **5% significance, ***1% significance

The panel data regression equation for the random effect model is as follows:

$$LR_{it} = 0.400043 - 0.008136ROAt_{it} + 0.024837CAR_{it} - 1.535212Financing_{it} + \mathcal{E}$$

From the above equation, the constant value was 0.400043, which means that if the independent variables (ROA, CAR, and financing) are assumed to be 0 (none), then liquidity risk has a constant of 0.400043 units. ROA had a negative coefficient value of 0.008136, meaning that every increase in ROA by 1 unit, assuming other variables are constant, will reduce liquidity risk by 0.008136 units. CAR had a coefficient value of 0.024837, signifying that for every unit increase in CAR, with other variables remaining constant, there will be a 0.024837 unit increase in liquidity risk. Financing had a negative coefficient value of 1.535212, denoting that increasing financing by one unit reduces liquidity risk by 1.535212 units, assuming all other variables remain constant.

Hypothesis Test (T-test)

The t-test is done to determine whether the independent variables individually have a significant effect on the dependent variable. The hypothesis is accepted if the probability is greater than the alpha value at a significance level of 1%, 5%, or 10%.

Table 4. Results of the hypothesis test

Variable	Coefficient	Std. Error	Prob.
C	0.400043	0.026970	0.0000
ROA	-0.008136	0.004495	0.0729*
CAR	0.024837	0.014540	0.0903*
FINANCING	-1.535212	6.343413	0.0171**

Notes: *10% significance, ** 5% significance *** 1% significance

Table 4 shows that the coefficient value on ROA was -0.008136, with a probability value of smaller than alpha (0.0729 < 0.10) or significant at a 10% significance level, indicating that ROA has a negative and significant effect on liquidity risk at Sharia BPRs in Indonesia. The coefficient value for the CAR was 0.024837, with a probability value of smaller than alpha (0.0903 < 0.10) or significant at a 10% significance level, indicating that CAR has a positive and significant effect on liquidity risk at Sharia BPRs in Indonesia. Financing, on the other hand, had a coefficient value of -1.535212 and a probability value of 0.0171, which is less than alpha (0.0171 < 0.05) or significant at 5% significance. Therefore, financing has a negative and important contribution to the liquidity risk of Sharia BPRs in Indonesia.

Discussion

The effects of ROA on liquidity risk

Based on the test results, it has been revealed that ROA has a negative, significant impact on liquidity risk. This is attributed to the banks' ability to manage liquidity. Liquidity risk is used to maintain or increase the amount of credit given to customers. If the banks are unable to channel credit to the public, this will affect the profits they obtain.

This is consistent with the research of Bani & Yaya (2016), which reported that ROA has a negative and significant effect on liquidity risk, as well as the research of Bani & Yaya (2015), which concluded that ROA has a negative and significant effect on liquidity risk. Moreover, Susantun et al. (2019) and Arfiyanti & Pertiwi (2020) signified that ROA has a negative and significant effect on liquidity risk.

The effects of CAR on liquidity risk

The results signify that ROA has a positive and significant impact on liquidity risk. This is so because if the capital adequacy increases, the profits of the bank will decrease. The more funds that enter the bank have the potential to increase the CAR. CAR has an impact on the level of liquidity risk because it affects bank financial performance, influencing the public to save funds (money) sourced from deposits.

This is consistent with the research finding of Susantun et al. (2019) and Ramadanti & Meiranto (2015) that CAR has a positive and significant effect on liquidity risk.

The effects of financing on liquidity risk

The results of the study have proven that financing has a negative and significant effect on liquidity risk. This happens because their main proportion of financing is the form of buying and selling, which has a higher return certainty than profit-sharing financing. During the period of study, buying and selling financing dominated sharia bank financing, compared to profit sharing and rental financing. The large proportion of financing for buying and selling is part of an effort to protect bank liquidity from risks and losses. The higher the financing is, the lower the bank's liquidity risk will be.

This is in keeping with the findings of Susantun et al. (2019) and Fitriani (2020) that financing has a negative and substantial effect on liquidity risk.

CONCLUSION

The study on the effects of ROA, CAR, and financing on liquidity risk draws the following conclusions. First, ROA has a significant and negative impact on liquidity risk. The higher the ROA is, the greater the profits will be, reducing the bank’s possibility in a tough situation. Second, CAR has a significant and positive effect on liquidity risk, indicating that increased funding entering the bank has the potential to raise the CAR. CAR has an impact on the level of liquidity risk because it affects bank financial performance, motivating the public to save money in the form of deposits. Third, financing gives a significant and negative contribution to liquidity risk. This signifies that when compared to profit sharing and rental financing, buying and selling dominate sharia bank financing. The high proportion of buying and selling financing is an effort to protect bank liquidity from risks and losses.

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THE ROLE OF PROFITABILITY IN THE RELATIONSHIP BETWEEN ENVIRONMENTAL DISCLOSURE AND FIRM VALUE

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ABSTRACT

This study aimed to examine the consistency of the effects of environmental disclosure on firm value and investigate profitability as a moderating variable. The samples in this study were companies that won the Sustainability Reporting Award (SRA) and the Asia Sustainability Reporting Rating (ASRAT) presented by the National Center for Sustainability Reporting (NCSR) in the 2014-2020 period. A total of 82 companies were sampled. This study used secondary data taken from company databases and the Indonesia Stock Exchange (IDX)/*Bursa Efek Indonesia* (BEI). The multiple regression equation model was analyzed using IBM SPSS 20 software. The results showed that environmental disclosure negatively and significantly affected firm value. Furthermore, research documented that environmental disclosure had a positive and significant effect on firm value when profits were high. These findings have provided evidence that the differences in results on the relationship between environmental disclosure and firm value are due to a conditional factor, namely profitability. Based on the stakeholder theory, fulfilling stakeholder interests has a positive effect if the company has good financial performance. Meanwhile, based on the signaling theory, financial information is required for non-financial information to be effective.

Keywords: environmental disclosure; firm value; profitability; Tobin's Q

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INTRODUCTION

For several decades, the disclosure of company social responsibility (CSR) has been a focus of research, both overall and per component. Because environmental disclosure can be part of a company's strategy to increase firm value, it has become one of the most highlighted research objects, particularly if it is related to sustainable development, which is currently in its second cycle and is referred to as the sustainable development goals (SDGs). This cycle strongly encourages social and environmental awareness to become one of the company's strategies. Business entities are expected to be more creative in identifying win-win solutions, i.e., a situation in which commercial goals and social and environmental goals can be realized (Agarwal et al., 2017).

In Indonesia, studies on the relationship between environmental disclosure and company performance have been conducted, but the results have not been conclusive. Deswanto, & Siregar, 2018) obtained empirical evidence that environmental disclosure does not affect the market value of a company. Meanwhile, studies conducted by ((Setiadi et al., 2017), (Sawitri, 2017), Latifah & Luhur (2017), and Setiadi & Agustina (2019) found that environmental disclosure was significantly positively related to firm value. According to Baron & Kenny (1986), the difference in results is possible due to situational variables that affect the relationship, such as the characteristics of the company.

To prove this, several efforts have been made to include profitability as a situational variable that moderates the relationship between environmental disclosure and firm value, as found in the research by Latifah & Luhur (2017), Budiana et al. (2020), and (Setiadi & Agustina (2019). However, the results of this moderation model study also give distinctive results. Latifah & Luhur (2017) and Budiana et al. (2020) obtain empirical evidence that profitability moderates the relationship between environmental disclosure with firm value, while Setiadi & Agustina (2019) have proven that profitability does not moderate the relationship.

The causes for the different findings of these studies are difficult to pinpoint. A literature review of the research object reveals that the object is random or not patterned. This also happens to the size used for the dependent variables. Positive and significant relationships between environmental disclosure and firm value were also identified in the studies with the objects of companies as the following: (1) manufacturers (Setiadi & Agustina, 2019), (2) Indonesia Sustainability Reporting Award (ISRA) participants (Budiana & Budiasih, 2020), (3) LQ45 shares (Sawitri, 2017), and (4) mining companies or chemical industry (Setiadi et al., 2017). The literature review also discovered that the gap in results was caused by differences in the measurement of firm value. The study by Deswanto & Siregar (2018) which did not find any relationship, used stock prices for firm value, whereas studies that found a relationship used Tobin's Q.

This present study aimed to evaluate the consistency of previous studies' results related to the object and measurement of firm value by re-examining the relationship between environmental disclosure and firm value and by using moderating variables as introduced by Budiana & Budiasih (2020). The findings of this study are expected to contribute to measurement and research objects by confirming previous studies.

Hypothesis Development

Hypotheses in this study are based on the signaling theory and stakeholder theory. Spence (1973) proposed the signaling theory for the first time using the labor market to model the signaling function of education. At the time, potential employers lacked information about the quality of prospective workers, and education can serve as a signal about the quality of prospective workers, reducing information asymmetry (Connelly et al., 2011). This theory was then widely applied in research on information disclosure, both financial and non-financial. The information disclosed by the company is thought to reduce the information asymmetry between the agent and the principal. Recent research has focused on the disclosure of non-financial information, for example, sustainability report information that can provide a signal to its users (Dewi & Sudana, 2015).

Stakeholder theory arose from the seminal work of Freeman (1984), which raised awareness of the need for aspects of firm social responsibility in firm planning activities. CSR was initially thought to contribute significantly to the overall performance of the company and was the goal of stakeholders including the community (Dooms, 2019). These stakeholders have a wide range of interests that may conflict with one another. Companies must be capable of balancing the various stakeholders' interests, as this is the company's purpose in the context of stakeholder theory (Ansoff, 1965). Stakeholder theory emphasizes the importance of all parties (stakeholders) who are directly or indirectly affected by the company's activities (Wearing, 2005). Companies must consider every impact of their actions on stakeholders or parties who own stock in the company (Wicks et al., 2004).

Effect of environmental disclosure on firm value

Al-tuwaijri et al. (2004) explained that environmental disclosure is a collection of information about a company's environmental management activities in the past, present, and future. Based on the stakeholder theory, the purpose of a company is to improve the welfare of all stakeholders, instead of merely the welfare of shareholders (Lukviarman, 2005). Companies that manage stakeholder relationships will have an impact on their ability to continue running their businesses, which means ensuring their survival. Companies also aim to strike a balance between their various interests (Ansoff, 1965). Companies must understand and manage what matters to stakeholders (Freeman et al., 2004). According to Dhaliwal et al. (2014), stakeholder-oriented companies are stronger and have more influence to carry out activities, are very responsive to information requests, and provide quality information.

Environmental disclosure is a representation of the company's responsibility to stakeholders (Setiadi & Agustina, 2019) to meet the diverse interests of stakeholders. Environmental disclosure provides stakeholders who are not investors or creditors with non-financial information of interest. If stakeholders believe that companies have accommodated their interests, they will provide positive feedback (Ullmann, 1985). This feedback can take the form of product loyalty, maintenance of investment, or invitation of potential investors to invest in the companies, allowing them to increase the value of shares, which in turn increases the firm value (Callan & Thomas, 2010; (Waddock & Graves, 1997). Environmental policies also promote transparency, reduce uncertainty, and boost competitive advantage (Daromes, 2020).

Environmental disclosure, in addition to serving stakeholder interests, is intended to reduce information asymmetry in the context of signal theory (Cormier et al., 2009). Because good information quality reduces uncertainty in decision making, investors will have a positive perception or view of the companies due to reduced information asymmetry. The company's future opportunities will be more certain with less information asymmetry (Rosiana et al., 2013).

Environmental disclosure as part of firm social responsibility will attract and improve the company's perceptions among investors. According to Martin & Moser (2016), companies that voluntarily disclose their environmental practices receive a positive response from their investors. This positive perception and response will have a positive economic impact on the company and will reflect the firm value (Iatridis, 2013). Therefore, hypothesis 1 is formulated as follows.

H1: Environmental disclosure has a positive effect on firm value.

The effect of profitability on the relationship between environmental disclosure and firm value

Profitability refers to a company's ability to generate profit, which is one of its goals. Several studies have used profitability as a proxy for financial performance, which is typically assessed by accounting performance measures like ROA or ROE (for example, Fauzi et al. (2007) and Andayani (2015)). Several studies treat profitability as a company characteristic, and in its development, the company's characteristic in the study is used as a control variable, as in the studies of Zi-hang et al., (2014); Faisal et al., (2012); Osma & Guillamón-saorín, (2011); Mallin & Michelon, (2011).

Profitability, as a characteristic of a company, can be positioned as a moderating variable, that is, a variable that influences the relationship between the independent variable and the dependent variable. This study builds on previous research by Budiana & Budiasih (2020), Latifah & Luhur (2017) and Setiadi & Agustina (2019), which have positioned profitability as a moderating variable, where profitability was treated as a situational variable. These studies employed the same model but diverse objects and measurements.

Companies with high profitability will be able to conduct more environmental activities, and thus environmental disclosure will be high (Qiu et al., 2014). In such a case, the company, based on the signaling theory, provides more information, reducing information asymmetry. Reducing information asymmetry is expected to improve stakeholders' perceptions, which in turn increases the company's value. High profitability offers guarantees to stakeholders, particularly investors and creditors, regarding the rates of returns (dividends) and loan repayment rates, so they are not concerned about meeting the needs of other stakeholders. In the stakeholder theory, this is referred to as balancing stakeholder interest. When profitability is low, the main stakeholders expect it to be prioritized, so that high environmental disclosure will reduce the firm value because there are concerns that the rate of return and loans cannot be met. This signifies that high profitability strengthens or has a positive effect on the relationship between environmental disclosure and firm value, while low profitability has a negative effect. There is empirical evidence supporting the logic of a positive relationship, as found in the research of Setiadi & Agustina (2019). However, the research by Latifah & Luhur (2017) and Budiana & Budiasih (2020) reported no evidence that profitability is a moderating variable. Based on the logic of the theory and supporting studies, the second hypothesis is formulated as follows.

H2: Environmental disclosure has a significant, positive effect on firm value when the company's profitability is high; on the contrary, environmental disclosure has a significant, negative effect on firm value when the company's profitability is low.

Figure 1 presents an empirical research model that describes the conceptual framework of the research representing the two hypotheses that have been formulated. The research uses a moderation model with profitability as a moderator and environmental disclosure as a predictor of firm value.

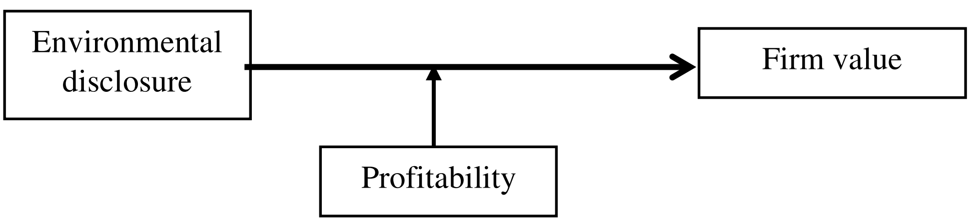

Figure 1. Empirical Research Model

RESEARCH METHOD

Population and Samples

The research population consists of companies that received the SRA and the ASRAT presented by the NCSR. Purposive sampling was used to obtain the research samples based on the following criteria: (1) award-winning companies from 2014 to 2020; (2) companies that have issued sustainable reports using GRI (Global Reposting Initiative) standards and GRI G4 standards. The final samples were 82 companies, obtained from 95 companies reduced by 13 companies (outliers/data with extreme distribution, which would bias the results if included). The detailed samples are presented in Table 1. The observation period of 2014 - 2020 was chosen because before 2014, the disclosure measurement standard used as an assessment standard did not apply GRI or GRI G4 Standards, and the last data obtained is data for 2020 when this research was conducted.

The focus of this research is on environmental award-winning companies because of the empirical data that research on environmental disclosure in Indonesia, with the objects of award-winning companies and particular industries, yields diverse results. Companies with good environmental performance (especially proxies with PROPER) tend to be more transparent and have good financial performance (See Ratmono et al., 2014 and Daromes & Kawilarang, 2020), while in some industries, they are not significantly related (e.g. Fauzi et al., 2007). Therefore, this study was carried out to test the consistency of previous studies' findings that companies with good environmental reputations received positive responses from stakeholders, particularly investors.

Table 1. Research sample collection process

Criteria	Number of Companies
Companies winning the award from NCSR in the 2014-2020 period	197
Companies not listed in the IDX or companies that are not public companies	(101)
Companies that did not publish sustainability reports based on the GRI or GRI G4 Standards	(1)
Total samples before reduced by outliers	95
Outliers in the samples	(13)
Total samples in the study	82

Research Variables

This study used four types of variables: dependent variable, independent variable, moderating variable, and control variable. The dependent variable in this study was firm value, which was proxied with Tobin's Q, as used by Youn et al. (2015), Youn et al. (2016), and Ho et al. (2016). Tobin's Q was calculated by dividing total market value (MV) and DV by total assets (AT). The sustainability report disclosure index (SRDI) was used to measure environmental disclosure as the independent variable. The index was estimated by dividing the number of items disclosed by the company by the maximum number of items. Profitability serves as a moderating variable in this study. In several studies, profitability is classified as a component of the company's characteristics, which enable it to act as a moderator. Profitability is thought to influence the relationship between the dependent and independent variables, in terms of strengthening or weakening the relationship between the two variables (Latifah & Luhur, 2017). It is determined using return on assets (ROA). ROA is calculated by dividing net income by total assets. The last two variables are control variables, namely leverage and firm size. Leverage refers to a company's ability to pay off its debts, whether long-term or short-term.

The greater the leverage is, the greater the proportion of funding provided by debt will be. Leverage is yielded by total debt divided by total assets (Belkaoui & Karpik, 1989). The size of the company can be determined by the total assets, sales, or company equity. Total assets were used as a proxy for firm size in this study. The total assets owned by the company can demonstrate that the company is established in its business operations (Suwardika & Mustanda, 2017).

Data and Analysis Method

This study used secondary and quantitative data obtained from the company's official website to obtain sustainability report data. The financial data were attained from the official website of the Indonesia Stock Exchange (IDX). Multiple regression was used to analyze the data, with the following equation.

$$Y=\alpha + \beta_1 X_1 + \beta_2 Z_1 + \beta_3 X_2 + \beta_4 X_3 + \beta_5 X_1 * Z_1 + e$$

Y	= Firm value
α	= Constant
$\beta_1 ... \beta_2 ... \beta_3 ... \beta_4 ... \beta_5$	= Regression coefficient
X_1	= Environmental disclosure
Z_1	= Profitability
X_2	= Company size
X_3	= Leverage
e	= error term

Table 2. Descriptive statistics

	N	Minimum	Maximum	Mean	Standard Deviation
Firm value	82	0.676	17.935	1.520	1.859
Environmental disclosure (ED)	82	0.000	1.000	0.260	0.217
Firm size (FS)	82	28.966	34.887	31.729	1.300
Leverage	82	0.005	1.136	0.580	0.256
ROA	82	-0.567	-0.401	-0.052	0.067
ED X ROA	82	-0.040	0.204	0.015	0.034

RESULTS AND DISCUSSION

Descriptive Statistics

Table 2 presents descriptive statistics, including standard deviation, as well as mean, minimum, and maximum values. The mean firm value was 1.520, which was lower than the minimum value of 0.676 and the maximum value of 17.935. This mean value was smaller than the standard deviation of 1.859, indicating the high data variation and uneven distribution. Since the disclosure ranged from 0 (minimum) to 1 (maximum), the mean environmental disclosure of 0.260 was also low (maximum). The standard deviation of environmental disclosure was 0.217, which was less than the mean value, suggesting low data variation and even data distribution. The mean of the firm size was 31.729, which fell between the minimum value of 28.966 and the maximum value of 34.887. The mean value of firm size was high, exceeding the standard deviation value of 1.300. This indicates that the data variation was low, implying that the data distribution was even. The average leverage is 0.580 with a standard deviation of 0.256, as well as low data variation and evenly distributed data. The mean value of leverage was quite high, ranging between a minimum value of 0.005 and a maximum value of

1.136. The standard deviation was 0.067 and the mean value of negative ROA was 0.052. Based on the mean value and the standard deviation, the data variation was high and the data distribution was uneven, while the mean value was lower than the standard deviation. The average ROA was extremely low, ranging from a of -0.567 (minimum) to (maximum) of -0.401.

Results of Classic Assumption Test

To produce an unbiased estimate (Best Linear Unbiased Estimation abbreviated BLUE) from data analysis with multiple regression, classical assumption testing was required Table 3 summarizes that the four classical assumption tests met the criteria. Each test yielded the following results: (1) normality was indicated by a K-S value of 1.260 with a significance level of 0.083 (> 0.05); (2) heteroscedasticity was performed with Spearman and Rho tests with all variables having a significance level of above 0.05; (3) multicollinearity was indicated by a tolerance value of more than 0.01 and a VIF value of less than 10 for all variables; and (4) autocorrelation was performed by Durbin-Watson (DW) test, resulting in the value of 1.756, which was between dU and 4-dL (1.540< 1.756 < 4- 1.744).

Results of Hypothesis Test

Results of test on the relationship between environmental disclosure and firm value

Table 4 summarizes the results of hypothesis testing. The table shows that environmental disclosure (ED) has a negative coefficient of 0.257 with a significance level of less than 1% (0.001). Although significant, the direction of the relationship contrasted the hypothesis, so H1 was rejected. The negative relationship indicates that the greater the environmental disclosure is, the lower the firm value will be. Based on the statistical data, environmental disclosure and firm value had low mean values, but the firm value had an uneven distribution, which may be one of the reasons why the relationship was statistically negative.

Table 3. Results of classical assumption test

Model	Normality	Multicollinearity		Autocorrelation	Heteroscedasticity
		Statistical collinearity		Durbin-Watson	Sig.
		Tolerance	VIF		
Environmental disclosure (ED)	Nilai K-S 1.260 (0.083)	0.520	1.923	1.756	0.345
Firm size (FS)		0.738	1.352		0.125
Leverage		0.799	1.252		0.365
ED x ROA		0.481	2.077		0.142

The significant negative relationship between environmental disclosure and firm value suggests that stakeholders, particularly investors, have reacted negatively to environmental disclosure. Based on the findings of this research, there are at least three factors underlying the fact that empirical results did not support the hypotheses. *First*, from the signaling theory standpoint, the low environmental disclosure is not sufficient to reduce information asymmetry, making investors unable to rely on the information as a basis for making a decision, resulting in negative perceptions. *Second*, from stakeholder theory, the stakeholders' possible different interests are challenging to satisfy if the condition of the company is not good, as indicated by the level of company profitability. Based on the company's statistical data, ROA as a proxy for profitability had a relatively small mean value, as indicated by the results of the second hypothesis testing. *Third*, there is a possibility that the pandemic affected the firm value, causing ineffectiveness of company disclosure. The company disclosure, which should send a signal of a transparent company, reduce uncertainty, and increase competitive advantage (Iatridis, 2013) became ineffective due to the uncertainty surrounding the company. The low firm value might not be due to negative environmental information, but rather to the uncertain economic conditions during the pandemic, which shifted investors' priorities in dealing with the pandemic situation.

The findings of the study on the relationship between environmental disclosure and firm value contradict the outcomes of the previous research by Budiana & Budiasih (2020) that used a similar model and object. They discovered a significant positive relationship between the two variables. The differences are thought to be due to the different measurements of independent variables. This study only focuses on environmental disclosure as a predictor of firm value, whereas Budiana & Budiasih (2020) may use all components of the sustainability report (SR). They did not specify the measurement method, only mentioning SR as the independent variable.

This study is consistent with Deswanto & Siregar (2018) that reported the absence of a relationship between environmental disclosure and market value as measured by stock prices for mining, chemical, and agricultural companies. In their research, stock prices were primarily determined by financial variables, such as book value per share, earnings per share, and ROA.

Results of test on the effects of profitability on the relationship between environmental disclosure and firm value

Table 4 depicts that the coefficient value of the interaction variable between profitability and environmental disclosure (ED*ROA) was positive at 0.226 with a significance level of less than 1% (0.000). This suggests that H2 statistically was accepted, that is, environmental disclosure will have a positive effect on firm value if the company's profitability (ROA) is high. The results of the H2 test have confirmed the H1 test, because the ROA was low (between -0.567 and -0.401) so high environmental disclosure will reduce firm the value or vice versa.

These results support the stakeholder theory that stakeholder interests are diverse and can be conflicting. To fulfill their interests, companies must have sufficient capabilities obtained from high profitability. This is also in line with the CSR concept of Carroll (1999), that economic responsibility is a fundamental requirement of the existence of a business to be socially responsible. If the company cannot fulfill its economic responsibilities in generating profits, the company can stop running its business, and therefore cannot fulfill other responsibilities. The results of this study provide an understanding that environmental disclosure may reduce information asymmetry if the company's economic condition is good. Thus, if non-financial information is positive, financial information also becomes a positive signal. Thone H2 test results support the research by Setiadi & Agustina (2019), which focused on manufacturing companies. The test results, however, did not support the findings of Budiana & Budiasih (2020), that of the ISRA-winning companies, and Latifah & Luhur (2017), who used the entire companies as the objects. The results from the H1 and H2 tests have not been consistent.

Table 4 presents that firm size and leverage had no significant effect on firm value. Firm size had a negative coefficient of 1.490 with a significance level greater than 10% (0.231), whereas leverage had a negative coefficient of 0.058 with a significance level greater than 10% (0.365). For SRA and ASRAT winning companies, firm size and leverage did not determine the firm value. These findings contrast with those of Ho et al. (2016) that empirically proved the significant negative relationship between firm size and leverage and firm value in American firms using the Kinder, Lynderberg, and Domini (KLD) data. The results also differ from the research by Setiadi & Agustina (2019) which documented a significant positive relationship between firm size and firm value in manufacturing companies in Indonesia.

Table 4. Results of the hypothesis test

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta		
(constant)	6.112	4227		1.446	.152
ED	-.257	.072	-.433	-3.558	.001
FS	-1.490	1.234	-.123	-1.207	.231
Leverage	-.058	.064	-.089	-.911	.365
ED*ROA	.226	.039	.735	5.820	.000

CONCLUSION

The purpose of this study is to investigate the consistency of the relationship between environmental disclosure and firm value, with profitability serving as a moderator. This study has proven that there is a significant inverse relationship between environmental disclosure and firm value. The significant negative result in the relationship between environmental disclosure and firm value suggests that the pandemic contributes to the situation. Nevertheless, the findings support the notion that the differences in results from previous studies are due, among other things, to the features of the company, which are measured by profitability as evaluated with ROA.

The results of this study have several implications. *First*, this study strengthens the stakeholder theory that the fulfillment of the interests of various stakeholders requires a good economic condition of the company, which in this study is represented by profitability. Furthermore, support for signaling theory implies that the effectiveness of non-financial information in reducing information asymmetry is also determined by profitability. *Second*, in practice, these findings indicate that investors, as the company's primary stakeholders, must prioritize their interests for the company to have the flexibility to meet the interests of other stakeholders. *Third*, these outcomes reinforce previous findings that companies with a strong commitment to environmental management have greater performance potential.

Despite its careful planning, this study has some limitations. *First*, on one side, this study used the samples of SRA and ASRAT winning companies as well as data from companies listed on the IDX. On the other hand, because many SRA and ASRAT winners were not listed on the IDX, the sample size was smaller and might not be representative of companies not listed on the IDX. The two may have different characteristics. Therefore, there is still an opportunity to conduct research to observe companies winning SRA, ASRAT, or other environmental-related awards, which are associated with other financial performance, as a proxy for company value, because stock prices as a component of firm value do not exist in companies that have not been listed on the IDX. *Second*, this study utilized a sample period of 2014-2020, in which in the last two years, environmental conditions have run abnormally due to the pandemic, potentially influencing the results. Thus, research that focuses on pandemic conditions or separates samples and compares them is required. *Third*, the findings of this study indicate that the relationship between environmental disclosure and firm value is influenced by company profitability, implying that other variables, such as firm governance, may influence the relationship between the two variables.

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